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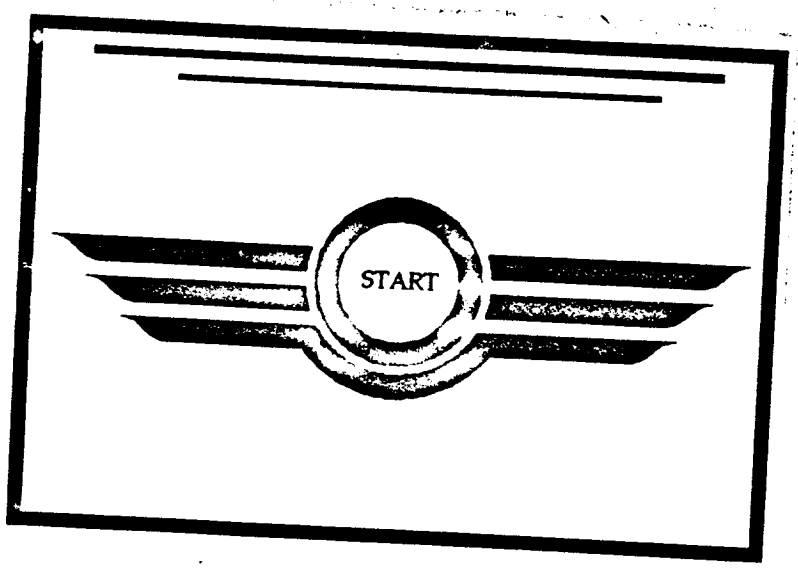

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December 1983

Water

EPA

Results of the Nationwide Urban Runoff Program

Executive Summary

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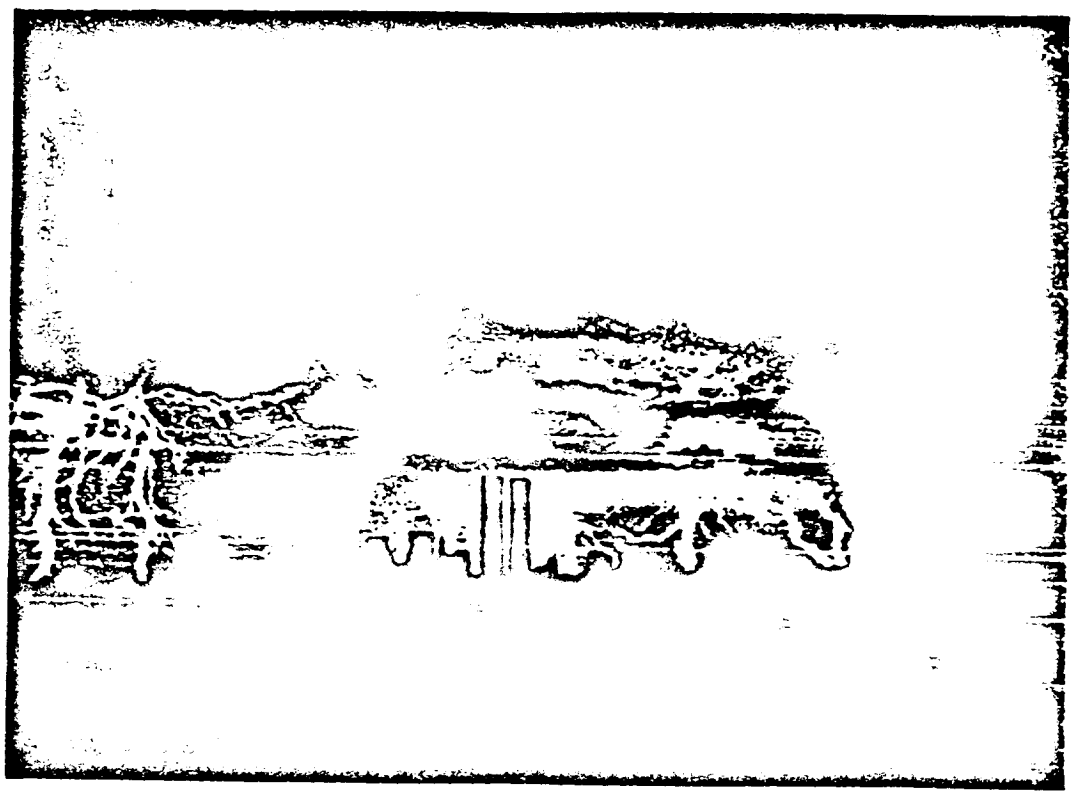

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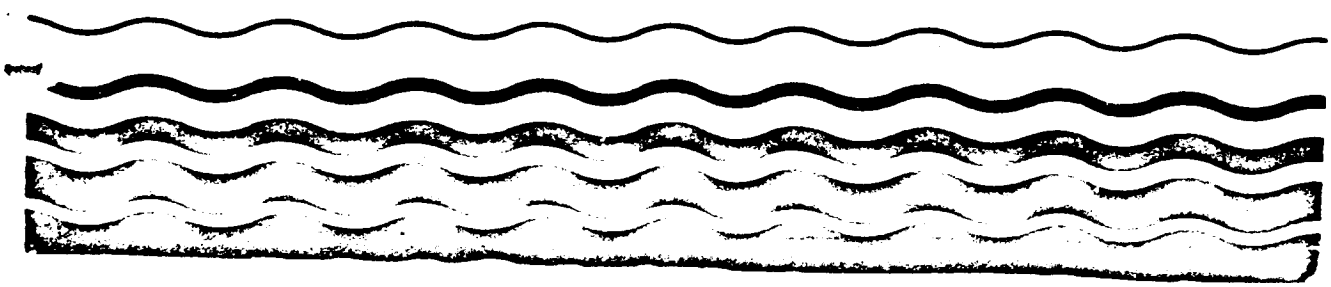

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VOL 23

RESULTS
OF THE
NATIONWIDE URBAN RUNOFF PROGRAM

December, 1983

EXECUTIVE SUMMARY

Water Planning Division
U.S. Environmental Protection Agency
Washington, D.C. 20460

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This report has been reviewed by the U.S. Environmental Protection Agency and approved for release. Approval to publish does not signify that the contents necessarily reflect any policies or decisions of the U.S. Environmental Protection Agency or any of its offices, grantees, contractors, or subcontractors.

ACKNOWLEDGEMENTS

The Nationwide Urban Runoff Program was unusual in its large scale, covering a broad spectrum of technical and planning issues at many geographic locations. Because the program placed such emphasis on tailoring the results to support the planning process, it involved many participants - some from EPA, some from other federal agencies, and many from state, regional, and local planning agencies and other consultants.

The program was developed, implemented, and managed by the Water Planning Division, Office of Water, at EPA Headquarters, Washington, D.C. Principal contributors were: Dennis N. Athayde, Program Manager; and Patrice M. Bubar, Norman A. Whalen, Stuart S. Tuller, and Phillip H. Graham, all of whom served as Project Officers. Additional contributions from EPA personnel came from Rod E. Frederick and Richard P. Healy (Monitoring and Data Support Division), Richard Field (Storm and Combined Sewer Section, EPA Office of Research and Development), and many project staff in the various EPA Regional Offices.

As described elsewhere, much of the field work, water quality analysis, and data analysis was performed by the U.S. Geological Survey (USGS), under a Memorandum of Agreement with EPA. Both District Offices and National Headquarters participated actively. The contributions of Messrs. Ernest Cobb and David Lystrom are especially acknowledged.

Members of the project team which provided essential strategic, technical, and management assistance to the EPA Water Planning Division through a contract with Woodward-Clyde Consultants were: Gail B. Boyd, David Gaboury, Peter Mangarella, and James D. Sartor (Woodward-Clyde Consultants); Eugene D. Driscoll (E. D. Driscoll and Associates); Philip E. Shelley (EG&G Washington Analytical Services Center, Inc.); John L. Mancini (Mancini and DiToro Consultants); Robert E. Pitt (private consultant); Alan Plummer (Alan Plummer and Associates); and James P. Heaney and Wayne C. Huber (University of Florida).

The principal writers of this report were Dennis N. Athayde (EPA), Philip E. Shelley (EG&G Washington Analytical Services Center, Inc.), Eugene D. Driscoll (E. D. Driscoll & Associates), and David Gaboury and Gail B. Boyd (Woodward-Clyde Consultants).

EXECUTIVE SUMMARY

BACKGROUND

The water quality effects of stormwater pollution received little attention prior to 1960. Stormwater concerns were primarily related to drainage problems. As stormwater pollution began to be investigated, the work, reported by EPA and published in professional journals, tended to focus on determining (a) the type and amount of pollutants involved and/or (b) methods to reduce the loads. However, such reports and articles gave limited consideration to either the level of improvement attainable or the need to improve quality of the receiving water body associated with the study. A conclusion common to all such reports was that not enough was known about stormwater, and recommendations for further study and more data were the norm. A tangible result of the uncertain attitude in this area is the fact that stormwater controls for water quality have been implemented in so few places throughout the nation. Thus, there has been a critical need to objectively examine the situation. This need led to the development of the Nationwide Urban Runoff Program (NURP).

The overall goal of NURP was to develop information that would help provide local decision makers, States, EPA, and other interested parties with a rational basis for determining whether or not urban runoff is causing water quality problems and, in the event that it is, for postulating realistic control options and developing water quality management plans, consistent with local needs, that would lead to implementation of least cost solutions. It is also hoped that this information base will be used to help make the best possible policy decision on Federal, State, and local involvement in urban stormwater runoff and its control. Among the many objectives of NURP was the assembly of an appropriate data base and the development of analytical methodologies that would allow us to examine such issues as:

- The quality characteristics of urban runoff, and similarities or differences at different urban locations;
- The extent to which urban runoff is a significant contributor to water quality problems across the nation; and
- The performance characteristics and the overall effectiveness and utility of management practices for the control of pollutant loads from urban runoff.

Water quantity problems are relatively easy to identify and describe. Water quality problems, on the other hand, tend to be more elusive because their definition often involves some subjective considerations, including experiential aspects and expectations of the populace. They are not immediately obvious and are usually less dramatic than, for example, floods. They also

tend to vary markedly with locality and geographic regions within the country. Thus, a methodological approach to the determination of water quality problems is essential if one is to consider the relative role of urban runoff as a contributor. An important finding of the work conducted during NURP was to learn to avoid the following simplistic logic train: (a) water quality problems are caused by pollutants, (b) there are pollutants in urban runoff, therefore, (c) urban runoff causes "problems". The unspoken implication is that a "problem" by definition requires action, and any type of "problem" warrants equally vigorous action. It becomes clear that a more fundamental and more precise definition of a water quality "problem" from urban runoff is necessary. For this purpose, NURP adopted the following three-level definition:

- Impairment or denial of beneficial uses;
- Water quality criterion violation; and
- Local public perception.

The foregoing levels of problem definition provide an essential framework within which to discuss water quality problems associated with urban runoff. However, it is important to understand that when one is dealing at a local level all three elements are typically present. Thus, it is up to the local decision makers, influenced by other levels of support and concern, to carefully weigh each, prior to making a final decision about the existence and extent of a problem and how it is to be defined.

The NURP studies have greatly increased our knowledge of the characteristics of urban runoff, its effects upon designated uses, and of the performance efficiencies of selected control measures. They have also confirmed earlier impressions that some States and local communities have actually begun to develop and implement stormwater management programs incorporating water quality objectives. However, such management initiatives are, at present, scattered and localized. The experience gained from such efforts is both needed and sought after by many other States and localities. Documentation, evaluation, refinement and transfer of management and financing mechanisms/arrangements, of simple and reliable problem assessment methodologies, and of implementation guidance which can be used by planners and officials at the State and local level are urgently needed as is a forum for the sharing of experiences by those already involved, both among themselves and with those who are about to address nonpoint source issues.

CONCLUSIONS

The following summarizes NURP's conclusion relating to its major objectives and is based on the results presented in Chapters 6, 7, and 8 of the report. Conclusions reached by the individual NURP projects are also presented to further support the results of the national level analysis.

URBAN RUNOFF CHARACTERISTICS

General

Field monitoring was conducted to characterize urban runoff flows and pollutant concentrations. This was done for a variety of pollutants at a substantial number of sites distributed throughout the country. The resultant data represent a cross-section of regional climatology, land use types, slopes, and soil conditions and thereby provide a basis for identifying patterns of similarities or differences and testing their significance.

Urban runoff flows and concentrations of contaminants are quite variable. Experience shows that substantial variations occur within a particular event and from one event to the next at a particular site. Due to the high variability of urban runoff, a large number of sites and storm events were monitored, and a statistical approach was used to analyze the data. Procedures are available for characterizing variable data without requiring knowledge of or existence of any underlying probability distribution (nonparametric statistical procedures). However, where a specific type of probability distribution is known to exist, the information content and efficiency of statistical analysis is enhanced. Standard statistical procedures allowed probability distributions or frequency of occurrence to be examined and tested. Since the underlying distributions were determined to be adequately represented by the lognormal distribution, the log (base e) transforms of all urban runoff data were used in developing the statistical characterizations.

The event mean concentration (EMC), defined as the total constituent mass discharge divided by the total runoff volume, was chosen as the primary water quality statistic. Event mean concentrations were based on flow weighted composite samples for each event at each site in the accessible data base. EMCs were chosen as the primary water quality characteristic subjected to detailed analysis, even though it is recognized that mass loading characteristics of urban runoff (e.g., pounds/acre for a specified time interval) is ultimately the relevant factor in many situations. The reason is that, unlike EMCs, mass loadings are very strongly influenced by the amount of precipitation and runoff, and estimates of typical annual mass loads will be biased by the size of monitored storm events. The most reliable basis for characterizing annual or seasonal mass loads is on the basis of EMC and site-specific rainfall/runoff characteristics.

Establishing the fundamental distribution as lognormal and the availability of a sufficiently large population of EMCs to provide reliability to the statistics derived has yielded a number of benefits, including the ability to provide:

- Concise summaries of highly variable data
- Meaningful comparisons of results from different sites, events, etc.
- Statements concerning frequency of occurrence. One can express how often values will be expected to exceed various magnitudes of interest.

- A more useful method of reporting data than the use of ranges; one which is less subject to misinterpretation

- A framework for examining "transferability" of data in a quantitative manner

Conclusions

1. Heavy metals (especially copper, lead and zinc) are by far the most prevalent priority pollutant constituents found in urban runoff. End-of-pipe concentrations exceed EPA ambient water quality criteria and drinking water standards in many instances. Some of the metals are present often enough and in high enough concentrations to be potential threats to beneficial uses.

   All 13 metals on EPA's priority pollutant list were detected in urban runoff samples, and all but three at frequencies of detection greater than 10 percent. Most often detected among the metals were copper, lead, and zinc, all of which were found in at least 91 percent of the samples.

   Metal concentrations in end-of-pipe urban runoff samples (i.e., before dilution by receiving water) exceeded EPA's water quality criteria and drinking water standards numerous times. For example, freshwater acute criteria were exceeded by copper concentrations in 47 percent of the samples and by lead in 23 percent. Freshwater chronic exceedances were common for lead (94 percent), copper (82 percent), zinc (77 percent), and cadmium (48 percent). Regarding human toxicity, the most significant pollutants were lead and nickel, and for human carcinogenesis, arsenic and beryllium. Lead concentrations violated drinking water criteria in 73 percent of the samples.

   It should be stressed that the exceedances noted above do not necessarily imply that an actual violation of standards will exist in the receiving water body in question. Rather, the enumeration of exceedances serves a screening function to identify those heavy metals whose presence in urban runoff warrants high priority for further evaluation.

   Based upon the much more extensive NURP data set for total copper, lead, and zinc, the site median EMC values for the median urban site are: Cu = 34 µg/l, Pb = 144 µg/l, and Zn = 160 µg/l. For the 90th percentile urban site the values are: Cu = 93 µg/l, Pb = 350 µg/l, and Zn = 500 µg/l. These values are suggested to be appropriate for planning level screening analyses where data are not available.

   Some individual NURP project sites (e.g., at DC1, MD1, MH1) found unusually high concentrations of certain heavy metals (especially copper and zinc) in urban runoff. This was attributed by the projects to the effect of acid rain on materials used for gutters, culverts, etc.

2. The organic priority pollutants were detected less frequently and at lower-concentrations than the heavy metals.

Sixty-three of a possible 106 organics were detected in urban runoff samples. The most commonly found organic was the plasticizer bis (2-ethylhexl) phthalate (22 percent), followed by the pesticide α-hexachlorocyclohexane (α-BHC) (20 percent). An additional 11 organic pollutants were reported at frequencies between 10 and 20 percent; 3 pesticides, 3 phenols, 4 polycyclic aromatics, and a single halogenated aliphatic.

Criteria exceedances were less frequently observed among the organics than the heavy metals. One unusually high pentachlorophenol concentration of 115 µg/l resulted in exceedances of the freshwater acute and organoleptic criteria. This observation and one for chlordane also exceeded the freshwater acute criteria. Freshwater chronic criteria exceedances were observed for pentachlorophenol, bis (2-ethylhexyl) phthalate, gamma-BHC, chlordane, and alpha-endosulfan. All other organic exceedances were in the human carcinogen category and were most serious for alpha-hexachlorocyclohexane (alpha-BHC), gamma-hexachlorocyclohexane (gamma-BHC or Lindane), chlordane, phenanthrene, pyrene, and chrysene.

The fact that the NURP priority pollutant monitoring effort was limited to two samples at each site leaves us unable to make many generalizations about those organic pollutants which occurred only rarely. We can speculate that their occurrences tend to be very site specific as opposed to being a generally widespread phenomena, but much more data would be required to conclusively prove this point.

3. Coliform bacteria are present at high levels in urban runoff and can be expected to exceed EPA water quality criteria during and immediately after storm events in many surface waters, even those providing high degrees of dilution.

Fecal coliform counts in urban runoff are typically in the tens to hundreds of thousand per 100 ml during warm weather conditions, with the median for all sites being around 21,000/100 ml. During cold weather, fecal coliform counts are more typically in the 1,000/100 ml range, which is the median for all sites. Thus, violations of fecal coliform standards were reported by a number of NURP projects. High fecal coliform counts may not cause actual use impairments, in some instances, due to the location of the urban runoff discharges relative to swimming areas or shellfish beds and the degree of dilution/dispersal and rate of die off. The same is true of total coliform counts, which were found to exceed EPA water quality criteria in undiluted urban runoff at virtually every site every time it rained.

The substantial seasonal differences noted above do not correspond with comparable variations in urban activities. The NURP analyses as well as current literature suggest that fecal coliform may not be the most appropriate indicator organism for identifying potential health risks when the source is stormwater runoff.

4. Nutrients are generally present in urban runoff, but with a few individual site exceptions, concentrations do not appear to be high in comparison with other possible discharges to receiving water bodies.

NURP data for total phosphorus, soluble phosphorus, total kjeldahl nitrogen, and nitrate plus nitrite as nitrogen were carefully examined. Median site EMC median concentrations in urban runoff were TP = 0.33 mg/l, SP = 0.12 mg/l, TKN = 1.5 mg/l, and NO2+3 - N = 0.68 mg/l. On an annual load basis, comparison with typical monitoring data, literature values, and design objectives for discharges from a well run secondary treatment plant suggests that mean annual nutrient loads from urban runoff are around an order of magnitude less than those from a POTW.

5. Oxygen demanding substances are present in urban runoff at concentrations approximating those in secondary treatment plant discharges. If dissolved oxygen problems are present in receiving waters of interest, consideration of urban runoff controls as well as advanced waste treatment appears to be warranted.

Urban runoff median site EMC median concentrations of 9 mg/l BOD5 and 65 mg/l COD are reflected in the NURP data, with 90th percentile site EMC median values being 15 mg/l BOD5 and 140 mg/l COD. These concentrations suggest that, on an annual load basis, urban runoff is comparable in magnitude to secondary treatment plant discharges.

It can be argued that urban runoff is typically well oxygenated and provides increased stream flow and, hence, in view of relatively long travel times to the critical point, that dissolved oxygen problems attributable solely to urban runoff should not be widespread occurrences. No NURP project specifically identified a low DO condition resulting from urban runoff. Nonetheless, there will be some situations where consideration of urban runoff controls for oxygen demanding substances in an overall water quality management strategy would seem appropriate.

6. Total suspended solids concentrations in urban runoff are fairly high in comparison with treatment plant discharges. Urban runoff control is strongly indicated where water quality problems associated with TSS, including build-up of contaminated sediments, exist.

There are no formal water quality criteria for TSS relating to either human health or aquatic life. The nature of the suspended solids in urban runoff is different from those in treatment plant discharges, being higher in mineral and man-made products (e.g., tire and street surface wear particles) and somewhat lower in organic particulates. Also, the solids in urban runoff are more likely to have other contaminants adsorbed onto them. Thus, they cannot be simply considered as benign, nor do they only pose an aesthetic issue. NURP did not examine the problem of contaminated sediment build-up due to urban runoff, but it undeniably exists, at least at some locations.

The suspended solids in urban runoff can also exert deleterious physical effects by sedimenting over egg deposition sites, smothering juveniles, and altering benthic communities.

On an annual load basis, suspended solids contributions from urban runoff are around an order of magnitude or more greater than those from secondary treatment plants. Control of urban runoff, as opposed to advanced waste treatment, should be considered where TSS-associated water quality problems exist.

7. A summary characterization of urban runoff has been developed and is believed to be appropriate for use in estimating urban runoff pollutant discharges from sites where monitoring data are scant or lacking, at least for planning level purposes.

   As a result of extensive examination, it was concluded that geographic location, land use category (residential, commercial, industrial park, or mixed), or other factors (e.g., slope, population density, precipitation characteristics) appear to be of little utility in consistently explaining overall site-to-site variability in urban runoff EMCs or predicting the characteristics of urban runoff discharges from unmonitored sites. Uncertainty in site urban runoff characteristics caused by high event-to-event variability at most sites eclipsed any site-to-site variability that might have been present. The finding that EMC values are essentially not correlated with storm runoff volumes facilitates the transfer of urban runoff characteristics to unmonitored sites. Although there tend to be exceptions to any generalization, the suggested summary urban runoff characteristics given in Table 6-17 of the report are recommended for planning level purposes as the best estimates, lacking local information to the contrary.

RECEIVING WATER EFFECTS

General

The effects of urban runoff on receiving water quality are highly site-specific. They depend on the type, size, and hydrology of the water body; the urban runoff quantity and quality characteristics; the designated beneficial use; and the concentration levels of the specific pollutants that affect that use.

The conclusions which follow are based on screening analyses performed by NURP, observations and conclusions drawn by individual NURP projects that examined receiving water effects in differing levels of detail and rigor, and NURP's three levels of problem definition. Conclusions are organized on the basis of water body type: rivers and streams, lakes, estuaries and embayments, and groundwater aquifers. Site-specific exceptions should be expected, but the statements presented are believed to provide an accurate perspective on the general tendency of urban runoff to contribute significantly to water quality problems.

Rivers and Streams

1. Frequent exceedances of heavy metals ambient water quality criteria for freshwater aquatic life are produced by urban runoff.

   The Denver NURP project found that in-stream concentrations of copper, lead, zinc, and cadmium exceeded State ambient water quality standards for the South Platte River during essentially all storm events.

NURP screening analyses suggest that frequent exceedances of both EPA 24-hour and maximum water quality criteria for heavy metals should be expected on a relatively general basis.

2. Although a significant number of problem situations could result from heavy metals in urban runoff, levels of freshwater aquatic life use impairment suggested by the magnitude and frequency of ambient criteria exceedances were not observed.

Based upon the magnitude and frequency of freshwater aquatic life ambient criteria exceedances, one would expect to observe impairment of this beneficial use in most streams that receive urban runoff discharges. However, those NURP project studies which examined this issue did not report significant use impairment problems associated with urban runoff.

The Bellevue, Washington NURP project concluded that toxic effects of urban runoff pollutants did not appear to be a significant factor.

The Tampa, Florida NURP project conducted biological studies of the impact of stormwater runoff upon the biological community of the Hillsborough River. They conducted animal bioassay experiments on five sensitive species in two samples of urban runoff from the Arctic Street drainage basin. Thirty-two bioassay experiments were completed including 22 acute tests and 10 chronic tests. Neither sample of stormwater was acutely toxic to test organisms. Long-term chronic experiments were undertaken with two species and resulted in no significant effects attributable to stormwater exposure.

NURP screening analyses suggest that the potential of urban runoff to seriously impair this beneficial use will be strongly influenced by local conditions and the frequency of occurrence of concentration levels which produce toxic effects under the intermittent, short duration exposures typically produced by urban runoff.

While the application of the screening analysis to the Bellevue and Tampa situations supports the absence of a problem situation in these cases, it also suggests that a significant number of problem situations should be expected. Therefore, although not the general, ubiquitous problem situation that criteria exceedances would suggest, there are site-specific situations in which urban runoff could be expected to cause significant impairment of freshwater aquatic life uses.

Because of the inconsistency between criteria exceedances and obeserved use impairments due to urban runoff, adaptation of current ambient quality criteria to better reflect use impacts where pollutant exposures are intermittent and of short duration appears to be a useful area for further investigation.

3. Copper, lead and zinc appear to pose a significant threat to aquatic life uses in some areas of the country. Copper is suggested to be the most significant of the three.

Regional differences in surface water hardness, which has a strong influence on toxicity, in conjunction with regional variations in stream flow

and rainfall result in significant differences in susceptibility to adverse impacts around the nation.

The southern and southeastern regions of the country are the most susceptible to aquatic life effects due to heavy metals, with the northeast also a sensitive area, although somewhat less so.

Copper is the major toxic metal in urban runoff, with lead and zinc also prevalent but a problem in more restricted cases. Copper discharges in urban runoff are, in all but the most favorable cases, a significant threat to aquatic life uses in the southeast and southern regions of the country. In the northeast, problems would be expected only in rather unfavorable conditions (large urban area contribution and high site concentrations). In the remainder of the country (and for the other metals) problems would only be expected under quite unfavorable site conditions. These statements are based on total metal concentrations.

4. Organic priority pollutants in urban runoff do not appear to pose a general threat to freshwater aquatic life.

This conclusion is based on limited data on the frequency with which organics are found in urban runoff discharges and measured end-of-pipe concentrations relative to published toxic criteria. One unusually high pentachlorophenol concentration of 115 µg/l resulted in the only exceedance of the organoleptic criteria. This observation and one for chlordane exceeded the freshwater acute criteria. Freshwater chronic criteria exceedances were observed for pentochlorophenol, bis (2-ethylhexyl) phlhalate, γ-hexachlorocyclohexane (lindane), α-endosulfan, and chlordane.

5. The physical aspects of urban runoff, e.g., erosion and scour, can be a significant cause of habitat disruption and can affect the type of fishery present. However, this area was studied only incidentally by several of the projects under the NURP program and more concentrated study is necessary.

The Metropolitan Washington Council of Governments (MWCOG) NURP project did an analysis of fish diversity in the Seneca Creek Watershed, 20 miles northwest of Washington, D.C. In this study, specific changes in fishery diversity were identified due to urbanization in some of the subwatersheds. Specifically, the number of fish species present are reduced and the types of species present changed dramatically, e.g., environmentally sensitive species were replaced with more tolerant species. For example, the Blacknose Dace replaced the Mottled Sculpin. MWCOG concluded that the changes in fish diversity were due to habitat deterioration caused by the physical aspects of urban runoff.

The Bellevue, Washington NURP project concluded that habitat changes (streambed scour and sedimentation) had a more significant effect than pollutant concentrations, for the changes produced by urbanization.

6. Several projects identified possible problems in the sediments because of the build-up of priority pollutants contributed wholly or in part by urban runoff. However, the NURP studies in this area were few in number

and limited in scope, and the findings must be considered only indicative of the need for further study, particularly as to long-term impacts.

The Denver NURP project found significant quantities of copper, lead, zinc, and cadmium in river sediments. The Denver Regional Council of Governments is concerned that during periods of continuous low flow, lead may reach levels capable of adversely affecting fish.

The Milwaukee NURP project reported the observation of elevated levels of heavy metals, particularly lead, in the sediments of a river receiving urban runoff.

7. Coliform bacteria are present at high levels in urban runoff and can be expected to exceed EPA water quality criteria during and immediately after storm events in most rivers and streams.

Violations of the fecal coliform standard were reported by a number of NURP projects. In some instances, high fecal coliform counts may not cause actual use impairments due to the location of the urban runoff discharge relative to swimming areas and the degree of dilution or dispersal and rate of die off.

Coliform bacteria are generally accepted to be a useful indicator of the possible presence of human pathogens when the source of contamination is sanitary sewage. However, no such relationship has been demonstrated for urban runoff. Therefore, the use of coliforms as an indicator of human health risk when the sole source of contamination is urban runoff, warrants further investigation.

8. Domestic water supply systems with intakes located on streams in close proximity to urban runoff discharges are encouraged to check for priority pollutants which have been detected in urban runoff, particularly those in the organic category.

Sixty-three of a possible 106 organics were detected in urban runoff samples. The most commonly found organic was the plasticizer bis (2-ethylhexl) phthalate (22 percent), followed by the pesticide a-hexachlorocyclohexane (a-BHC) (20 percent). An additional 11 organic pollutants were reported at frequencies between 10 and 20 percent; 3 pesticides, 3 phenols, 4 polycyclic aromatics, and a single halogenated aliphatic.

Lakes

1. Nutrients in urban runoff may accelerate eutrophication problems and severely limit recreational uses, especially in lakes. However, NURP's lake projects indicate that the degree of beneficial use impairment varies widely, as does the significance of the urban runoff component.

The Lake Quinsigamond NURP project in Massachusetts identified eutrophication as a major problem in the lake, with urban runoff being a prime contributor of the critical nutrient phosphorus. Point source discharges

to the lake have been eliminated almost entirely. However, in spite of the abatement of point sources, survey data indicate that the lake has shown little improvement over the abatement period. In particular, the trophic status of the lake has shown no change, i.e., it is still classified as late mesotrophic-early eutrophic. Substantial growth is projected in the basin, and there is concern that Lake Quinsigamond will become more eutrophic. A proposed water quality management plan for the lake includes the objective of reducing urban runoff pollutant loads.

The Lake George NURP project in New York State also identified increasing eutrophication as a potential problem if current development trends continue. Lake George is not classified as eutrophic, but from 1974 to 1978 algae production in the lake increased logarithmically. Lake George is a very long lake, and the limnological differences between the north and south basins provide evidence of human impact. The more developed, southern portion of the lake exhibits lower transparencies, lower hypolimnetic dissolved oxygen concentrations, higher phosphorus and chlorophyll a concentrations, and a trend toward seasonal blooms of blue-green algae. These differences in water quality indicators are associated with higher levels of cultural activities (e.g., increased sources of phosphorus) in the southern portion of the lake's watershed, and continued development will tend to accentuate the differences.

The Lake George NURP project estimated that urban runoff from developed areas currently accounts for only 13.6 percent of the annual phosphorus loadings to Lake George as a whole. In contrast, developed areas contribute 28.9 percent of the annual phosphorus load to the NURP study areas at the south end of the Lake. Since there are no point source discharges, this phosphorus loading is due solely to urban runoff. These data illustrate the significant impact of urbanization on phosphorus loads.

The NURP screening analysis suggests that lakes for which the contributions of urban runoff are significant in relation to other nonpoint sources (even in the absence of point source discharges) are indicated to be highly susceptible to eutrophication and that urban runoff control may be warranted in such situations.

2. Coliform bacteria discharges in urban runoff have a significant negative impact on the recreational uses of lakes.

As was the case with rivers and streams, coliform bacteria in urban runoff can cause violations of criteria for the recreational use of lakes. When unusually high fecal coliform counts are observed, they may be partially attributable to sanitary sewage contamination, in which case significant health risks may be involved.

The Lake Quinsigamond NURP project in Massachusetts found that bacterial pollution was widespread throughout the drainage basin. In all cases where samples were taken, fecal coliforms were in excess of 10,000 counts per 100 ml, with conditions worse in the Belmont street storm drains. This project concluded that the very high fecal coliform counts in their

stormwater are at least partially due to sewage contamination apparently entering the stormwater system throughout the local catchment.

The sources of sewage contamination are leaking septic tanks, infiltration from sanitary sewers into storm sewers, and leakage at manholes. In the northern basin, the high fecal coliform counts are attributed to known sewage contamination sources on Poor Farm Brook. The data from the project suggest that it would be unwise to permit body contact recreation in the northern basin of the lake during or immediately following significant storm events. The project concluded that disinfection at selected storm drains should be considered in the future, especially if the sewage contamination cannot be eliminated.

The Mystic River NURP project in Massachusetts found various areas where fecal coliform counts were extremely high in urban stormwater. Fecal coliform levels of up to one million with an average of 178,000/100 ml were recorded in Sweetwater Brook, a tributary to Mystic River, during wet weather. These high fecal coliform levels were specifically attributed to surcharging in their sanitary sewers, which caused sanitary sewage to overflow into their storm drains via the combined manholes present in this cathcment. Fecal coliform levels above the class B fecal coliform standard of 200 per 100 ml were found in approximately one-third of the samples tested in the upper and lower forebays of the Upper Mystic Lake and occasionally near the lake's outlet. In addition, Sandy Beach, a public swimming area on Upper Mystic Lake, exceeded the State fecal coliform criteria in July of 1982, and warnings that swimming may be hazardous to public health were posted for several days. It is important to note that sewage contamination of surface waters is a major problem in the watershed. The project concluded that urban runoff contributes to the bacteria load during wet weather but, comparatively, is much less significant than the sanitary sources.

Estuaries and Embayments

1. Adverse effects of urban runoff in marine waters will be a highly specific local situation. Though estuaries and embayments were studied to a very limited extent in NURP, they are not believed to be generally threatened by urban runoff, though specific instances where use is impaired or denied can be of significant local and even regional importance. Coliform bacteria present in urban runoff is the primary pollutant of concern, causing direct impacts on shellfish harvesting and beach closures.

The significant impact of urban runoff on shellfish harvesting has been well documented by the Long Island, New York NURP project. In this project, stormwater runoff was identified as the major source of bacterial loading to marine waters and, thus, the indirect cause of the denial of certification by the New York State Department of Conservation for about one-fourth of the shellfishing area. Much of this area is along the south shore, where the annual commercial shellfish harvest is valued at approximately $17.5 million.

The Myrtle Beach, South Carolina NURP project found that stormwater discharges from the City of Myrtle Beach directly onto the beach showed high

bacterial counts for short durations immediately after storm events. In many instances these counts violated EPA water quality criteria for aquatic life and contact recreation. The high bacteria counts, however, were associated with standing pools formed at the end of collectors for brief periods following the cessation of rainfall and before the runoff percolated into the sand. Consequently, the threat to public health was not considered great enough to warrant closure of the beach.

Groundwater Aquifers

1. Groundwater aquifers that receive deliberate recharge of urban runoff do not appear to be imminently threatened by this practice at the two locations where it was investigated.

   Two NURP projects (Long Island and Fresno) are situated over sole source acquifers. They have been practicing recharge with urban runoff for two decades or more at some sites, and extensively investigated the impact of this practice on the quality of their groundwater. They both found that soil processes are efficient in retaining urban runoff pollutants quite close to the land surface, and concluded that no change in the use of recharge basins is warranted.

   Despite the fact that some of these basins have been in service for relatively long periods of time and pollutant breakthrough of the upper soil layers has not occurred, the ability of the soil to continue to retain pollutants is unknown. Further attention to this issue is recommended.

CONTROL EFFECTIVENESS

General

A limited number of techniques for the control of urban runoff quality were evaluated by the NURP program. The set is considerably smaller than previously published lists of potential management practices. Since the control approaches that were investigated were selected at the local level, the choices may be taken as an initial indication of local perceptions regarding practicality and feasibility from the standpoint of implementation.

Conclusions

1. There is a strong preference for detention devices, street sweeping, and recharge devices as reflected by the control measures selected at the local level for detailed investigation. Interest was also shown in grass swales and wetlands.

   Six NURP projects monitored the performance of a total of 14 detention devices. Five separate projects conducted in-depth studies of the effectiveness of street sweeping on the control of urban runoff quality. A total of 17 separate study catchments were involved in this effort. Three NURP projects examined either the potential of recharge devices to reduce discharges of urban runoff to surface waters or the potential of the practice to contaminate groundwaters. A total of 12 separate sites were covered by this effort.

Grass swales were studied by two NURP projects. Two swales in existing residential areas, and one experimental swale constructed to serve a commercial parking lot were studied.

A number of NURP projects indicated interest in wetlands for improving urban runoff quality at early stages of the program. Only one allocated monitoring activity to this control measure, however.

Various other management practices were identified as having local interest by individual NURP projects, but none of them was allocated the necessary resources to be pursued to a point which allowed an evaluation of their ability to control pollution from urban runoff. Management practices in this category included urban housekeeping (e.g., litter programs, catch basin cleaning, pet ordinances) and public information programs.

2. Detention basins are capable of providing very effective removal of pollutants in urban runoff. Both the design concept and the size of the basin in relation to the urban area served have a critical influence on performance capability.

Wet basins (designs which maintain a permanent water pool) have the greatest performance capabilities. Observed pollutant reductions varied from excellent to very poor in the basins which were monitored. However, when basins are adequately sized, particulate removals in excess of 90 percent (TSS, lead) can be obtained. Pollutants with significant soluble fractions in urban runoff show lower reductions; on the order of 65 percent for total P and approximately 50 percent for BOD, COD, TKN, Copper, and Zinc. Results indicate that biological processes which are operative in the permanent pool produce significant reductions (50 percent or more) in soluble nutrients, nitrate and soluble phosphorus. These performance characteristics are indicated by both the NURP analysis results and conclusions reached by individual projects.

Dry basins, (conventional stormwater management basins), which are designed to attenuate peak runoff rates and hence only very briefly detain portions of flow from the larger storms, are indicated by NURP data to be essentially ineffective for reducing pollutant loads.

Dual-purpose basins (conventional dry basins with modified outlet structures which significantly extend detention time) are suggested by limited NURP data to provide effective reductions in urban runoff loads. Performance may approach that of wet ponds; however, the additional processes which reduce soluble nutrient forms do not appear to be operative in these basins. This design concept is particularly promising because it represents a cost effective approach to combining flood control and runoff quality control and because of the potential for converting existing conventional stormwater management ponds.

Approximate costs of wet pond designs are estimated to be in the order of $500 to $1500 per acre of urban area served, for on-site applications serving relatively small urban areas, and about $100 to $250 per acre of urban area for off-site applications serving relatively large urban

areas. The costs reflect present value amounts which include both capital and operating costs. The difference is due to an economy of scale associated with large basin volumes. The range reflects differences in size required to produce particulate removals in the order of 50 percent or 90 percent. Annual costs per acre of urban area served are estimated at $60 to $175, and $10 to $25 respectively.

3. Recharge Devices are capable of providing very effective control of urban runoff pollutant discharges to surface waters. Although continued attention is warranted, present evidence does not indicate that significant groundwater contamination will result from this practice.

Both individual project results and NURP screening analyses indicate that adequately sized recharge devices are capable of providing high levels of reduction in direct discharges of urban runoff to surface waters. The level of performance will depend on both the size of the unit and the soil permeability.

Application will be restricted to areas where conditions are favorable. Soil type, depth to groundwater, land slopes, and proximity of water supply wells will all influence the appropriateness of this control technique.

Surface accumulations which result from the high efficiency of soils to retain pollutants, suggest further attention in applications where dual purpose recharge areas also serve as recreational fields or playground areas.

4. Street sweeping is generally ineffective as a technique for improving the quality of urban runoff.

Five NURP projects evaluated street sweeping as a management practice to control pollutants in urban runoff. Four of these projects concluded that street sweeping was not effective for this purpose. The fifth, which had pronounced wet and dry seasons, believed that sweeping just prior to the rainy season could produce some benefit in terms of reduced pollution in urban runoff.

A large data base on the quality of urban runoff from street sweeping test sites was obtained. At 10 study sites selected for detailed analysis, a total of 381 storm events were monitored under control conditions, and an additional 277 events during periods when street sweeping operations were in effect. Analysis of these data indicated that no significant reductions in pollutant concentrations in urban runoff were produced by street sweeping.

There may be special cases in which street cleaning applied at restricted locations or times of year could provide improvements in urban runoff quality. Some examples that have been suggested, though not demonstrated by the NURP program, include periods following snow melt or leaf fall, or urban neighborhoods where the general level of cleanliness could be significantly improved.

5. Grass swales can provide moderate improvements in urban runoff quality. Design conditions are important. Additional study could significantly enhance the performance capabilities of swales.

Concentration reductions of about 50 percent for heavy metals, and 25 percent for COD, nitrate, and ammonia were observed in one of the swales studied. However the swale was ineffective in reducing concentrations of organic nitrogen, phosphorus, or bacterial species. Two other swales studied failed to demonstrate any quality improvements in the urban runoff passing through them.

Evaluations by the NURP projects involved concluded, however, that this was an attractive control technique whose performance could be improved substantially by application of appropriate design considerations. Additional study to develop such information was recommended.

Design considerations cited included slope, vegetation type and maintenance, control of flow velocity and residence time, and enhancement of infiltration. The latter factor could produce load reductions greater than those inferred from concentration changes and effect reductions in those pollutant species which are not attenuated by flow through the swale.

6. Wetlands are considered to be a promising technique for control of urban runoff quality. However, neither performance characteristics nor design characteristics in relation to performance were developed by NURP.

Although a number of projects indicated interest, only one assigned NURP monitoring activity to a wetland. This was a natural wetland, and flows passing though it were uncontrolled. Results suggest its potential to improve quality, but the investigation was not adequate to associate necessary design factors to performance capability. Additional attention to this control technique would be useful, and should include factors such as the need for maintenance harvesting to prevent constituent recycling.

ISSUES

A number of issues with respect to managing and controlling urban runoff emerge from the conclusions summarized above. In some instances they represent the need for additional data/information or for further study. In others they point to the need for follow-up activity by EPA, State, or local officials to assemble and disseminate what is already known regarding water quality problems caused by urban runoff and solutions.

Sediments

The nature and scope of the potential long-term threat posed by nutrient and toxic pollutant accumulation in the sediments of urban lakes and streams requires further study. A related issue is the safe and environmentally sound disposal of sediments collected in detention basins used to control urban runoff.

Priority Pollutants

NURP clearly demonstrated that many priority pollutants can be found in urban runoff and noted that a serious human health risk could exist when water supply intakes are in close proximity to urban stormwater discharges. However, questions related to the sources, fate, and transport mechanisms of priority pollutants borne by urban runoff and their frequencies of occurrence will require further study.

Rainfall pH Effects

The relationship between pH and heavy metal values in urban runoff has not been established and needs further study. Several NURP projects (mostly in the northeastern states) attributed high heavy metals concentrations in urban runoff to the effects of acid rain. Although it is quite plausible that acid rain increases the level of pollutants in urban runoff and may transform them to more toxic and more easily assimilated forms, further study is required to support this speculation.

Industrial Runoff

No truly industrial sites (as opposed to industrial parks) were included in any of the NURP projects. A very limited body of data suggests, however, that runoff from industrial sites may have significantly higher contaminant levels than runoff from other urban land use sites, and this issue should be investigated further.

Central Business Districts

Data on the characteristics of urban runoff from central business districts are quite limited as opposed to other land use categories investigated by NURP. The data do suggest, however, that some sites may produce pollutant concentrations in runoff that are significantly higher than those from other sites in a given urban area. When combined with their typically high degrees of imperviousness, the pollutant loads from central business districts can be quite high indeed. The opportunities for control in central business districts are quite limited, however. ?? Why ??

Physical Effects

Several projects concluded that the physical impacts of urban runoff upon receiving waters have received too little attention and, in some cases, are more important determinants of beneficial use attainment than chemical pollutants. This contention requires much more detailed documentation.

Synergy

NURP did not evaluate the synergistic effects that might result from pollutant concentrations experienced in stormwater runoff, in association with pH and temperature ranges that occur in the receiving waters. This type of investigation might reveal that control of a specific parameter, such as pH, would adequately reduce an adverse synergistic effect caused by the presence of other pollutants in combination and be the most cost effective solution. Further investigations should include this issue.

Opportunities for Control

Based upon the results of NURP's evaluation of the performance of urban runoff controls, opportunities for significant control of urban runoff quality are much greater for newly developing areas. Institutional considerations and availability of space are the key factors. Guidance on this issue in a form useful to States and urban planning authorities should be prepared and issued.

Wet Weather Water Quality Standards

The NURP experience suggests that EPA should evaluate the possible need to develop "wet weather" standards, criteria, or modifications to ambient criteria to reflect differences in impact due to the intermittent, short duration exposures characteristic of urban runoff and other nonpoint source discharges.

Coliform Bacteria

The appropriateness of using coliform bacteria as indicator organisms for human health risk where the source is exclusively urban runoff warrants further investigation.

Wetlands

The use of wetlands as a control measure is of great interest in many areas, but the necessary information on design performance relationships required before cost effective applications can be considered has not been adequately documented. The environmental impacts of such use upon wetlands is a critical issue which, at present, has been addressed marginally, if at all.

Swales

The use of grass swales was suggested by two NURP projects to represent a very promising control opportunity. However, their performance is very dependent upon design features about which information is lacking. Further work to address this deficiency and appropriate maintenance practices appears warranted.

Illicit Connections

A number of the NURP projects identified what appeared to be illicit connections of sanitary discharges to stormwater sewer systems, resulting in high bacterial counts and dangers to public health. The costs and complications of locating and eliminating such connections may pose a substantial problem in urban areas, but the opportunities for dramatic improvement in the quality of urban stormwater discharges certainly exist where this can be accomplished. Although not emphasized in the NURP effort, other than to assure that the selected monitoring sites were free from sanitary sewage contamination, this BMP is clearly a desirable one to pursue.

Erosion Controls

NURP did not consider conventional erosion control measures because the information base concerning them was considered to be adequate. They are effective, and their use should be encouraged.

Combined Sewer Overflows

In order to address urban runoff from separate storm sewers, NURP avoided any sites where combined sewers existed. However, in view of their relative levels of contamination, priority should be given to control of combined sewer overflows.

Implementation Guidance

The NURP studies have greatly increased our knowledge of the characteristics of urban runoff, its effects upon designated uses, and of the performance efficiencies of selected control measures. They have also confirmed earlier impressions that some States and local communities have actually begun to develop and implement stormwater management programs incorporating water quality objectives. However, such management initiatives are, at present, scattered and localized. The experience gained from such efforts is both needed and sought after by many other States and localities. Documentation, evaluation, refinement and transfer of management and financing mechanisms/ arrangements, of simple and reliable problem assessment methodologies, and of implementation guidance which can be used by planners and officials at the State and local level are urgently needed as is a forum for the sharing of experiences by those already involved, both among themselves and with those who are about to address nonpoint source issues.

APPENDIX
THE NATIONWIDE URBAN RUNOFF PROGRAM

Program Design

NURP was not intended to be a research program, per se, and was not designed as such. Rather, the program was intended to be a support function which would provide information and methodologies for water quality planning efforts. Therefore, wherever possible, the projects selected were ones where the work undertaken would complete the urban runoff elements of formal water quality management plans and the results were likely to be incorporated in future plan updates and lead to implementation of management recommendations. Conduct of the program provided direction and assistance to 28 separate and distinct planning projects, whose locations are shown in Figure 1 and listed in Table 1, but the results will be of value to many other planning efforts. NURP also acted as a clearinghouse and, in that capacity, provided a common communication link to and among the 28 projects.

The NURP effort began with a careful review of what was known about urban runoff mechanisms, problems, and controls, and then built upon this base. The twin objectives of the program were to provide credible information on which Federal, State, and local decision makers could base future urban runoff management decisions and to support both planning and implementation efforts at the 28 project locations.

An early step in implementing the NURP program involved identifying a limited number of locations where intensive data gathering and study could be done. Candidate locations were assessed relative to three basic selection criteria:

- Meeting program objectives;
- Developing implementation plans for those areas; and
- Demonstrating transferability, so that solutions and knowledge gained in the study area could be applied in other areas, without need for intensive, duplicative data gathering efforts.

The program design used for NURP included providing a full range of technical and management assistance to each project as the needs arose. Several forums for the communication of experience and sharing of data were provided through semi-annual meetings involving participants from all projects. The roles and responsibilities of the various State, local, and regional agencies and participating Federal agencies were clearly defined and communicated at the outset. These were reviewed and revised where warranted as the projects progressed.

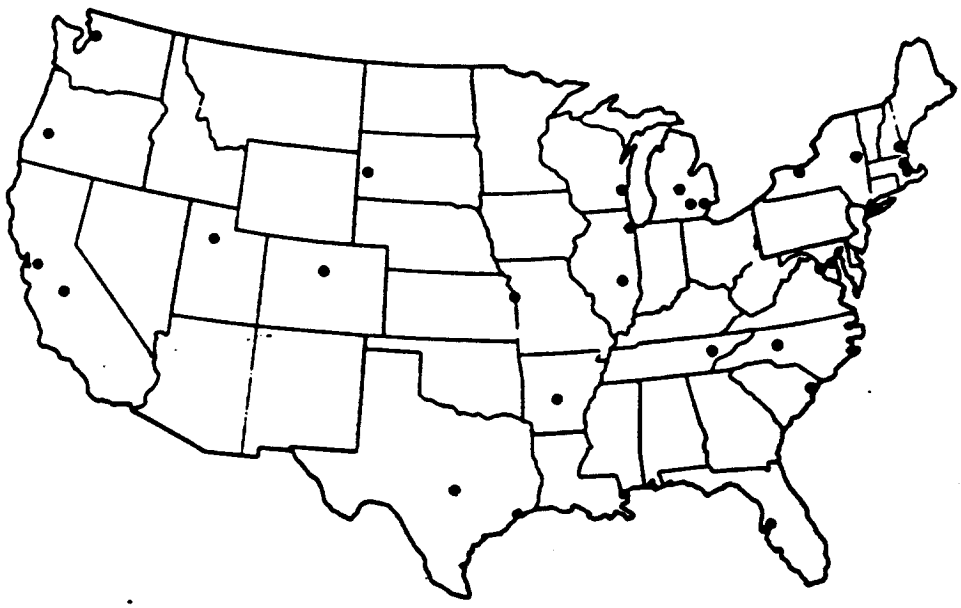

Figure 1. Locations of the 28 NURP Projects

TABLE 1. NURP PROJECT LOCATIONS

EPA Region	NURP Code	Project Name/Location	EPA Region	NURP Code	Project Name/Location
I	MA1	Lake Quinsigamond (Boston Area)	V	IL1	Champaign-Urbana, Illinois
	MA2	Upper Mystic (Boston Area)		IL2	Lake Ellyn (Chicago Area)
	NH1	Durham, New Hampshire		MI1	Lansing, Michigan
II	NY1	Long Island (Nassau and Suffolk Counties)		MI2	SEMCOG (Detroit Area)
				MI3	Ann Arbor, Michigan
	NY2	Lake George		WI1	Milwaukee, Wisconsin
	NY3	Irondequoit Bay (Pochester Area)	VI	AR1	Little Rock, Arkansas
				TX1	Austin, Texas
III	DC1	MASHCOG (Washington, D.C. Metropolitan Area)	VII	KS1	Kansas City
			VIII	CO1	Denver, Colorado
	MD1	Baltimore, Maryland		SD1	Rapid City, South Dakota
IV	FL1	Tampa, Florida		UT1	Salt Lake City, Utah
	NC1	Winston-Salem, North Carolina	IX	CA1	Coyote Creek (San Francisco Area)
	SC1	Myrtle Beach, South Carolina			
	TN1	Knoxville, Tennessee		CA2	Fresno, California
			X	OR1	Springfield-Eugene, Oregon
				WA1	Bellevue (Seattle Area)

The 28 NURP projects were managed by designated State, county, city, or regional governmental associations. The U.S. Geological Survey (USGS) was involved with EPA as a cooperator, through an inter-agency agreement, on 11 of the NURP projects. The Tennessee Valley Authority was also involved in one project.

Project Selection

Projects were selected from among the 93 Areawide Agencies that had identified urban runoff as one of their significant problems. The intention was to build upon what these agencies had already accomplished in their earlier programs. Also, projects that would be a part of this program were screened to be sure that they represented a broad range of certain characteristics (e.g., hydrologic regimes, land uses, populations, drainage system types). Actual selection of projects was a joint effort among the States, local governments, and Regional EPA offices. The five major criteria used to screen candidate projects were as follows:

1. Problem Identified. Had a problem relative to urban runoff actually been identified? Could that problem be directly related to separate storm sewer discharges? What pollutant or pollutants were thought to be causing the problem? Using the NURP problem identification categories, what was the "problem" (i.e., denying a beneficial use, violating a State water quality standard, or public concern)?

2. Type of Receiving Water. The effects of stormwater runoff on receiving water quality were the NURP program's ultimate concern. Because flowing streams, tidal rivers, estuaries, oceans, impoundments, and lakes all have different hydrologic and water quality responses, the types of receiving waters associated with each candidate project had to be examined to ensure that an appropriately representative mix was included in the overall NURP program.

3. Hydrologic Characteristics. The pattern of rainfall in the study area is perhaps the single most important factor in studying urban runoff phenomena, because it provides the means of conveyance of pollutants from their source to the receiving water. For this reason, projects in locations having different hydrologic regimes were chosen for the program.

4. Urban Characteristics. Characteristics such as population density, age of community, and land use were considered as possible indicators of the waste loads and ultimately the rainfall-runoff water quality relationship. The type of sewerage system was another factor considered (e.g., whether it is combined, separate, or mixed; how severe the infiltration and inflow problems may be). Such factors have different effects on the quantity and quality of storm runoff, and were balanced as well as possible in selecting projects.

5. Beneficial Use of Receiving Water. Because this factor greatly affects the type of control measure that would be appropriate, attempts were made to include a wide range in selecting projects.

Although these were the primary criteria used to identify potential projects, other factors also had to be considered (e.g., the applicant agencies' willingness to participate, the State's acceptance of the project, the experience of the proposed project teams). Because the NURP program used planning grants (not research funds) a major consideration was the anticipated working relationships with local public agencies and the applicants' ability to raise local matching funds.

Program Assistance

Technical expertise and resources available for urban runoff planning varied among the various projects participating in NURP. Therefore, the program strategy called for providing a broad spectrum of technical assistance to each project as needed and for intercommunication of experiences and sharing of data in a timely manner.

Assistance was also provided to the applicants in developing their final work plans. This was done to ensure that there would be consistency among methods, especially in the collection of data. If there were to be differences in data from city to city, they must be due to the characteristics of each city and not a result of how the data were obtained.

Assistance with instrumentation was provided during the program in the form of information on available equipment, installation, calibration, etc. Because one of the more important elements of a data collection program is the "goodness" or quality of the data themselves, questionable data would be of little use. Accordingly, a quality assurance and quality control element was required in the plans for each project.

Periodic visits were made to each project site to ensure that the participants were provided opportunities to discuss any problems, technical or administrative. The visiting team typically included an EPA Regional Office representative, an EPA Headquarters representative, and one or two experienced consultants. All interested parties, including representatives from State or local governments, were requested to attend those visits.

As the projects moved farther into their planned activities and the time for data analysis approached, each project was required to describe how they were going to analyze their data. No single method was recommended for each project, because it was believed that a broad diversity of available methods would be suitable, if used properly. Guidance on proper use was provided as a part of technical assistance through project visits and special workshops for this purpose.

Communication

It was intended that the entire group of NURP participants function as a single team. Accordingly, a communication program was developed. National

meetings were conducted semi-annually so that key personnel from the individual projects would have an opportunity to discuss their experiences and findings.

Reports were required of each project quarterly. EPA Headquarters also provided composite quarterly reports summarizing the status of each project and discussing problems encountered and solutions found.

OUTPUTS TRANSFERABLE TO STATE AND LOCAL GOVERNMENTS

The program has yielded a great deal of information which will be useful for a broad spectrum of planning activities for many years. Furthermore, it has fostered valuable cooperative relationships among planning and regulatory agencies. The most tangible products of the program are this report, the reports of various grantees (available under separate cover), and several technical reports which focus on specialized aspects of the program, its techniques, and its findings. In addition, a considerable number of individual articles drawing on information developed under the NURP program have already appeared in the technical literature and address specific technical or planning aspects of urban runoff.

At the time of publication of this Final Report, the main technical effort of the NURP program is complete; the field studies and the analysis of most of the resultant data are complete enough that the findings reported herein can be taken with confidence. However, there is still some work in progress to make certain details of the program available for future use. The products of this on-going work include:

- A detailed database which has been compiled to make technical information from the 28 projects available for review and use (DECEMBER 1985);
- A technical report which focuses on the program's studies and findings relative to detention and recharge devices (MAY 1984);
- A technical report on urban runoff effects on the water quality of rivers and streams (MARCH 1984); and
- A technical report on the effectiveness of street sweeping as a potential "best management practice" for water pollution control (MAY 1984).

This report supersedes the earlier NURP publication, "Preliminary Results of the Nationwide Urban Runoff Program," March 1982. Information presented there has been expanded, updated, and in some cases revised.

Results of the Nationwide Urban Runoff Program (NURP)

NURP Study - Based on 28 separate and distinct planning projects

Objectives:

- Examine quality characteristics of urban runoff and similarities/differences at different urban areas;
- Examine extent to which urban runoff is a significant contributor to WQ problems across the nation; and,
- Examine performance characteristics and overall effectiveness and utility of management practices for the control of pollutant loads from urban runoff.

NURP definition of WQ "problems" from urban runoff is 3-leveled:

- Impairment or denial of beneficial uses;
- WQ criterion violation; and,
- Local public perception.

NURP Method

Field monitoring was performed at various sites throughout the country. The data represents a cross section of regional climatology, land use types, slopes and soil conditions. Due to the high variability of urban runoff, many sites were monitored and a statistical method was used to analyze the data.

The event mean concentration (EMC), or total constituent mass discharge divided by total runoff volume, was chosen as the primary water quality statistic.

Conclusions

1. Heavy metals, especially copper, lead and zinc were the most prevalent priority pollutant.

2. Organic priority pollutants were detected less frequently and at lower concentrations than heavy metals. The most commonly found pollutant was 2-ethylhexl (22%) and a-BHC (20%).

3. Coliform bacteria are present at high levels in urban runoff. Warm weather typically causes high fecal coliform counts.

4. Nutrients are present in runoffs but the concentration level is not as high as compared to other possible discharges.

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5. Oxygen demanding substances are present. Urban runoff is comparable to secondary treatment plant discharges.

6. Compared to treatment plant discharges, total suspended solids concentrations are fairly high.

7. A summary characterization was developed in estimating runoff from sites where monitoring data are scant or lacking.

Receiving Water Effects

The effects of runoff are very site-specific. The effect considerations are based on type, size, and hydrology of the water body, runoff quality and quantity, beneficial uses, and specific pollutants that affect that use. The NURP reports on the basis of the following water body types: rivers and streams, lakes, estuaries and embayments, and groundwater aquifers.

Issues

A number of issues came up during the NURP study. Some issues require additional information or further study.

1. Sediments - Further study is required to determine the long-term effect of nutrients and toxic pollutant accumulation in the sediments of urban lakes and streams.

2. Priority Pollutants - Many are found in runoff and a serious health risk could exist.

3. Rainfall pH Effects - Further study is required. It is speculated that acid rain increases the level of pollutants.

4. Industrial Runoff - Further study is required. It is suggested that industrial runoff might have significantly higher contaminant levels than runoff from other urban land.

5. Central Business Districts - Limited data is available. Some sites may product pollutant concentrations in runoff that are higher than those from a given urban area.

6. Physical Effects - Physical impacts of runoff have received little attention. Further study is required.

7. Synergy - No evaluation performed. It is suggested that control of a certain substance, i.e., pH, would reduce an adverse synergistic effect.

8. Opportunities for Control - Significant control of runoff quality are much greater for newly developing areas.

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ATTORNEY GENERAL'S STATEMENT

FOR THE

STATE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM

AND

STATE PRETREATMENT PROGRAM

ADMINISTERED BY THE

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

AND THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS

STATE OF CALIFORNIA

OFFICE OF THE ATTORNEY GENERAL

MAY 1987

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ATTORNEY GENERAL'S STATEMENT

FOR THE

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OFFICE OF THE ATTORNEY GENERAL

MAY 1987

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STATE OF CALIFORNIA, DEPARTMENT OF JUSTICE

ATTORNEY GENERAL'S STATEMENT OF LEGAL AUTHORITY TO IMPLEMENT A STATE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM AND A STATE PRETREATMENT PROGRAM

I hereby certify, pursuant to section 402(b) of the Clean Water Act, that in my opinion the laws of the State of California provide adequate authority for the California State Water Resources Control Board (state board) and the nine California Regional Water Quality Control Boards (regional boards) to carry out a state National Pollutant Discharge Elimination System (NPDES) program and a state pretreatment program in the State of California. This authority is provided in lawfully enacted statutes and lawfully adopted regulations in full force and effect on the date of this Attorney General's Statement. Specific authorities provided by these statutes and regulations, as required by 40 C.F.R. part 123, are discussed below.

I. INTRODUCTION

Authority for the State of California to implement an NPDES program and a pretreatment program that complies with federal regulations applicable to state NPDES programs and state pretreatment programs is found in the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), Division 7 (commencing with section 13000) of the California Water Code. (All citations are

to the California Water Code unless otherwise noted.)

A. General Powers of the State and Regional Boards

The Porter-Cologne Act establishes a comprehensive program for the protection of water quality and the beneficial uses of the waters of the state. The act addresses both point and non-point source discharges, to both surface and ground waters. See § 13050(e); 63 Ops.Cal.Atty.Gen. 51, 53-57 (1980); 58 Ops.Cal.Atty.Gen. 531-532 (1975); 58 Ops.Cal.Atty.Gen. 114, 121 (1975). The Porter-Cologne Act also applies to waste discharges to land. See §§ 13172, 13260 et seq.; 23 Cal. Admin. Code § 2510 et seq.

The Porter-Cologne Act is intended to provide a statewide program for water quality control administered regionally, within a framework of statewide coordination and policy. § 13000. The state board and the nine regional boards are the principal state agencies with primary responsibility for water quality control. § 13001. The state board also administers the state's water rights program. See § 174. The state board provides program guidance and oversight to the regional boards though adoption of statewide plans, policies, regulations and administrative procedures, preparation of an annual budget and allocation of funds to the reginnal boards, and providing legal advice to the regional boards. See §§ 186, 1053, 13140, 13164, 13170.

The state board also provides oversight and policy guidance through review of regional board decisions. Most actions

involving planning for basins within the state are initiated by the regional boards, but do not take effect until approved by the state board. See § 13240 et seq. The regional boards also have primary responsibility for individual permitting, inspection, and enforcement actions. See §§ 13260 et seq., 13300 et seq. The state board may review the action or failure to act of any regional board, and take appropriate action, upon petition of any aggrieved person or upon the state board's own motion. § 13320. In addition, for many actions required or authorized under the Clean Water Act, 33 U.S.C. § 1251 et seq., the state board has authority to take action independent of the state board's authority to act upon review of regional board's action or failure to act. See §§ 13160 (certifications); 13170 (standards and implementation plans); 13377 (permits for point source discharges); 13383 (inspection and monitoring); 13386 (enforcement).

The Porter-Cologne Act provides for the adoption of water quality control plans. §§ 13170, 13240 et seq. These plans designate beneficial uses of water, set water quality objectives (criteria) to protect beneficial uses of water, and provide for a program to achieve those objectives. §§ 13050(j), 13241, 13242. Water quality control plans may include prohibitions against the discharge of waste, or certain types of waste, in specified areas or under specified conditions. § 13243.

The principal means of regulating activities which may affect water quality, and the principal means of implementing

water quality control plans, is through issuance of waste discharge requirements. Any person discharging waste or proposing to discharge waste that could affect the quality of waters of the state, other than a discharge into a community sewer system, must submit a report of waste discharge to the board, unless the board waives the requirement for filing a report. § 13260. With certain limited exceptions, no person may initiate any new discharge of waste or make any material change in any discharge prior to issuance of waste discharge requirements by the regional board. § 13264.

A "discharge of waste", as used in the Porter-Cologne Act provisions on waste discharge requirements, includes, but is not limited to, any "discharge or runoff of a pollutant", within the meaning of the Clean Water Act. See Clean Water Act sections 313, 502, 33 U.S.C. § 1323, 1362. The statute enacting the Porter-Cologne Act provides that the statute is intended to implement the legislative recommendations in a report submitted by the state board to the Legislature. 1969 Cal. Stats. c. 482, § 36. The report contains a note that the definition of waste is intended to include all interpretations of the Attorney General of the meaning of "sewage", "industrial waste", and "other waste". Recommended Changes in Water Quality Control, Final Report of the Study Panel to the California State Water Resources Control Board, Study Project--Water Quality Control Program Appendix A at 23 (1969).

Published opinions of the Attorney General had interpreted a discharge of "sewage", "industrial waste", or "other

waste" to include the following:

- o Drainage from inoperative and abandoned mines. 26 Ops.Cal.Atty.Gen. 88 (1955);
- o Drainage, flow or seepage containing debris or eroded earth from logging operations. 27 Ops.Cal.Atty.Gen. 182 (1956);
- o Drainage, flow or seepage containing garbage, ashes, rubbish, mixed refuse, or solid industrial waste from inactive or closed dumps. Id.;
- o Return irrigation or drainage water from agricultural operations. Id.;
- o Liquids containing harmful materials which arise in one stratum intercepted by a water, oil or gas well and flow through the well into other intercepted strata. Id.;
- o Releases from a hydroelectric plant. 43 Ops.Cal.Atty.Gen. 302 (1964);
- o Pesticides improperly applied to waters of the state, or which find their way into waters of the state after application for use. Id.;
- o Changes in the physical or chemical characteristics of receiving waters caused by extraction of minerals from a streambed. 32 Ops.Cal.Atty.Gen. 139 (1958);
- o Dumping of earth moved from construction operations, or drainage of waste water from construction sites. 16 Ops.Cal.Atty.Gen. 125 (1950).

See 63 Ops.Cal.Atty.Gen. 51, 53-57 (1980).

Thus, even as applied to point sources, the Porter-Cologne Act has somewhat broader applicability than the Clean Water Act. Cf. National Wildlife Association v. Gorsuch, 693 F.2d 156 (D.C. Cir. 1982) (excluding from Clean Water Act definition of "pollutant" certain components which are considered "waste" under the Porter-Cologne Act; excluding from Clean Water Act definition of "discharge" certain releases from point sources that are considered "discharges" under the Porter-Cologne Act).

In prescribing waste discharge requirements, the regional board must take into consideration the beneficial uses to be protected, the water quality objectives required to protect those beneficial uses, and the need to prevent nuisance. § 13263. Waste discharge requirements also must implement any applicable water quality control plan. Id.

The Porter-Cologne Act also provides the regional boards with a spectrum of enforcement powers to address violations of waste discharge requirements, violations of reporting or monitoring requirements, and other activities that threaten water quality. §§ 13173, 13261, 13262, 13265, 13268, 13272, 13273, 13300 et seq., 13381, 13385, 13386, 13387.

Other provisions of the Porter-Cologne Act provide for grants and loans for waste treatment facilities, a state water pollution cleanup and abatement account, regulation of use of reclaimed water, sewage treatment plant operator qualifications, regulation of water wells and cathodic protection wells, and

regulation of discharges from houseboats. §§ 13400 et seq.; 13440 et seq.; 13500 et seq.; 13625 et seq.; 13700 et seq.; 13900 et seq.; 13955 et seq.; 13999 et seq.

B. Specific Authority for Clean Water Act Programs

In providing for issuance and enforcement of waste discharge requirements, the Porter-Cologne Act establishes a permit system for both point and non-point sources. To ensure that this program would be adequate to obtain Environmental Protection Agency (EPA) approval of a state NPDES program, the Legislature amended the Porter-Cologne Act in 1972. §13370; San Francisco Civil Service Association Local 400 v. Superior Court, 16 Cal.3d 46, 50, 544 P.2d 1331, 1334, 127 Cal.Rptr. 131, 134 (1976). These amendments added Chapter 5.5 (commencing with section 13370) to the Porter-Cologne Act. 1972 Cal. Stats. c. 1256.

The provisions of Chapter 5.5, patterned after the provisions of the Clean Water Act that apply to the NPDES program (Pacific Water Conditioning Association v. City Council, 73 Cal.App.3d 546, 556, 140 Cal.Rptr. 812, 818 (1977)) include the following authority:

- Permit issuance. Waste discharge requirements for point source discharges must apply and ensure compliance with all applicable provisions of the Clean Water Act. § 13377. They are issued for a fixed term not to exceed five years, and can be terminated or modified for cause.

§§ 13372, 13381. Waste discharge requirements also are required for disposal of pollutants into wells. § 13382.

- Inspection and Monitoring. Waste discharge requirements must incorporate inspection, monitoring, and entry requirements where required under the Clean Water Act. § 13377. The state and regional boards also have inspection, monitoring, and entry powers, independent of any permit conditions, equivalent to EPA's powers under section 308 of the Clean Water Act. § 13383, see 33 U.S.C. § 1318.
- Notice. The state and regional boards must ensure that the public, and any other state the waters of which may be affected, receive notice of any application for waste discharge requirements and are provided with an opportunity for a public hearing before a decision is made on the application. § 13384.
- Notice to EPA. The state board must provide notice to EPA of any application for waste discharge requirements, including a copy of the application. See § 13377; 23 Cal. Admin. Code § 2235.1(c).
- Notice to affected states. The state and regional boards must provide any other state which may be affected by issuance of a permit with an opportunity to submit written recommendations. The other state must be given written notice, and a statement of reasons, if its

recommendations are not accepted. See §§ 13377, 13378, 13384; 23 Cal. Admin. Code § 2235.1(c).

- o Protection of Navigation. The state and regional boards will not issue waste discharge requirements if, in the judgment of the United States Army Corps of Engineers, navigation of navigable waters would be impaired. See § 13377; 23 Cal. Admin. Code § 2235.1(c).
- o Enforcement. The state and regional boards have power to abate violations of the program, including civil and criminal penalties. §§ 13385, 13386, 13387.
- o Pretreatment Program. Waste discharge requirements issued to publicly owned treatment works must include conditions applying the Clean Water Act requirements for identification of pollutants subject to pretreatment requirements and requiring implementation of a pretreatment program. § 13377.
- o Pretreatment Requirements. The state and regional boards have authority to require industrial users of publicly owned treatment works to comply with pretreatment requirements. §§ 13383, 13385, 13386, 13387.

See generally section 402(b) of the Clean Water Act, 33 U.S.C. § 1342(b). Specific authorities provided by Chapter 5.5 of the Porter-Cologne Act and other state statutes and regulations are listed in Part II of this Attorney General's Statement.

Many of the Clean Water Act requirements for an adequate state NPDES program and pretreatment program are provided in

Chapter 5.5 of the Porter-Cologne Act through incorporation by reference of the federal requirements. See, e.g., § 13377. In addition, changes in the Clean Water Act and implementing regulations are incorporated prospectively assure that the state continues to have authority in the face of changing federal regulatory requirements.

Section 13370 states the Legislature's intent as follows: "to authorize the state to implement the provisions of the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto". Accordingly, at section 13377, the state and regional boards are directed to issue waste discharge requirements which apply and ensure compliance with the Clean Water Act "and all acts amendatory thereof or supplementary thereto." This statutory language clearly indicates an intent to incorporate prospectively changes in federal law. Similarly, the enforcement provisions of Chapter 5.5, sections 13385, 13386 and 13387, are patterned after section 309 of the Clean Water Act. 33 U.S.C. § 1319. Like section 309 of the Clean Water Act, the enforcement provisions of Chapter 5.5 authorize actions for civil and criminal penalties and injunctive relief to enforce standards and limitations set by EPA regulations promulgated after enactment of the code sections authorizing enforcement.

State statutes and regulations that prospectively incorporate federal statutes and regulations have long been accepted in California. See 64 Ops.Cal.Atty.Gen. 503 (1981);

43 Ops.Cal.Atty.Gen. 275 (1964); 43 Ops.Cal.Atty.Gen. 1 (1964). See generally Kugler v. Yocum, 69 Cal.2d 371, 377-384, 445 P.2d 303, 306-311, 71 Cal.Rptr. 687, 690-695. Issues concerning state incorporation of the Clean Water Act are discussed in detail in Appendix A.

In general, Chapter 5.5 of the Porter-Cologne Act applies only to activities which EPA could regulate under the Clean Water Act if the state did not have a state program, or which the state is required to regulate to obtain program approval. See § 13372. There are some instances where Chapter 5.5 of the Porter-Cologne Act applies to activities the state is not required to regulate in order to obtain program approval. See § 13382 (requiring waste discharge requirements for disposal into wells, or "where pollutants may enter wells from the surrounding groundwater;" Clean Water Act section 402(b)(1)(D) only requires permits to control disposal into wells). Otherwise, activities that are not subject to state programs implementing Clean Water Act requirements, are regulated under Porter-Cologne Act provisions other than Chapter 5.5. See § 13372.

Chapter 5.5 of the Porter-Cologne Act applies to point source discharges to surface waters, introduction of pollutants into public treatment systems, use and disposal of sewage sludge, and disposal of pollutants into wells. See §§ 13373, 13377, 13382, 13383, 13385, 13386, 13387. In 1978, the Legislature amended Chapter 5.5 of the Porter-Cologne Act to authorize a state program to permit discharges of dredged or fill material.

1978 Cal. Stats. c. 746. The provisions of Chapter 5.5 will apply to discharges of dredged or fill material that are not subject to NPDES program requirements only when the state applies for and obtains federal approval of the state dredged or fill permit program under section 404(g) of the Clean Water Act. See § 13370; Clean Water Act section 404(g), 33 U.S.C. § 1344(g). The dredged or fill material permit program established under Chapter 5.5 will apply only to those waters where the Clean Water Act authorizes a state to obtain approval for administration of the Clean Water Act dredged and fill material permit program. See § 13376; Clean Water Act section 404(g), 33 U.S.C. § 1344(g).

Point source discharges and other activities subject to Chapter 5.5 of the Porter-Cologne Act are also subject to the other provisions of the Porter-Cologne Act, to the extent those provisions are consistent with Chapter 5.5. See § 13372. The other provisions of the Porter-Cologne Act serve to supplement the authority provided by Chapter 5.5. They establish procedures for state and regional board operations. See generally § 13260 et seq. They provide additional powers which may be used to enforce requirements set pursuant to Chapter 5.5. See generally § 13300 et seq. They also may provide the basis for establishing stricter requirements than might otherwise be required under Chapter 5.5. See generally § 13000.

In short, the Clean Water Act requirements incorporated into Chapter 5.5 of the Porter-Cologne Act serve as minimum requirements: additional requirements may be imposed to the extent

authorized by other provisions of the Porter-Cologne Act. The Clean Water Act expressly provides that states may adopt and enforce their own standards and requirements, so long as they are not less stringent than the requirements of the Clean Water Act. Clean Water Act section 510; 33 U.S.C. § 1370. Requirements imposed pursuant to other provisions of the Porter-Cologne Act therefore would not be inconsistent with the requirements of Chapter 5.5, and could be adopted and enforced in addition to the requirements of Chapter 5.5. See § 13372.

Indeed, Chapter 5.5 expressly requires that waste discharge requirements for point source discharges, in addition to assuring compliance with all requirements of the Clean Water Act, include "any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance". § 13377. So long as the state or regional board makes proper findings explaining the basis of its decision, waste discharge requirements may establish more stringent requirements than those required or authorized by the Clean Water Act. See Southern California Edison v. State Water Resources Control Board, 116 Cal.App.3d 751, 758-61, 172 Cal.Rptr. 306, 309-11 (1981) (the Porter-Cologne Act authorizes the state and regional boards to set more stringent controls than those established by the Clean Water Act; the particular waste discharge requirements before the court were remanded because of inadequate findings to support more stringent controls).

Where other provisions of the Porter-Cologne Act are inconsistent with Chapter 5.5, the provisions of Chapter 5.5 prevail to the extent of any inconsistency. § 13372. For example, in State Water Resources Control Board Order No. WQ 80-19, the state board rejected an argument that § 13360, which is not part of Chapter 5.5, limits the authority of the state and regional boards to specify the manner of compliance with an NPDES permit. The state board reasoned:

> "We do not agree that Water Code Section 13360 precludes the State or Regional Boards from specifying the manner of compliance with waste discharge requirements in NPDES permits. The Porter-Cologne Water Quality Control Act, Division 7 of the Water Code, provides that, notwithstanding any other provision of the division, the State and Regional Boards shall issue NPDES permits as required or authorized by the Clean Water Act, 33 U.S.C. §§ 1251 et seq., to ensure compliance with the Federal Act. Water Code § 13377.
>
> "Under the Clean Water Act, effluent limitations, effluent standards and prohibitions, and standards of performance promulgated by EPA are enforced through the issuance of NPDES permits. Prior to the adoption of such limitations, standards, and prohibitions, the Administrator of EPA is authorized by the Act to impose 'such conditions as the Administrator determines are necessary' to carry out the provisions of the Act. 33 U.S.C. § 1342 (a)(1); see NRDC, Inc. v. Costle, 568 F.2d 1369 (D.C. Cir. 1977). In addition, EPA regulations adopted under the Clean Water Act authorize conditions in NPDES permits setting 'best management practices' where numeric effluent limitations are infeasible or where reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the Act. 40 C.F.R. § 122.62(K). 'Best management practices' are defined to include, for NPDES permits, 'treatment requirements, operating procedures, and practices to control...sludge or waste disposal....' 40 C.F.R. § 122.3. (emphasis added).
>
> "Consequently, since the Clean Water Act authorizes the imposition of conditions including best management practices, in NPDES permits where

limitations and standards have not been promulgated, the Porter-Cologne Act gives the State and Regional Boards the same authority. To the extent that this authorization is inconsistent with the provisions of Water Code Section 13360, the authority of the State and Regional Boards to implement the provisions of the Clean Water Act under Water Code Section 13377 must prevail. See Water Code Section 13372." (State Board Order No. WQ 80-19 at pp 19-21 [footnote omitted].)

This decision was upheld in a subsequent proceeding in Los Angeles County Superior Court against a challenge to the state board's order. ABCD v. State Board and Las Virgenes MWD v. State Board, Los Angeles Superior Court Nos. C349722 and C348687, September 10, 1982. In state board Order No. WQ 82-8 the state board concluded, based upon similar reasoning, that section 13360 does not apply to the state's implementation of Clean Water Act pretreatment requirements.

In summary, the provisions of Chapter 5.5 of the Porter-Cologne Act, by incorporating the requirements of the Clean Water Act, provide the basic authority needed for a state NPDES program, including the authority needed for a state pretreatment program. Provisions of the Porter-Cologne Act that are not part of Chapter 5.5 provide supplementary regulatory authority. These provisions, however, do not create exceptions to NPDES and pretreatment program requirements, and do not restrict the State's authority to administer an NPDES program and pretreatment program that complies with all federal requirements. Except where a more stringent requirement is established pursuant to other provisions of the Porter-Cologne Act, Chapter 5.5 requires the state and regional boards to follow all requirements of the Clean Water Act

that apply to state NPDES programs and state pretreatment programs.

II. SPECIFIC AUTHORITY

Specific authority provided by the Porter-Cologne Act and other lawfully enacted state statutes and regulations includes the following:

A. Authority to Issue Permits

1. Existing and New Point Sources

State law provides authority to issue permits for the discharge of pollutants by existing and new point sources to the same extent as required under the permit program administered by EPA pursuant to Sections 318, 402, and 405 of the Clean Water Act.

Federal Authority: Clean Water Act sections 301(a), 318, 402(b)(1)(A), 405(a); 40 C.F.R. § 123.25(a).

State Authority: §§ 1058, 13370, 13374, 13376, 13377, 13378, 13380, 13381, 13382.5; 23 Cal. Admin. Code §§ 2235.1, 2235.2.

Remarks:

Discharger's duties to obtain waste discharge requirements

Section 13376 provides, in relevant part:

"Any person discharging pollutants or proposing to discharge pollutants to the navigable waters of the United States within this state...shall file a

> report of such discharge in accordance with the procedures set forth in section 13260....The discharge of pollutants...by any person except as authorized pursuant to waste discharge requirements...is prohibited...." § 13376.

The terms "discharge," "pollutants," and "navigable waters," as used in section 13376 and other provisions of Chapter 5.5 of the Porter-Cologne Act, have the same meaning as in the Clean Water Act. § 13373. The term "waste discharge requirements," as used in Chapter 5.5 of the Porter-Cologne Act, is the equivalent of the term "permits," as used in the Clean Water Act. § 13374.

The term "person," as used in the Porter-Cologne Act, has the same broad applicability as the term "person" under the Clean Water Act. The term applies to individuals and to both private and governmental entities. "Person" includes any "person, firm, association, organization, partnership, business trust, corporation or company" as well as any "city, county, district, the state or any department thereof" and "the United States, to the extent authorized by federal law". §§ 19, 13050(c); see §§ 5, 13050 Legislative Committee Comment (West 1971); Clean Water Act section 502(5), 33 U.S.C. § 1362(5).

Section 13376 is modeled on the provisions of the Clean Water Act. Compare § 13376, with Clean Water Act sections 301, 402, 33 U.S.C. §§ 1311, 1342. By prohibiting the "discharge of pollutants" except as in accordance with a state permit, in the form of waste discharge requirements, section 13376 requires waste discharge requirements for all discharges for which the Clean Water Act requires an NPDES permit.

Section 13376 also includes provisions requiring a state permit for discharges of dredged or fill material to navigable waters, other than waters used to transport interstate or foreign commerce. See § 13376. But the provisions of Chapter 5.5 of the Porter-Cologne Act requiring a state permit for discharges of dredged or fill material that are not subject to NPDES requirements do not take effect until federal approval of a state dredged and fill material permit program. § 13370.

EPA regulations exclude certain discharges from the requirement for an NPDES permit. 40 C.F.R. § 122.3. Where a California statute is modeled on a federal act, judicial and administrative interpretations of the federal act are persuasive authority in interpreting the California statute. No Oil, Inc. v. City of Los Angeles, 13 Cal.3d 68, 86 n.21, 529 P2d 66, 78 n.21, 118 Cal.Rptr. 34, 46 n.21 (1974). Aside from provisions concerning dredged and fill material permits (see, e.g., § 13370) and control of disposal pollutants into wells (see § 13382) nothing in Chapter 5.5 of the Porter-Cologne Act indicates a legislative intent to require waste discharge requirements for discharges which do not require a permit under sections 318, 402 and 405 of the Clean Water Act. Section 13372 provides, in part, that the "provisions of this chapter [Chapter 5.5 of the Porter-Cologne Act] shall apply only to actions required under the [Clean Water Act]".

Thus, section 13376 does not require waste discharge requirements for discharges which are exempt from NPDES permits

under EPA regulations. 40 C.F.R. § 122.3. Where an NPDES permit may be required at the discretion of the NPDES program director, see, e.g., id. § 122.3(g), waste discharge requirements may be required at the discretion of the state and regional boards.

These conclusions are reinforced by section 13377, which mandates that state and regional boards "shall" issue waste discharge requirements "as required or authorized" under the Clean Water Act. § 13377. Whenever an NPDES permit is required under the Clean Water Act, waste discharge requirements are required under Chapter 5.5 of the Porter-Cologne Act. Where issuance of an NPDES permit is neither required nor authorized under the Clean Water Act and EPA regulations, waste discharge requirements ordinarily are not required under Chapter 5.5 of the Porter-Cologne Act. §§ 13372, 13377.

There are three situations where waste discharge requirements or other permits may be required under Chapter 5.5 of the Porter-Cologne Act, even though an NPDES permit is not required. First, waste discharge requirements are required for disposal of pollutants into wells, or where pollutants may enter wells from surrounding ground water. § 13372. Second, section 13377 provides authority to issue waste discharge requirements for the use or disposal of sludge from treatment works, where permits are required under the Water Quality Act of 1987, even if the treatment works do not require an NPDES Permit. See § 13377; Clean Water Act section 405(f), 33 U.S.C. § 1345(f). Third, state dredged and fill material permits will

be required if California obtains federal approval of a dredged and fill material permit program. §§ 13370, 13377. With these three exceptions, Chapter 5.5 of the Porter-Cologne Act does not require or authorize issuance of waste discharge requirements for activities which are excluded from the NPDES permit program. §§ 13372, 13377; cf. §§ 13383, 13385, 13386, 13387 (providing authority to enforce pretreatment requirements against industrial users of publicly owned treatment works, but not authorizing issuance of waste discharge requirements to those industrial users). Activities that may affect water quality but are not subject to Chapter 5.5 of the Porter-Cologne Act may be regulated under other provisions of the Porter-Cologne Act. See, e.g., § 13260 et seq.; § 13300 et seq.

Procedures for issuing waste discharge requirements

The state and regional boards issue waste discharge requirements in accordance with the procedures set forth in Article 4 (commencing with section 13260) of Chapter 4 of the Porter-Cologne Act and EPA NPDES program regulations. See §§ 13372, 13377; 23 Cal. Admin. Code §§ 2235.1(c); 2235.2.

A regional board may waive waste discharge requirements where such waiver is not against the public interest. § 13269. Where a waiver would be contrary to NPDES program requirements, issuance of a waiver would be contrary to the public interest. See § 13370. In addition, Chapter 5.5 of the Porter-Cologne Act prohibits any discharge for which an NPDES permit is required under the Clean Water Act, except where the discharge is

authorized pursuant to waste discharge requirements. § 13376. If any other provision of the Porter-Cologne Act purported to authorize a waiver of waste discharge requirements for a discharge required to have an NPDES permit under the Clean Water Act, it would be inconsistent with Chapter 5.5 of the Porter-Cologne Act. "The provisions of [Chapter 5.5 of the Porter-Cologne Act] prevail over other provisions of [the Porter-Cologne Act] to the extent of any inconsistency." §13372.

Similarly, certain discharges not subject to the requirement for an NPDES permit may be initiated if the regional board fails to act upon a report of waste discharge within a specified period after a complete report is submitted. §13264(a)(2). This provision, however, does not apply to discharges of pollutants to waters of the United States, which are governed by section 13376 of the Water Code. See § 13372; Pacific Water Conditioning Association v. City Council, 73 Cal.App.3d 546, 556, 140 Cal.Rptr. 812, 818 (1977) (dicta).

State board regulations provide that a report of waste discharge is the equivalent of an NPDES permit application, and that reports of waste discharge for point source discharges to surface waters shall be filed and processed in compliance with EPA's NPDES program regulations. 22 Cal. Admin. Code §§ 2235(b), 2235.1.

Incorporation of NPDES program requirements

When the state and regional boards issue waste discharge

requirements for activities subject to Chapter 5.5 of the Porter-Cologne Act, they must "apply and ensure compliance with all applicable provisions of the [Clean Water] act and acts amendatory thereof or supplementary, thereto". § 13377.

State board regulations for point source discharges to navigable waters require that reports of waste discharge be processed and waste discharge requirements be issued in accordance with the "applicable" EPA NPDES regulations. 23 Cal. Admin. Code §§ 2235.1(c), 2235.2. Thus, the Porter-Cologne Act and state board regulations have incorporated by reference all EPA NPDES regulations which are applicable to the states. Except where the Porter-Cologne Act provides for more stringent requirements, the regional boards follow and apply those EPA regulations in issuing waste discharge requirements for activities subject to Chapter 5.5 of the Porter-Cologne Act. For activities subject to the NPDES permit program, EPA regulations determine both the procedures followed in issuing waste discharge requirements, and the conditions imposed in those waste discharge requirements, unless state law supports a more stringent reouirement.

EPA regulations which are applicable to California's NPDES program include 40 C.F.R. part 123, setting requirements for state NPDES programs, e.g., id. § 123.25, 123.41, and regulations expressly made applicable to state NPDES programs. See, e.g., id. § 122.28 (general permits); id. § 403.1(b)(3).

Specifically, waste discharge requirements for point

source discharges to waters of the United States must, at a minimum, be issued and administered in conformance with each of the sections of title 40 of the Code of Federal Regulations listed below:

"(1) § 122.4--(Prohibitions);
(2) § 122.5(a) and (b)--(Effect of permit);
(3) § 122.7(b) and (c)--(Confidential information);
(4) § 122.21(a)-(b), (e)-(j), and (l)-(o)--(Application for a permit);
(5) § 122.22--(Signatories);
(6) § 122.23--(Concentrated animal feeding operations);
(7) § 122.24--(Concentrated aquatic animal production facilities);
(8) § 122.25--(Aquaculture projects);
(9) § 122.26--(Separate storm sewers);
(10) § 122.27--(Silviculture);
(11) § 122.28--(General permits)...;
(12) § 122.41--(Applicable permit conditions);
(13) § 122.42--(Conditions applicable to specified categories of permits);
(14) § 122.43--(Establishing permit conditions);
(15) § 122.44--(Establishing NPDES permit conditions);
(16) § 122.45--(Calculating permit conditions);
(17) § 122.46--(Duration);
(18) § 122.47(a)--(Schedules of compliance);
(19) § 122.48--(Monitoring requirements);
(20) § 122.50--(Disposal into wells);
(21) § 122.61--(Permit transfer);
(22) § 122.62--(Permit modification);
(23) § 122.64--(Permit termination);
(24) § 124.3(a)--(Application for a permit);
(25) § 124.5 (a), (c), (d), and (f)--(Modification of permits);
(26) § 124.6 (a), (c), (d), and (e)--(Draft permit);
(27) § 124.8--(Fact sheets);
(28) § 124.10 (a)(1)(ii), (a)(1)(iii), (a)(1)(v), (b), (c), (d), and (e)--(Public notice);
(29) § 124.11--(Public comments and requests for hearings);
(30) § 124.12(a)--(Public hearings);
(31) § 124.17 (a) and (c)--(Response to comments);
(32) § 124.56--(Fact sheets);
(33) § 124.57(a)--(Public notice);
(34) § 124.59--(Comments from government agencies);
(35) § 124.62--(Decision on variances);
(36) Subparts A, B, C, D, H, I, J, K, and L of Part 125; and

(37) 40 CFR Parts 129, 133 and Subchapter N."
Id. § 122.25(a).

Of course, a regional board is not required to follow one of the above cited regulations where a more stringent condition is imposed under state law. Id. Note; see, State Water Resources Control Board Order No. WQ 75-16 at 4 (omitting upset clause based in part upon State's authority to set more stringent requirements).

EPA also has adopted regulations which are not expressly made applicable to the states, and apply only to EPA issued permits. See id. § 122.1(c). Many of these regulations deal with procedures followed by EPA. E.g., 40 C.F.R. Part 124, Subpart E (evidentiary hearing procedures). Some of these procedural regulations do not appear to have any bearing on the procedures to be followed by the state and regional boards. Compare id. § 124.16 (automatic stay pending evidentiary hearing), with 23 Cal. Admin. Code § 2053 (regional board action subject to review by the state board may be stayed only after notice and a hearing). See generally 43 Ops.Cal.Atty.Gen. 275, 282 (1964) (suggestion that inapplicable federal procedural or substantive requirements might be adopted inadvertently is not a barrier to prospective incorporation by reference. State statutes and regulations may be construed to avoid giving effect to federal regulations which are clearly irrelevant).

In many cases, however, EPA regulations which are not expressly made applicable to the state and regional boards may

provide valuable guidance. In particular, EPA regulations which do not expressly apply to state programs may provide guidance as to how the regulations which are applicable to state programs should be interpreted. In incorporating applicable provisions of the Clean Water Act and implementing regulations, it is the intent of the Legislature and the state and regional boards to interpret those incorporated provisions consistent with the interpretation they are given by EPA and the federal courts. Regulations which EPA has not made applicable to state programs may show how EPA interprets those regulations that are applicable. In some cases, the effect is the same as if EPA expressly provided that the regulation is applicable to state programs. See, e.g., 40 C.F.R. § 122.2 (definitions; although this provision is not expressly made applicable to state programs, the definitions obviously should be used in interpreting the other regulations which apply).

EPA regulations may also provide guidance in particular instances as to how provisions of Chapter 5.5 of the Porter-Cologne Act may be interpreted. Because Chapter 5.5 of the Porter-Cologne Act is modeled after the Clean Water Act, EPA regulations interpreting the Clean Water Act are persuasive authority in interpreting Chapter 5.5 of the Porter-Cologne Act. See Friends of Mammoth v. Board of Supervisors, 8 Cal.3d 247, 260-261, 502 P.2d 1049, 1057-1058, 104 Cal.Rptr. 761, 769-70 (1972); Pacific Water Conditioning Association v. City Council, 73 Cal.App.3d 546, 556, 140 Cal.Rptr. 812, 818 (1977).

In some cases, where the state and regional boards have discretion under the Porter-Cologne Act and applicable EPA regulations, an EPA regulation that does not apply to state programs may provide guidance as to how that discretion may be exercised to effectuate the purposes of the Clean Water Act and the Porter-Cologne Act. For example, procedures outlined in EPA regulations that do not apply to state programs could be followed by the state and regional boards if those procedures do not conflict with the procedures required under the Porter-Cologne Act. See, e.g., 40 C.F.R. § 124.6(b) (tentative denial of permit application). In some respects, the procedures outlined in EPA regulations that do not apply to the states are essentially the same as procedures followed by the state and regional boards pursuant to state board regulations. E.g., compare id. § 124.12 (recording of hearings) with 23 Cal. Admin. Code § 647.4 (recording of all state and regional board meetings, including those where a hearing is conducted). Otherwise, the state and regional boards may, in the reasonable exercise of their discretion, decide whether or not to follow procedures outlined in those EPA regulations that are neither applicable to state programs nor in conflict with the Porter-Cologne Act.

It is impossible to predict with certainty which of the EPA regulations that do not apply to state programs still might provide guidance to the state and regional boards. Even a regulation which does not appear to have any bearing on the state and regional boards might conceivably provide some guidance in a

particular case. Similarly, it would be impossible to predict all of the situations where the Porter-Cologne Act might require a stricter standard than applicable EPA regulations. California's prospective incorporation by reference of all applicable provisions of the Clean Water Act and implementing regulations does assure, however, that in all cases waste discharge requirements will, at a minimum, apply and ensure compliance with all requirements applicable to state NPDES programs.

2. Disposal into Wells

State law provides authority to issue permits to control the disposal of pollutants into wells.

Federal Authority: Clean Water Act section 402(b)(1)(D); 40 C.F.R. § 123.28.

State Authority: § 13382.

Remarks: Chapter 5.5 of the Porter-Cologne Act requires a state permit, in the form of waste discharge requirements, for disposal of pollutants into wells. § 13382. The state and regional boards may prohibit the disposal, or impose conditions to protect the public health and welfare, including protection of water quality and beneficial uses. See §§ 13243, 13263, 13377. Waste discharge reouirements for disposal of pollutants to wells apply and ensure compliance with all applicable provisions of the Clean Water Act and implementing regulations, as well as any more stringent reouirements of the Porter-Cologne Act. See §§ 13263,

13263.5, 13372, 13377.

B. Authority to Apply Federal Standards

1. Effluent Standards and Limitations and Water Quality Standards

State law provides authority to apply, in terms and conditions of issued permits, applicable federal effluent standards and limitations and water quality standards promulgated or effective under the Clean Water Act, including:

- o Effluent limitations pursuant to sections 301 and 304 of the Clean Water Act;
- o Water quality related effluent limitations pursuant to sections 302 and 303 of the Clean Water Act;
- o National standards of performance pursuant to Section 306 of the Clean Water Act;
- o Toxic and pretreatment effluent standards pursuant to section 307 of the Clean Water Act; and
- o Ocean discharge criteria pursuant to section 403 of the Clean Water Act.

Federal Authority: Clean Water Act sections 208(e), 301(b), 301(e), 302, 303, 304(b), 304(d), 304(f), 306, 307, 402(b)(1)(A), and 403: 40 C.F.R. §§ 122.43, 122.44, 122.45.

State Authority: §§ 1058, 13375, 13376, 13377, 13378, 13380, 13381, 23 Cal. Admin. Code §§ 2233, 2235.1, 2235.2, 2235.3.

Remarks: Because the Porter-Cologne Act and state board regulations incorporate prospectively all applicable Clean Water Act reouirements, the state and regional boards may apply federal effluent standards and limitations. See Appendix A.

Applicable federal effluent limitations which must be applied in waste discharge requirements include any effluent limitations necessary to meet water quality standards, as required under Clean Water Act section 301(b)(1)(C), 33 U.S.C. § 1311(b)(1)(C). See § 13377. Chapter 5.5 of the Porter-Cologne Act also expressly requires that waste discharge requirements ensure compliance with "any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance." § 13377. In addition, the general provisions of the Porter-Cologne Act require that all waste discharge requirements must implement any applicable state water quality standards. See §§ 13263, 13372.

The authority of the state and regional boards to set more stringent effluent limitations than required under the Clean Water Act and implementing regulations was recognized in Southern California Edison Co. v. State Water Resources Control Board, 116 Cal.App.3d 751, 172 Cal.Rptr. 306 (1981). The Court of Appeal reversed a Superior Court decision that the state and regional boards could not establish requirements more stringent than provided for under federal law. Id. at 757-58, 172 Cal.Rptr. at 309. The Court of Appeal held that in

appropriate cases the state and regional boards may prescribe effluent limitations based upon the gross pollutant levels in the discharge, even where applicable federal requirements would provide for an adjustment to provide credit for pollutants in intake water. Id.; cf. 40 C.F.R. § 122.45(g) (credit for pollutants in intake water).

The provisions of the Clean Water Act and implementing regulations allow for variances in certain situations. See, e.g., Clean Water Act section 301(g), 33 U.S.C. § 1311(g). EPA regulations applicable to the states establish procedures for decisions on variances. These procedures allow the states to grant or deny some types of variances; for other types of variances the state may deny the request, concur in writing, or forward the request without recommendation. 40 C.F.R. § 124.62. The state and regional boards process variance requests in accordance with these regulations, see 23 Cal. Admin. Code §§ 2235.1(c), 2235.2, and any more specific understandings which may be agreed to between the state and EPA. See, e.g., State Water Resources Control Board Order No. WQ 86-17. In issuing waste discharge requirements for a discharge for which a variance has been requested, the state and regional boards also apply all applicable water quality standards, and any other requirements of the Porter-Cologne Act which are more stringent than applicable federal requirements. E.g., id.; see §§ 13272, 13377.

2. Effluent Limitation Requirements of Sections 301 and 307 of

the Clean Water Act

In the absence of formally promulgated effluent standards and limitations under sections 301(b) and 307 of the Clean Water Act, State law provides authority to apply in terms and conditions of issued permits effluent limitations to achieve the purposes of these sections of the Clean Water Act. Such limitations may be based upon an assessment of technology and processes as required under the Clean Water Act with respect to individual point sources, and include authority to apply:

- To existing point sources, other than publicly owned treatment works, effluent limitations based on application of the best practicable control technology currently available, the best available technology economically achievable, or the best conventional pollutant control technology;
- To publicly owned treatment works, effluent limitations based upon the application of secondary treatment or the best practicable waste treatment technology;
- To any point source, effluent limitations and prohibitions for toxic pollutants identified pursuant to section 307(a)(1) of the Clean Water Act, based on application of best available technology economically achievable; and
- To point sources within industrial categories listed in the consent decree in Natural Resources Defense Council v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified,

12 E.R.C. 1833 (D.D.C. 1970), effluent limitations and compliance schedules which meet the requirements of sections 301(b)(2)(A), (C), (D), (E), and (F) of the Clean Water Act.

Federal Authority: Clean Water Act sections 301, 304(b), 304(d), 307, 402(a)(1), 402(b)(1)(A); 40 C.F.R. §§ 122.43, 122.44.

State Authority: Clean Water Act §§ 1058, 13377; 23 Cal. Admin. Code §§ 2235.1, 2235.2.

Remarks: Chapter 5.5 of the Porter-Cologne Act requires that waste discharge requirements apply and ensure compliance with all applicable provisions of the Clean Water Act. § 13377. This authority includes authority to apply the requirements of the Clean Water Act, on a case-by-case basis, if no effluent limitations or prohibitions have been formally promulgated by EPA.

3. Pretreatment Standards for Industrial Users

State law provides authority to apply to industrial users of publicly owned treatment works pretreatment standards promulgated under sections 307(b) and 307(c) of the Clean Water Act, including the prohibitive discharge standards developed pursuant to 40 C.F.R. § 403.5.

Federal authority. Clean Water Act sections 301(b)(1)(A)(ii), 307(b) and 307(c); 40 C.F.R. § 403.8.

State Authority: Cal. Gov't Code §§ 54739, 54740;

§§ 1058, 13370.5, 13377, 13383, 13385, 13386, 13387; 23 Cal. Admin. Code §§ 2233, 2235.2, 2235.3.

Remarks:

State and regional board authority

State law provides authority for the state and regional boards to apply pretreatment standards to industrial users in two different ways. The state and regional boards may enforce pretreatment standards directly against industrial users. The state and regional boards may also apply pretreatment standards indirectly, by requiring publicly owned treatment works to have and enforce pretreatment programs.

Chapter 5.5 of the Clean Water Act allows the state and regional boards to establish reporting and monitoring requirements for users of public treatment works. § 13383. The state and regional boards may enter and inspect the facilities of any user, and take samples. See §§ 13267, 13383. The state and regional boards may enforce pretreatment standards against users of publicly owned treatment works through actions for civil and criminal penalties and for injunctive relief. §§ 13385, 13386, 13387.

The enforcement provisions of Chapter 5.5 of the Porter-Cologne Act allow the state and regional boards to enforce requirements of the Clean Water Act, including any "effluent limitation" or any "pretreatment...standard". Id. See Appendix A, pp. A-7 - A-8. These enforcement provisions are

patterned after section 309 of the Clean Water Act and, like section 309 of the Clean Water Act, provide for sanctions for certain violations, including violations of sections 301 and 307 of the Clean Water Act. Compare, e.g., § 13377 with Clean Water Act section 309(d), 33 U.S.C. §1319(d). The enforcement provisions of Chapter 5.5 of the Porter-Cologne Act refer to sections of the Clean Water Act by their titles; references to effluent limitations and toxicity and pretreatment standards refer to standards established pursuant to sections 301 and 307 of the Clean Water Act. The obvious intent of these references is to authorize the state and regional boards to take enforcement action in response to violations of sections 301 and 307 of the Clean Water Act.

Effluent limitations are established under section 301 of the Clean Water Act. 33 U.S.C. § 1311. Pretreatment standards are established under section 307 of the Clean Water Act. 33 U.S.C. § 1317. The effluent limitations established under section 301 of the Clean Water Act include a requirement that users of publicly owned treatment works comply with "any applicable pretreatment requirements and any requirements under section 307 of [the Clean Water] Act". Clean Water Act section 301(b)(1)(A)(ii), 33 U.S.C. § 1311(b)(1)(A)(ii). The pretreatment standards established under section 307 of the Clean Water Act include both categorical standards for users in specific industrial subcategories and standards setting prohibited discharges for all users. See 40 C.F.R. §§ 403.5,

403.6. State and regional board authority to apply and enforce any "effluent limitation" or "pretreatment standard" includes authority to apply and enforce any categorical pretreatment standard, prohibited discharge standard, or any other applicable pretreatment standard, directly against a user of a publicly owned treatment works.

EPA regulations establishing pretreatment standards include a prohibition against introduction of pollutants into a publicly owned treatment works in violation of pretreatment requirements established as part of a publicly owned treatment works' pretreatment program. See 40 C.F.R. §§ 403.5, 403.8. This regulation is incorporated into the state program as part of the state and regional boards' authority to enforce pretreatment standards. In addition, the state and regional boards may enforce, as part of their authority to enforce effluent limitations, "any applicable pretreatment requirements," including requirements established as part of a publicly owned treatment works' pretreatment program. See Clean Water Act section 301(b)(1)(A)(ii), 33 U.S.C. § 1311(b)(1)(A)(ii).

It should also be clear that no state regulation, permit or order is required for the state and regional boards to take enforcement action against industrial users for violation of pretreatment standards. The enforcement sections of Chapter 5.5 of the Porter-Cologne Act expressly authorize enforcement for either violations of state and regional board orders or for violations of effluent limitations, pretreatment standards, and

other listed Clean Water Act requirements. See, e.g., § 13385. The enforcement provisions of Chapter 5.5 do not provide sanctions for violations of state boards regulations, except to the extent that those regulations are incorporated into waste discharge requirements or other orders which may be enforced against the discharger. See id. No waste discharge requirements or state and regional board permits or orders are required for discharges into publicly owned treatment works. See §§ 13263, 13372. State regulations which purported to require industrial users of publicly owned treatment works to comply with Clean Water Act pretreatment requirements would add nothing to the state and regional boards' enforcement powers. Nothing in Chapter 5.5 of the Porter-Cologne Act either requires adoption of state pretreatment regulations, or makes the adoption of any regulations a prerequisite to application and enforcement of the statutory requirements of Chapter 5.5. The requirements of sections 301 and 307 of the Clean Water Act, including effluent limitations and pretreatment requirements, are directly incorporated into the enforcement provisions of Chapter 5.5 of the Porter-Cologne Act.

Chapter 5.5 of the Porter-Cologne Act also authorizes the state and regional boards to require, as a condition of waste discharge requirements issued to publicly owned treatment works, that the publicly owned treatment works apply pretreatment standards to industrial users. § 13377; 23 Cal. Admin. Code § 2235.2; see 40 C.F.R. §§ 122.44(j), 123.25(a)(37), 403.8. To

comply with this condition of waste discharge requirements, publicly owned treatment works must apply and enforce pretreatment requirements established pursuant to Clean Water Act sections 307(b) and 307(c). 40 C.F.R. § 403.8. The pretreatment standards that publicly owned treatment works must apply and enforce include a prohibition against introduction of pollutants which pass through or interfere with the operation of the treatment works. Id. § 403.5.

When it enacted Chapter 5.5 of the Porter-Cologne Act, the Legislature made a finding that Chapter 5.5 provided the authority necessary for the state and regional boards to have an approved state NPDES program:

> "The Federal Water Pollution Control Act as amended in 1972 requires the state to have certain powers [to obtain authorization to issue permits for point source discharges]. The powers contained in this act will allow the State Water Resources Control Board and the regional water quality control boards to comply with federal requirements...."

1972 Cal. Stats. c. 1256, § 3. The federal requirements for state NPDES programs, established by the Federal Water Pollution Control Act Amendments of 1972, include a requirement that the state must have authority to issue permits requiring publicly owned treatment works to have pretreatment programs. Clean Water Act section 402(b)(8), 33 U.S.C. § 1342(b)(8). In addition, the Federal Water Pollution Control Act Amendments of 1972 require that the state have authority to require industrial users to comply with pretreatment standards and with inspection, monitoring and

reporting requirements. Clean Water Act sections 402(b)(1)(B), 402(b)(9), 33 U.S.C. §§ 1342(b)(1)(B), 1342(b)(9). When it declared that Chapter 5.5 provided all of the authority necessary to comply with federal requirements, the Legislature must have intended Chapter 5.5 to provide authority to apply pretreatment requirements--both directly against industrial users and indirectly through publicly owned treatment works' pretreatment programs--consistent with the express requirements of section 402(b) of the Clean Water Act.

The state and regional boards have consistently interpreted Chapter 5.5 of the Porter-Cologne Act to provide the authority necessary to enforce pretreatment standards. See, e.g., Memorandum from Sheila K. Vassey to Craig M. Wilson (April 17, 1984). This authority does not depend upon adoption of state regulations, or upon EPA approval of a state pretreatment program:

> "With or without an approved state pretreatment program, the Regional Boards possess statutory authority to enforce national pretreatment standards, including both prohibited discharge standards and categorical standards, against both the owner or operator of a publicly owned treatment works (POTW) and the industrial users. This authority includes the ability to seek civil and criminal penalties against violators of pretreatment standards, as well as injunctive relief. In addition, the Regional Boards are empowered to require industrial users to make reports, monitor, sample effluent, and provide other information as may be reasonably required. The Regional Boards are also authorized to inspect the facilities of industrial users."

Id. at 1. The state and regional boards' construction of the Porter-Cologne Act is entitled to great weight, and will be

followed by the courts unless clearly erroneous. See 63 Ops.Cal.Atty.Gen. 51, 57 (1980). See generally Judson Steel Corp. v. Workers' Compensation Appeals Board, 22 Cal.3d 658, 668, 586 P.2d 564, 570, 150 Cal.Rptr. 250, 256 (1978).

In 1984 the Legislature amended the enforcement provisions of Chapter 5.5 of the Porter-Cologne Act. 1984 Cal. Stats. c. 1541, §§ 7, 8. The amendments increased the amount of liability which may be imposed for violations, and added violation of cleanup and abatement orders to the list of violations for which liability may be imposed. Those portions of the enforcement sections of Chapter 5.5 establishing that penalties may be imposed for violations of effluent limitations and pretreatment standards were re-enacted without change. See id. It is an established rule of statutory construction that when language in a statute has been subject to a particular administrative construction, and the Legislature re-enacts a statute without changing that language, the Legislature is deemed to have adopted that administrative construction. 28 Ops.Cal.Atty.Gen. 250, 252 (1956); see Division of Industrial Safety v. Municipal Court, 61 Cal.App.3d 696, 701, 132 Cal.Rptr. 573, 576 (1976). Before the enforcement sections of Chapter 5.5 were amended, the state and regional boards had construed these sections to authorize direct enforcement of national pretreatment standards against industrial users. See, e.g., Memorandum from Sheila K. Vassey to Craig M. Wilson at 6. The Legislature's re-enactment of these enforcement sections without substantial

change reinforces the conclusion that these enforcement sections provide all of the enforcement powers necessary for the state to have an approved state pretreatment program. This conclusion is consistent with the express language of Chapter 5.5 of the Porter-Cologne Act, and the state and regional boards' consistent interpretation of Chapter 5.5 of the Porter-Cologne Act. See §§ 13370, 13385, 13386, 13387; William R. Attwater, Chief Counsel, State Water Resources Control Board, Statement of Legal Authority to Implement a State Pretreatment Program in Accordance with the Clean Water Act 13 (1985).

Publicly owned treatment works' authority

State law also provides authority for publicly owned treatment works to apply and enforce pretreatment requirements. Cal. Gov't Code §§ 54739, 54740. This authority is in addition to any authority the municipality may have under its charter or enabling act. Id. § 54739(2). Because Government Code sections 54739 and 54740 are requirements of state law, a municipality or other public district which owns or operates a treatment works may apply these provisions of state law to any industrial user of the treatment works, even if the user is located outside the boundaries of the municipality or district.

Government Code section 54739 provides, in part, that the public entity that owns or operates a treatment works may require:

"(a) Pretreatment of any industrial waste which would be detrimental to the treatment works or its proper and efficient operation and maintenance; or

(b) The prevention of the entry of such waste into the collection system and treatment works...."

Cal. Gov't Code § 54739. The authority to require pretreatment or prohibit introduction of waste which would "be detrimental to the treatment works or its proper and efficient operation and maintenance" clearly includes the authority to apply pretreatment standards against pollutants that would otherwise interfere with the operation of the treatment works. The authority provided by Government Code section 54739 also should be interpreted to include authority to apply pretreatment requirements to pollutants which would otherwise pass through the treatment works or cause the treatment works to be in violation of waste discharge requirements.

The provisions determining the coverage of a regulatory statute are construed broadly to accomplish the purpose of the statute. Harvey v. Davis, 69 Cal.2d 362, 370-71, 444 P.2d 705, 710, 71 Cal.Rptr. 129, 134 (1968). Proper operation and maintenance of treatment facilities encompasses much more than avoiding plant breakdowns. Treatment plants should be operated and maintained to protect water quality and achieve compliance with all applicable state and federal regulatory requirements. Cf. 40 C.F.R. § 122.41(e) ("The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control...to achieve compliance with the conditions

of [the NPDES] permit.")

Statutes dealing with the same general subject should be construed together to achieve a uniform and consistent legislative purpose. Isobe v. California Unemployment Insurance Appeals Board, 122 Cal.3d 584, 591-92, 526 P.2d 528, 532, 116 Cal.Rptr. 376, 380 (1974). The Porter-Cologne Act directs the state and regional boards to issue waste discharge requirements which apply and ensure compliance with all applicable provisions of the Clean Water Act. § 13377. The applicable provisions of the Clean Water Act require that, as a condition of an NPDES permit, a publicly owned treatment works shall have a pretreatment program to apply all pretreatment standards promulgated under section 307 of the Clean Water Act. 33 U.S.C. § 1317; see 40 C.F.R. §§ 122.44(j), 403.8. To achieve the common legislative purpose of Government Code section 54739 and sections 13370.5 and 13377, Government Code section 54739 should be construed to provide authority for owners and operators of publicly owned treatment works to apply pretreatment standards to the full extent necessary for the treatment works to comply with waste discharge requirements issued pursuant to section 13377.

Government Code section 54740 provides for civil liability for violations of pretreatment requirements, in an action brought by the public entity which owns or operates the treatment works. Liability may be imposed under this statute for up to $6,000 per day. Cal. Gov't. Code § 54740. Although

Government Code section 54730 does not expressly authorize injunctive relief, injunctive relief is also available as a remedy for violations of pretreatment requirements. Express statutory authorization for damages or penalties, without express authorization of injunctive relief, does not preclude injunctive relief in appropriate cases. See Burks v. Poppy Construction Co., 57 Cal.2d 463, 470, 370 P.2d 313, 317, 20 Cal.Rptr. 609, 613 (1962). As stated in a memorandum by Hugh Barroll of the Office of Regional Counsel for EPA:

> "[T]he superior courts have general authority to grant injunctive and emergency relief 'when it appears...that the plaintiff is entitled to the relief demanded, and such relief, or any part thereof, consists in restraining the commission or continuance of the act complained of...,' or 'when it appears by the complaint or affidavits that the commission of some act during the litigation would produce waste, or great or irreparable injury, to a party to the action.' Code of Civil Procedure § 526. This authority should be sufficient...to halt dangerous discharges and enjoin violations of pretreatment standards and requirements."

(November 20, 1984.) Especially where violation of pretreatment requirements interferes with operation of the treatment works, or results in a condition of pollution or nuisance, the owner or operator of the treatment works will be able to obtain injunctive relief. See generally 7 B. Witkin, Summary of California Law, Equity §§ 94, 99, 102, 103 (8th ed., 1974).

4. Pretreatment Requirements in Permits for Publicly Owned Treatment Works

State law provides authority to apply in terms and

conditions of permits issued to publicly owned treatment works the applicable requirements of 40 CFR part 403 including:

- A compliance schedule for the development of a publicly owned treatment works pretreatment program as required by 40 CFR § 403.8(d);
- The elements of an approved publicly owned treatment works pretreatment program as required by 40 C.F.R. § 403.8(c);
- A modification clause requiring that the publicly owned treatment works' permit be modified or revoked and reissued after the effective date for approval of the state pretreatment program to incorporate into the publicly owned treatment works' permit an approved publicly owned treatment works pretreatment program in accordance with the requirements of 40 C.F.R. §403.10(d);
- Prohibitive discharge limitations applicable to industrial users as required by 40 C.F.R. § 403.5; and
- Demonstrated percentages of removal for those pollutants for which a removal allowance was requested in accordance with the requirements of any applicable regulations.

Federal Authority: Clean Water Act sections 307(b)(1), 402(b)(1)(A); 402(b)(1)(C); 40 C.F.R. §§ 403.5, 403.7, 403.8, 403.10.

State Authority: §§ 1058, 13263, 13370.5, 13376, 13377, 13378, 13383; 23 Cal. Admin. Code §§ 2233, 2235.1, 2235.2, 2235.3.

Remarks: All publicly owned treatment works which discharge to waters of the United States are subject to waste discharge requirements. See §§ 13376, 13377. These waste discharge requirement must apply and ensure compliance with all applicable provisions of the Clean Water Act and EPA regulations, including pretreatment requirements. See § 13377; 23 Cal. Admin. Code § 2235.2.

A federal court has set aside EPA's removal credits regulation. Natural Resources Defense Council, Inc. v. United States Environmental Protection Agency, 790 F.2d 289 (D.C. Cir. 1986). Therefore, there is no currently applicable removal credits regulations to be applied as part of the state program. When EPA adopts a new regulation in response to the court's decision, the new regulation will automatically be incorporated into the state program, and applied as part of the state's permit decisions. See § 13377; 23 Cal.Admin. Code §§ 2235.1, 2235.2.

Publicly owned treatment works which are not subject to NPDES permit requirements because they discharge to land or to ground waters also must have waste discharge requirements under the Porter-Cologne Act. § 13263. Waste discharge requirements may require that the operating entity have and enforce an adequate pretreatment program approved by the regional board, whether or not the treatment works discharge to waters of the

United States. 23 Cal. Admin. Code § 2233. A pretreatment program is required for any publicly owned treatment works with an average dry weather flow of 5 mgd or more; a pretreatment program may be required, at the discretion of the state and regional boards, for smaller treatment works. Id. This requirement is in addition to any applicable pretreatment requirements established pursuant to the Clean Water Act and EPA regulations. Id. § 2235.3; see § 13372.

5. Permit Conditions Required Under 40 C.F.R. §§ 122.41, 122.42

State law provides adequate authority to apply all permit conditions required pursuant to 40 C.F.R. §§ 122.41, 122.42.

Federal Authority: Clean Water Act sections 308(a), 402(a), 402(b); 40 C.F.R. §§ 122.41, 122.42, 123.25(a).

State Authority: §§ 1058, 13370.5, 13376, 13377, 13378, 13380, 13381, 13383; 23 Cal. Admin. Code §§ 2235.1, 2235.2.

Remarks: The Porter-Cologne Act and state board regulations require that waste discharge requirements, at a minimum, apply and ensure compliance with all applicable provisions of the Clean Water Act and EPA regulations. § 13377; 23 Cal. Admin. Code §§ 2235.1, 2235.2. Applicable federal requirements include permit conditions required under 40 C.F.R. §§ 122.41, 122.42. See 40 C.F.R. § 123.25(a). Waste discharge requirements will incorporate these permit conditions, except where the waste discharge requirements set more stringent

conditions pursuant to the requirements of the Porter-Cologne Act. See §§ 13272, 13377.

In some cases, where permit conditions provided for in EPA regulations excuse discharges that would otherwise constitute permit violations, a state may set more stringent requirements by omitting the permit conditions:

> "For example, a State may impose more stringent requirements in an NPDES program by omitting the upset provisions of [40 C.F.R.] § 122.41 or by requiring more prompt notice of an upset."

40 C.F.R. § 123.25(a) Note. Recognizing the rights of the states "to develop more stringent standards than promulgated by EPA", the state board, upon review of the action of a regional board that did not include an upset clause in waste discharge requirements for an oil refinery, concluded that the regional board's action was appropriate and proper. State Water Resources Control Board Order No. WQ 75-16 at 4.

6. Schedules of Compliance

State law provides authority to set and revise schedules of compliance in issued permits which require the achievement of applicable effluent standards and limitations in accordance with compliance dates set by EPA regulations, or, in the absence of any compliance date set by EPA regulations, within the shortest reasonable time consistent with the requirements of the Clean Water Act. This includes authority to set interim compliance dates which are enforceable without otherwise showing a violation

of an effluent limitation or harm to water quality. In no event will more than one year elapse between interim compliance dates.

Federal Authority: Clean Water Act sections 301(b), 303(e), 306, 307, 402(b)(1)(A), 502(11), 502(17), 40 C.F.R. §§ 122.47, 122.62.

State Authority: §§ 1058, 13377, 13381; 23 Cal. Admin. Code §§ 2235.1, 2235.2.

Remarks: Chapter 5.5 of the Porter-Cologne Act incorporates all applicable requirements of the Clean Water Act and implementing regulations concerning schedules of compliance in NPDES permits. See § 13377; 23 Cal. Admin. Code §§ 2235.1, 2235.2. Violation of a schedule of compliance, or any other condition of waste discharge requirements, may be grounds for enforcement, even if there is no discharge. See §§ 13385(a)(3), 13386(b), 13387(a).

Independent of the requirements of Chapter 5.5 of the Porter-Cologne Act, a regional board may establish a schedule of compliance as a condition of waste discharge requirements. § 13263(c). In the exercise of this authority, a regional board may rely on EPA regulations as guidance, and issue alternative schedules of compliance as provided for under 40 C.F.R. § 122.47(b), a regulation not expressly made applicable to state programs. In no event, however, may waste discharge requirements establish a schedule of compliance which is less stringent than required under the provisions of the Clean Water Act and EPA regulations which apply to state NPDES programs. See §§ 13272,

13377.

C. Authority to Deny Permits in Certain Cases

State law provides authority to insure that no permit will be issued in any case where:

- o The permit would authorize the discharge of a radiological, chemical, or biological warfare agent or high-level radioactive waste;
- o The permit would, in the judgment of the Secretary of the Army acting through the Chief of Engineers, result in the substantial impairment of anchorage or navigation of any waters of the United States.
- o The permit it objected to in writing by the Administrator of EPA, or the Administrator's designee, pursuant to any right to object provided to the Administrator under section 402(d) of the Clean Water Act;
- o The permit would not ensure compliance with the applicable water quality requirements of all affected states.
- o The permit would authorize a discharge from a point source which is in conflict with a plan approved under section 208(b) of the Clean Water Act;
- o The permit would authorize a discharge to the territorial sea when insufficient information exists to make a reasonable judgment whether the discharge

complies with guidelines promulgated under Section 403 of the Clean Water Act or, if the permit is issued before promulgation of guidelines under section 403(c) of the Clean Water Act, it is determined that the discharge would not be in the public interest.

- The permit would authorize a discharge from a facility which is a new source or new discharger, the construction or operation of which would cause or contribute to the violation of water quality standards.

Federal Authority: Clean Water Act sections 208(e), 301(b)(1)(c), 301(f), 402(b)(6), 402(d)(2), 40 C.F.R. § 122.4.

State Authority: §§ 1058, 13375, 13377, 13378, 13384; 23 Cal. Admin. Code §§ 2235.1, 2235.2.

Remarks: The requirements of the Clean Water Act and implementing regulations prohibiting issuance of any NPDES permit under specified circumstances have been incorporated into Chapter 5.5 of the Porter-Cologne Act. See § 13377.

D. Authority to Limit Duration of Permits

State law provides authority to limit the duration of permits to a fixed term not exceeding five years.

Federal Authority: Clean Water Act section 402(b)(1)(B); 40 C.F.R. §§ 122.6, 122.46.

State Authority: §§ 1058, 13377, 13378, 23 Cal. Admin. Code §§ 2235.1, 2235.2, 2235.4.

Remarks: Section 13377 and state board regulations incorporate all applicable requirements of the Clean Water Act and EPA regulations, including the requirements of 40 C.F.R. § 122.46, concerning duration of permits.

Chapter 5.5 of the Porter-Cologne Act also expressly provides that waste discharge requirements "shall be adopted for a fixed term not to exceed five years". § 13378. This provision is patterned after section 402(b)(1)(B) of the Clean Water Act. 33 U.S.C. § 1342(b)(1)(B). EPA has construed section 402(b)(1)(B) of the Clean Water Act to allow continuation of expired permits under specified circumstances, including timely submittal of an application for a new permit. 40 C.F.R. § 122.6. Where a state statute is patterned after a federal act, federal regulations interpreting the federal act are persuasive authority as to how the state statute may be interpreted. No Oil, Inc. v. City of Los Angeles, 18 Cal.3d 68, 86 n.21, 529 P.2d 66, 78 n.21, 118 Cal.Rptr. 34, 46 n.21 (1974).

EPA's interpretation of the Clean Water Act to allow continuation of expired permits is based in part upon a provision of the Administrative Procedure Act. See 5 U.S.C. § 558(c). But the rule that a federal agency's interpretation of a federal act is persuasive authority in interpreting a state statute patterned after the federal act is not limited to instances where the federal agency's interpretation is based solely on the language and legislative history of that particular federal act. The rule also may properly be applied where the federal agency's interpretation

is based upon the need to harmonize that particular federal act with other related federal acts. This principle is recognized, at least implicitly, by the Legislature's declared intent, in enacting Chapter 5.5 of the Porter-Cologne Act, to authorize the state to implement the provisions of the Clean Water Act "and acts amendatory thereof or supplementary thereto". § 13370 (emphasis added); see § 13377.

Consistent with EPA's interpretation of the Clean Water Act, the state board has adopted a regulation providing for continuation of expired permits, but only "if all requirements of the federal NPDES regulations on continuation of expired permits are complied with". 23 Cal. Admin. Code § 2235.4. As the agency charged with implimentation of the Porter-Cologne Act, the state board's interpretation of the Act is entitled to great weight. Pacific Legal Foundation v. California Unemployment Insurance Appeals Board 29 Cal.3d 101, 111, 624 P2d 244, 298-99, 172 Cal.Rptr. 194, 198-99 (1981). Thus, waste discharge requirements are for a fixed term not to exceed five years. See 40 C.F.R. § 122.46(a). Waste discharge requirements may not be extended beyond that five year period, except as provided under 40 C.F.R. § 122.6. See id. § 122.46(b).

E. Authority to Allow Transfer of Permits

State law provides authority to allow transfer of permits if the State Director is notified in writing at least thirty days in advance of the proposed transfer date, notice includes a written

agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them, and the Director does not notify the existing permittee and the proposed permittee of the Director's intent to modify, revoke and reissue, or terminate the permit.

Federal Authority: 40 C.F.R. §§ 122.41(l)(3), 122.61(b).

State Authority: § 13377; 23 Cal. Admin. Code § 2235.2.

Remarks: Chapter 5.5 of the Porter-Cologne Act authorizes the state and regional boards to issue permits for point source discharges, in the form of waste discharge requirements, "as required or authorized" by the Clean Water Act. § 13377. State board regulations require that waste discharge requirements for point source discharges be "issued and administered" in accordance with EPA's NPDES program regulations. 23 Cal. Admin. Code § 2235.2. The applicable EPA regulations include provision for automatic transfer of NPDES permits, but only if specified conditions are met. 40 C.F.R. § 122.61(b). Accordingly, the state and regional boards may allow automatic transfer only where the conditions specified in 40 C.F.R. § 122.61(b) are satisfied. Otherwise, waste discharge requirements must be modified or revoked and reissued in order to allow a change in ownership or operational control. See id. § 122.61(a).

Even for non-point discharges, waste discharge requirements ordinarily must be modified, or new waste discharge requirements issued, to allow the discharge from a facility to continue after a change in ownership. Waste discharge requirements

are the personal responsibility of the discharger; they are issued to the discharger, not the facility. See § 13260. In some limited circumstances, however, a transfer may be permissible under the terms of the waste discharge requirements. If waste discharge requirements apply to a category or class of dischargers, as in the case of a general permit, or if the waste discharge requirements expressly allow transfer upon satisfaction of specified conditions, waste discharge requirements may apply to and authorize discharge by a new owner without being modified or reissued.

For point source discharges, waste discharge requirements must include certain permit conditions provided for under applicable EPA regulations. See 40 C.F.R. § 122.41; § 13377; 23 Cal. Admin. Code § 2235.2. These conditions include a provision that transfer may be allowed only after proper notice to the state program director, who may require that the permit be modified or revoked and reissued before the transfer. See 40 C.F.R. §§ 122.41(l)(3), 122.61. Although the regional board may not delegate authority to issue waste discharge requirements, the authority to object to a proposed transfer, and require that the waste discharge requirements be modifed or reissued, may be delegated to the executive officer. See § 13223. In administering the permit condition allowing for permit transfers, the executive officer must follow the requirements of 40 C.F.R. § 122.61. See 23 Cal. Admin. Code § 2235.2.

The Porter-Cologne Act also establishes personal responsibility for persons discharging or proposing to discharge

waste to file a report of waste discharge. §§ 13260, 13376. But this requirement may be waived in appropriate cases. Section 13376 requires that persons discharging or proposing to discharge waste into navigable waters file a report of waste discharge in compliance with section 13260. Section 13260 establishes a parallel requirement for all point and non-point discharges. Section 13260, which applies to point source discharges to the extent that it is consistent with Chapter 5.5 of the Porter-Cologne Act and federal requirements incorporated into Chapter 5.5 of the Porter-Cologne Act, allows the regional board to waive the filing of a report of waste discharge where the waiver is not against the public interest. §§ 13260(b), 13269; see § 13377. In providing that reports of waste discharge be filed in accordance with the procedures set forth in section 13260, which in turn allows for a waiver of the filing requirement in appropriate cases, section 13376 allows for a waiver of the filing requirement where consistent with EPA regulations.

For point source discharges, a report of waste discharge is the equivalent of an NPDES permit application. See 23 Cal. Admin. Code § 2235(b). Accordingly, the state and regional boards cannot waive the filing of a report of waste discharge under circumstances where an NPDES permit application is required under the Clean Water Act and EPA regulations. See §§ 13269, 13370, 13376. Moreover, where EPA regulations require the filing of a complete application before an NPDES permit may be issued, see 40 C.F.R. § 124.3(a)(2), the state and regional boards cannot issue

waste discharge requirements before a complete report of waste discharge is filed. See § 13377; 23 Cal. Admin. Code §§ 2235.1, 2235.2.

In some circumstances, EPA regulations allow the states to issue or modify NPDES permits without requiring that a permit application be filed. For example, no application is required for minor modifications in an NPDES permit. See 40 C.F.R. § 122.63; cf. id. § 124.5(c) (an application may be required for modification for cause). Accordingly, the state board has interpreted the Porter-Cologne Act and state board regulations not to require the filing of a report of waste discharge for minor modifications provided for under 40 C.F.R. § 122.63. State Water Resources Control Board, Office of the Chief Counsel and Division of Technical Services, Guidelines on Application of Fee Schedule R (March 29, 1984).

Similarly, EPA regulations do not require that a report of waste discharge be filed, or that the state program director formally modify the permit, where the conditions for automatic transfer are satisfied. See 40 C.F.R. § 122.61; cf. id. § 122.62(b)(2) (a permit may be modified to reflect an automatic transfer). The state board has interpreted the Porter-Cologne Act and state board regulations to allow for automatic transfers of waste discharge requirements, without filing of a report of waste discharge or formal modification of waste discharge requirements, where automatic transfers are permitted under 40 C.F.R. § 122.61(b). State Water Resources Control Board, Office of the

Chief Counsel and Division of Technical Services, Guidelines on Application of Fee Schedule 10-11. An administrative agency's interpretation of the statutes and regulations it enforces is entitled to great weight unless clearly erroneous. Pacific Legal Foundation v. California Unemployment Insurance Appeals Board, 29 Cal.3d 101, 111, 624 P.2d 244, 298-99, 172 Cal.Rptr. 194, 198-99 (1981).

F. Authority to Issue General Permits

The state has authority to issue general permits in accordance with the Clean Water Act and EPA regulations.

Federal Authority: Clean Water Act section 402;40 C.F.R. § 122.28.

State Authority: § 13377; 23 Cal. Admin. Code § 2235.2.

Remarks: Chapter 5.5 of the Porter-Cologne Act is patterned after the Clean Water Act. Although neither the Porter-Cologne Act nor the Clean Water Act expressly authorize general NPDES permits, the federal courts have construed the Clean Water Act to authorize issuance of general permits. Natural Resources Defense Council v. Costle, 568 F.2d 1369 (1977). Where a state statute is patterned after a federal act, decisions of the federal courts interpreting the federal act are persuasive authority as to how the state statute should be interpreted. Kaplan's Fruit and Produce Co. Superior Court, 26 Cal.3d 60, 65, 603 P.2d 1341, 1343, 160 Cal.Rptr. 745, 747 (1969). The authority to issue waste discharge requirements "as required or authorized" by the Clean

Water Act, § 13377, includes the authority to issue general NPDES permits.

The Porter-Cologne Act has been interpreted to authorize issuance of general waste discharge requirements. See e.g., 23 Cal. Admin. Code § 2524(c). This interpretation applies to point-source discharges subject to the NPDES program to the extent that issuance of general waste discharge requirements for point source discharges would be consistent with the requirements of the Clean Water Act. § 13372.

Waste discharge requirements for point source discharges must apply and ensure compliance with all applicable provisions of the Clean Water Act and EPA regulations. See § 13377; 23 Cal. Admin. Code § 2235.2. EPA has issued general permit regulations. See 40 C.F.R. § 122.28. Accordingly, any waste discharge requirements issued as general permits for point source discharges to waters of the United States must be issued in accordance with 40 C.F.R § 122.28.

The state's authority to issue general permits is not inconsistent with the provisions of the Water Code and state board regulations that require any person discharging or proposing to discharge wastes to file a report of waste discharge. §§ 13260, 13376; 23 Cal. Admin. Code § 2235.1(a). Subdivision (b) of section 13260 specifically provides authority to the regional boards to waive the reporting requirement for a specific discharge or type of discharge. See §§ 13269; 13376 (reports of waste discharge for point source discharges to navigable waters shall be

filed in compliance with the procedures set forth in section 13260.) Under sections 13369 and 13372, a waiver would have to be consistent with the Clean Water Act and regulations promulgated by EPA. For discharges subject to a general permit, such a waiver would be consistent with the NPDES program because the regulations implementing the program specify that a permit application is not required for persons covered by a general permit. 40 CFR §122.21(a).

State board regulations require that "any person discharging or proposing to discharge" from a point source file a report of waste discharge." 23 Cal. Admin. Code § 2235.1(a). This provision must be read in light of another subdivision of the same regulation, which states that "each report of waste discharge...shall be filed...in compliance with the applicable federal regulations governing the NPDES program". Id. § 2235.1(c). The applicable federal regulations provide that no permit application need be filed for discharges which are subject to a general permit. 40 C.F.R. § 122.21(a). It would make little sense to require a permit application from a person who is already permitted to make the discharge. Thus, the state board's NPDES regulations cannot reasonably be interpreted to require a person who already is permitted to make the discharge under a valid general permit to file a new report of waste discharge for the permitted discharge, except where the state board or a regional board requests submission of a report of waste discharge for an individual permit. See 40 C.F.R. § 122.28(b)(2).

G. Authority to Apply Recording, Reporting, Monitoring, Entry, Inspection and Sampling Requirements

1. Monitoring, Recording and Reporting

State law provides authority to require any permit holder or industrial user of a publicly owned treatment works to:

- o Establish and maintain specific records;
- o Make reports;
- o Install, calibrate, use and maintain monitoring equipment or methods including, where appropriate, biological monitoring methods;
- o Take samples of effluents in accordance with the methods mentioned above; and
- o Provide such other information as may reasonably be required.

Federal Authority: Clean Water Act sections 304(i)(2)(A) and (B), 308, 402(b)(2), 402(b)(8); 40 C.F.R. §§ 122.41(h), 122.41(j), 122.41(l), 122.42, 122.44(f), 122.44(g), 122.44(i) 122.44(j), 122.48, 403.7, 403.8, 403.10, 403.12.

State Authority: §§ 1058, 13267, 13377, 13383; 23 Cal. Admin. Code §§ 2230(c), 2235.2, 2235.3.

Remarks: Section 13383 is patterned after section 308(a)(A) of the Clean Water Act. Compare § 13383 with Clean Water Act section 308(a)(A), 33 U.S.C. § 1318(a)(A). Pursuant to section 13383, the state and regional boards may impose

recording, reporting, monitoring, inspection and sampling requirements, to the same extent as these requirements may be imposed by EPA pursuant to section 308 of the Clean Water Act. These requirements may be applied, independent of any conditions imposed in waste discharge requirements, to any person who discharges pollutants to waters of the United States or who introduces pollutants into publicly owned treatment works. See § 13383.

In addition, recording, reporting, monitoring, entry, inspection and sampling requirements may be imposed as a condition of waste discharge requirements. Waste discharge requirements must apply and ensure compliance with all NPDES program requirements. § 13377; 23 Cal. Admin. Code § 2235.2. Applicable NPDES program requirements include requirements for imposition of recording, reporting, monitoring, entry, inspection and sampling requirements as a condition of NPDES permits. See 40 C.F.R. §§ 122.41, 122.42, 122.44, 122.48, 403.7, 403.8, 403.12.

The state and regional boards' authority to apply recording, reporting, monitoring, entry, inspection and sampling requirements pursuant to Chapter 5.5 of the Porter-Cologne Act is supplemented by other provisions. See § 13372. This supplementary authority authorizes the state and regional board to require any state or local agency, or any person discharging or proposing to discharge from a point or non-point source or into a community sewer system, to submit technical or monitoring reports. §§ 13165, 13267. The regional boards may also enter and inspect the

facilities of any persons, including but not limited to, dischargers and industrial users, to determine compliance with the requirements of the Porter-Cologne Act. See § 13267.

2. Entry, Inspection and Sampling

State law provides authority to enable authorized representatives of the state, and publicly owned treatment works with approved pretreatment programs, upon presentation of such credentials as may be required by law, to:

- Have a right of entry to, upon, or through any premises of a permittee or of an industrial user of a publicly-owned treatment works in which premises an effluent source is located or in which any records are required to be maintained.
- At reasonable times to have access to and copy any records required to be maintained;
- To inspect at reasonable times any required monitoring equipment or method;
- To inspect at reasonable times any collection, treatment, pollution management, or discharge facilities required under the permit; and
- Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substance or parameters at any location.

Federal Authority: Clean Water Act sections 308,

402(b)(2), 402(b)(9); 40 C.F.R. §§ 122.41(i), 403.8, 403.10, 403.12.

State Authority: §§ 183, 186, 1058, 1080, 13221, 13267, 13377, 13383; 23 Cal. Admin. Code § 2235.2.

Remarks: The state and regional boards have the power to conduct investigations. §§ 183, 13267(a); see § 13163. As part of these investigations, the state and regional boards may:

- o Conduct sampling or monitoring;
- o Inspect records, facilities, and monitoring equipment; and
- o Issue subpoenas to require production of evidence. See §§ 183, 186, 1080, 13221, 13267(b), 13267(c); Cal. Gov't Code § 11181.

The state and regional boards have broad powers to conduct investigations of "the quality of any waters of the state". § 13267(a); see § 183; Joseph v. Masonite Corp., 148 Cal.App.3d 6, 9, 195 Cal.Rptr. 629, 630-31 (1983). These investigations may be conducted for any purpose necessary to carry out the power of the boards including "establishing or reviewing any water quality control plan, or waste discharge requirements, or in connection with any action relating to any plan or requirement or authorized by the Porter-Cologne Act". §§ 183, 13267(a). The boards have authority under their investigatory powers to conduct sampling or monitoring, inspect records, facilities, and monitoring equipment and issue subpoenas to require the production of evidence. §§ 183, 186, 1080, 13221, 13267(b), 13267(c); Cal. Gov't Code § 11181.

The power to investigate includes the authority to use

different investigation methods, including inspection, sampling, and other forms of surveillance and monitoring. The plain meaning of the phrases "investigate the quality of any waters of the state," § 13267(a) and "inspect the facilities of any person" includes monitoring and surveillance activities. § 13267(b). The plain meaning of the statute is supported by the legislative history of section 13267.

As originally enacted in 1949, section 13055, the predecessor of section 13267, authorized the regional boards to "investigate" sources of water pollution. 1949 Cal. Stats. c. 1549. The Legislature later amended the statute to authorize the regional boards to require submittal of technical or monitoring reports. 1951 Cal. Stats. c. 1139, § 3.5; 1965 Cal. Stats. c. 1657, § 20.

The report of the state board to the Legislature, upon which the Porter-Cologne Act is based, states:

> "Regional boards are increasing their surveillance and monitoring activities to determine dischargers' compliance with requirements to check on dischargers' self-monitoring programs, and to develop long-term policies....An expanded and improved monitoring and surveillance program is essential to an adequate water quality control program, and should be established."

Recommended Changes in Water Quality Control, Final Report of the Study Panel to the State Water Resources Control Board, Study Project, Water Quality Control Program 17-18 (1969). The Porter-Cologne Act is intended to implement the recommendations made in the report. 1969 Cal. Stats. c. 482, § 36. The state and regional

boards' authority to carry out water quality related investigations should be interpreted consistent with this legislative intent.

The regional boards also have authority to obtain an administrative inspection warrant to enter and inspect the facilities of any direct or indirect discharger to determine if the requirements of the Porter-Cologne Act are being complied with. § 13267(c); see Cal. Civ. Proc. Code § 1822.50, et seq. The constitutional validity of this procedure was upheld in Joseph v. Masonite Corp., 148 Cal.App.3d 6, 196 Cal.Rptr. 629 (1983). The regional board may enter and inspect facilities without an administrative inspection warrant if it obtains the consent of the owner, or in an emergency. § 13267(c).

The term "facilities", as used in Section 13267(c), applies broadly and includes any premises where an effluent source, monitoring equipment, or records required under the Porter-Cologne Act are located. See, e.g., Joseph v. Masonite Corp., 148 Cal.App.3d 6, 195 Cal.Rptr. 629 (unimproved timberland). The facilities that may be inspected include, but are not limited to, the facilities of any person who discharges pollutants from a point source or any industrial user of a publicly owned treatment works. See §§ 13267(b), 13267(c). As used in section 13267 and other provisions of Chapters 4 and 5 of the Porter-Cologne Act, the term "discharge" includes discharges into community sewer systems. See § 13301; cf. § 13263(a) (waste discharge requirements are not required for "discharges into a community sewer system").

Wherever a regional board may exercise powers of entry and

inspection, as provided under section 13267, the state board may also exercise those powers upon review of the regional board's action or failure to act. § 13320(c).

The boards' inspection authority provided in section 13383 also extends to inspection of any effluent source, including the facilities of an industrial user discharging into a publicly owned treatment works. The subject of section 13383, as expressed in the first sentence, is "dischargers of polluters or dredged or fill material to navigable waters or to public treatment systems". In the second sentence, the Legislature provides that the boards may inspect "the facilities of any discharger of pollutants or dredged or fill material". The phrase "discharger of pollutants or dredged or fill material" is used in the second sentence without limitation. Therefore, the reference in the second sentence to "discharger" is at least as extensive as the reference to the first sentence, which specifically includes dischargers to public treatment systems.

Section 13373, which provides that, as used in Chapter 5.5 of the Porter-Cologne Act, the term "discharge" shall have the same meaning as in the Clean Water Act, does not exclude dischargers to public treatment systems from the inspection authority set forth in section 13383. Such interpretation is directly contrary to the express reference to "dischargers...to public treatment systems" and therefore it should be avoided. Moreover, such interpretation would be inconsistent with the legislative intent that the state and regional boards have all powers of entry, inspection,

monitoring and sampling as required under the NPDES program, which encompasses both direct and indirect dischargers. See generally § 13370, 13370.5. In addition, the Clean Water Act also uses the term "discharge" to refer to discharges to public treatment systems. See Clean Water Act sections 301(b)(1)(A)(ii), 307(b)(1), 307(c), 309(a)(6), 33 U.S.C. §§ 1311(b)(1)(A)(ii), 1317(b)(1), 1317(c), 1319(a)(6).

Persons subject to waste discharge requirements for point source discharges are also required to permit entry, access to documents, inspection, sampling and monitoring as a condition of waste discharge requirements. Waste discharge requirements must apply and ensure compliance with all NPDES program requirements. § 13377; 23 Cal. Admin. Code § 2235.2. Applicable NPDES program requirements include a requirement that all NPDES permits include a condition requiring the permittee to allow entry and inspection by the NPDES program director. 40 C.F.R. § 122.41(i).

The Porter-Cologne Act and state board regulations also establish requirements for publicly owned treatment works to prepare and submit pretreatment programs for state or regional board approval. See §§ 13263, 13377; 23 Cal. Admin. Code §§ 2233, 2235.2, 2235.3. For publicly owned treatment works subject to 40 C.F.R. part 403, the state and regional boards may not approve a pretreatment program unless the publicly owned treatment works has adequate legal authority to enter and inspect the premises of any industrial user. See § 13377; 23 Cal. Admin. Code § 2235.2; 40 C.F.R. §§ 122.44(j), 403.8(f).

The authority for a publicly owned treatment works to require industrial users to allow entry and inspection may be provided as a condition of a contract between the public entity and the industrial user. 40 C.F.R. § 403.8(f)(1). California state law expressly authorizes all public entities that own or operate public treatment works to enter into contracts with industrial users. Cal. Gov't Code § 54738. The duration and terms of the contract shall be those which the public entity owning or operating the plant determines to be in its best interest. Id. § 54732. Clearly, this authority to enter contracts with industrial users subject to those terms as are in the best interest of the public entity includes authority to require as a condition of the contract that the industrial user allow entry, inspection, monitoring, sampling, and access to documents. The public entity may also rely on any entry and inspection authority provided by its own charter or enabling act to demonstrate that it has the authority necessary to obtain approval of its pretreatment program. See id. § 54739(2).

3. Compliance Evaluation

State law provides authority to receive, evaluate, retain and investigate for possible enforcement action all notices and reports required of regulated persons, and determine compliance with NPDES program requirements independent of information supplied by regulated persons.

Federal Authority: Clean Water Act sections 308,

402(b)(2), 402(b)(9); 40 C.F.R. § 123.26.

State Authority: §§ 183, 186, 1058, 1080, 13221, 13267, 13383.

Remarks: The state and regional boards have the authority to conduct investigations, as part of which they may receive, evaluate, retain and investigate any notices and reports required of regulated persons. See §§ 183, 186, 1080, 13221, 13267. As part of these investigations, the state and regional boards may also conduct their own monitoring and sampling, or subpoena witness or documents, to obtain information independent of information supplied by regulated persons. See id.

Section 13383 is patterned after section 308 of the Clean Water Act, and gives the state and regional boards powers of inspection, monitoring and entry comparable to EPA's powers under section 308 of the Clean Water Act. Compare § 13383 with Clean Water Act section 308, 33 U.S.C. § 1318. As such, section 13383 provides ample authority, both to receive and evaluate information required to be provided by regulated persons and to obtain information independent of information supplied by regulated persons.

H. Authority to Make Determinations on Request for Pretreatment Program Approval and Removal Allowances

State law provides authority to approve or deny:

- Requests for publicly owned pretreatment program approval, in accordance with the requirements of

40 C.F.R. §§ 403.8 and 403.11;

- Requests for authority to reflect removals achieved by the publicly owned treatment works, in accordance with the requirements of any applicable regulations.

Federal Authority: Clean Water Act sections 307(b), 402(b)(8); 40 C.F.R. §§ 122.44(j); 403.7, 403.8, 403.9, 403.10, 403.11.

State Authority: §§ 1058, 13363, 13370.5, 13377; 23 Cal. Admin. Code §§ 2233, 2235.1, 2235.2, 2235.3.

Remarks: In issuing waste discharge requirements for publicly owned treatment works which discharge from a point source to waters of the United States, the state and regional boards must apply and ensure compliance with all applicable EPA regulations. § 13377; 23 Cal. Admin. Code §§ 2235.1, 2235.2.

Applicable EPA regulations include regulations requiring publicly owned treatment works to prepare pretreatment programs and submit these programs to the "approval authority". 40 C.F.R. §§ 403.8, 403.9, 403.11. Upon EPA approval of a state pretreatment program, the state program director becomes the "approval authority". Id. § 403.3(c). The state program director's actions in reviewing and approving pretreatment programs are part of the state's NPDES program. See Clean Water Act section 402(b)(8); 33 U.S.C. § 1342(b)(8), 40 C.F.R. §§ 122.44(j), 123.25(a)(37), 403.1(b)(3).

Similarly, EPA regulations require that requests for

authority to reflect removals achieved by a publicly owned treatment works must be submitted for approval by the "approval authority". But a federal court has set aside EPA's removal credits regulation. Natural Resources Defense Council, Inc. v. United States Environmental Protection Agency, 790 F.2d 289 (D.C. Cir. 1986). Where the approval authority is EPA, or a state which relies on prospective incorporation by reference to incorporate all currently applicable regulations, there is no currently applicable removal credits regulation to be applied by the approval authority. Thus, even after the state and regional boards become the "approval authority" for purposes of pretreatment program approvals, the state and regional boards will not be authorized to approve revisions of pretreatment standards to reflect removals until EPA promulgates a new removal credits regulation. Once EPA promulgates a new regulation, it will automatically be incorporated into the state program. See § 13377; 23 Cal. Admin. Code § 2235.2. Once the state and regional boards become the "approval authority" and EPA promulgates a new removal credits regulation, the state's NPDES program will include review and approval of revisions of pretreatment standards to reflect removals. See Clean Water Act sections 307(b), 402(b)(8), 33 U.S.C. §§ 1317(b), 1342(b)(8); 40 C.F.R. § 122.44(j), 123.25(a)(37), 403.1(b)(3).

Waste discharge requirements issued pursuant to Chapter 5.5 of the Porter-Cologne Act must be issued and administered in accordance with all currently applicable Clean Water Act NPDES program regulations. § 13377, 23 Cal. Admin. Code

§§ 2235.1(c), 2235.2; see § 13370.5. The authority to approve or deny pretreatment programs is part of the authority to issue and administer waste discharge requirements in accordance with NPDES program requirements. Id. In addition, the Porter-Cologne Act and state board regulations provide authority to require publicly owned treatment works to prepare and submit pretreatment programs, whether or not the treatment works discharge to waters of the United States. See § 13263; 23 Cal. Admin. Code §§ 2233, 2235.2.

I. Authority to Make Determinations Concerning Application of National Pretreatment Standards to Industrial Users

State law provides authority to:

- Make a determination as to whether or not an industrial user falls within a particular industrial subcategory, in accordance with 40 C.F.R. § 403.6; and
- Deny or recommend approval of requests for fundamentally different factor variances for industrial users, in accordance with section 301(n) of the Clean Water Act and applicable EPA regulations.

Federal Authority: Clean Water Act sections 301(n), 402(b)(1)(A), 402(b)(8); 40 C.F.R. §§ 403.6, 403.10, 403.13.

State Authority: §§ 186, 13225, 13370, 13370.5, 13377, 13383, 13385, 13386, 13387.

Remarks: Chapter 5.5 of the Porter-Cologne Act authorizes the state and regional boards to apply and enforce Clean Water Act

pretreatment standards against industrial users of publicly owned treatment works. See §§ 13383, 13385, 13386, 13387. Chapter 5.5 of the Porter-Cologne Act also directs the state board to develop a state pretreatment program for EPA approval. § 13370.5. Included in this authority to apply pretreatment standards to industrial users is the authority to make any decision which must be made as part of state pretreatment program to determine how Clean Water Act pretreatment standards should be applied to any particular industrial user. § 186.

Under California law, an administrative agency's powers are not limited to those expressly granted by statute. Administrative officials may exercise such additional powers as are necessary for the due and efficient administration of those powers expressly granted by statute or which may fairly be implied by the expressly granted powers. Rich Vision Center v. Board of Medical Examiners, 144 Cal.App.3d 110, 114, 192 Cal.Rptr. 455, 457 (1983). The Water Code expressly provides that the state board "shall have such powers...as may be necessary or convenient for the exercise of its duties authorized by law". § 186.

The state and regional boards are authorized to issue waste discharge requirements that require publicly owned treatment works to have and enforce pretreatment programs which implement all applicable Clean Water Act pretreatment standards. See § 13377; 23 Cal. Admin. Code §§ 2233, 2235.1, 2235.2, 2235.3. See generally 40 C.F.R. §§ 122.44(j), 403.8. The state and regional board are also authorized to enforce all applicable Clean Water Act

pretreatment standards directly against industrial users. §§ 13385, 13386, 13387. See Appendix at A-8 - A-9. The authority to make determinations on applicability of specific categorical pretreatment standards to particular industrial users is reasonably necessary to the fair and efficient administration of a program to enforce pretreatment standards. Therefore, the power to make these determinations is implied by the state and regional boards' express powers to apply and enforce Clean Water Act pretreatment standards. In acting upon a request for a determination as to which industrial category applies to an industrial user of a publicly owned treatment works, the state and regional boards will follow the procedures set forth in 40 C.F.R. § 403.6(a). See 23 Cal. Admin. Code § 2235.2.

The authority to make recommendations on variance requests is also reasonably necessary to the efficient administration of the state and regional boards' powers to enforce pretreatment standards. This authority is required to obtain approval of a state pretreatment program, and an approved state pretreatment program is a necessary part of a state NPDES program. See 40 C.F.R. §§ 123.25(a)(37), 403.10(a), 403.10(f). The goal of statutory interpretation is to ascertain the intent of the Legislature so that the purpose of the law can be effectuated. People v. Shirokow, 26 Cal.3d 301, 306-07, 605 P.2d 859, 863-64, 162 Cal.Rptr. 30, 34 (1980). The Legislature has declared its intent that Chapter 5.5 of the Porter-Cologne Act provide the authority for the state to implement a state NPDES program and a

state pretreatment program. §§ 13370, 13370.5. To effectuate this legislative intent, the state and regional boards' express power to enforce pretreatment standards should be construed to include the power to deny or recommend approval of variance requests, as provided for under section 301(n) of the Clean Water Act and 403.1(f)(1). In acting on variance requests, the state and regional boards will apply section 301(n) of the Clean Water Act and, to the extent they have not been superseded by section 301(n) of the Clean Water Act, the criteria and procedures set forth in 40 C.F.R. § 403.13. See § 13377; 23 Cal. Admin. Code § 2235.2.

Other sections of the Porter-Cologne Act provide additional authority to make determinations or recommendations concerning pretreatment standards applicable to particular industrial users. The state board is designated as the state water pollution control agency for all purposes stated in the Clean Water Act, and is authorized to exercise any powers delegated to the state by the Clean Water Act. § 13160. The Legislature provided this authorization in anticipation of the Federal Water Pollution Control Act Amendments of 1972 (now known as the Clean Water Act). 33 U.S.C. § 1251 et seq. The clear intent of section 13160 is to provide authority for the state board to take actions that the Clean Water Act authorizes a state to take as part of the programs established by the Clean Water Act. At a minimum, section 13160 authorizes the state board to make any determination or certification as to the applicability of regulatory standards, and to issue or deny any concurrence in a variance request, that may be

provided for under the Clean Water Act or EPA regulations implementing the Clean Water Act.

J. Authority to Require Notice of Introduction of Pollutants into Publicly Owned Treatment Works

1. New or Substantially Changed Introductions of Pollutants

State law provides authority to require in permits issued to publicly owned treatment works that the permittee give notice to the state permitting authority of any:

- o New introductions into the treatment works of pollutants from any source which would be a new source as defined in section 306 of the Clean Water Act if the source were discharging pollutants directly to waters of the United States;
- o New introductions into the treatment works of pollutants from any source which would be a point source subject to section 301 of the Clean Water Act if it were discharging pollutants directly to waters of the United States;
- o Substantial changes in volume or character of pollutants introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

Federal Authority: Clean Water Act sections 304(i)(2)(A) and (B), 308, 402(b)(8); 40 C.F.R. § 122.42(b).

State Authority: Cal. Gov't Code sections 54738, 54739, 54740; §§ 1058, 13267, 13377, 13383; 23 Cal. Admin. Code § 2235.2.

Remarks: The Clean Water Act and EPA regulations require that permits issued to publicly owned treatment works include conditions requiring notice to the state program director if pollutants are introduced from a new industrial source or if there are substantial changes in the pollutants introduced. Clean Water Act section 402(b)(8), 33 U.S.C. § 1342(b)(8); 40 C.F.R. § 122.42(b). The state and regional boards' authority to issue waste discharge requirements which apply and ensure compliance with all applicable provisions of the Clean Water Act encompasses the authority to incorporate the required permit condition. See § 13377; 23 Cal. Admin. Code § 2235.2.

Authority for municipalities that own or operate publicly owned treatment works to comply with the reporting requirements set by section 402(b)(8) of the Clean Water Act and 40 C.F.R. § 122.42(b) is encompassed within the municipalities' authority to set and enforce pretreatment requirements. See Cal. Gov't Code §§ 54738, 54739, 54740.

2. Introductions Subject to Pretreatment Standards

State law provides authority to require in permits issued to publicly owned treatment works that the permittee identify in terms of character and volume of pollutants any significant source introducing pollutants subject to pretreatment standards under section 307(b) of the Clean Water Act.

Federal Authority: Clean Water Act sections 307(b), 402(b)(8); 40 C.F.R. § 122.44(j).

State Authority: Cal. Gov't Code §§ 54738, 54739, 54740; §§ 1058, 13267, 13377, 13383, 23 Cal. Admin. Code § 2235.2.

Remarks: The Clean Water Act and EPA regulations require that permits issued to publicly owned treatment works include conditions requiring the permittee to identify significant introductions of pollutants into the publicly owned treatment works if those introductions are subject to pretreatment standards. Clean Water Act section 402(b)(8), 33 U.S.C. § 1342(b)(8), 40 C.F.R. § 122.44(j). The state and regional boards' authority to issue waste discharge requirements which apply and ensure compliance with all NPDES program requirements encompasses the authority to establish the necessary permit conditions. See § 13387; 23 Cal. Admin. Code § 2235.2.

Authority for municipalities which own or operate publicly owned treatment works to comply with the reporting requirements set by section 402(b)(8) of the Clean Water Act and 40 C.F.R. § 122.44(j) is encompassed within the authority to set and enforce pretreatment requirements. See Cal. Gov't Code §§ 54738, 54739, 54740.

K. Authority to Ensure Compliance by Industrial Users with sections 204(b), 307 and 308 of the Clean Water Act

State law provides authority to ensure that any industrial user of a publicly owned treatment works complies with Clean Water

Act requirements concerning:

- o User charges pursuant to section 204(b);
- o Pretreatment standards pursuant to section 307; and
- o Inspection, monitoring and entry pursuant to section 308.

Federal Authority: Clean Water Act sections 204(b), 307, 308, 402(b)(9); 40 C.F.R. §§ 35.929, 35.935-19, 122.44(j), 122.44(n), 403.8.

State Authority: Cal. Civ. Proc. Code § 1822.50 et seq.; Cal. Gov't Code §§ 54738, 54739, 54740; §§ 13267, 13268, 13370.5, 13377, 13382, 13385, 13386, 13387, 23 Cal. Admin. Code §§ 2233, 2235.2, 2235.3.

Remarks: State law provides authority for the state and regional boards to require industrial users to comply with sections 204(b), 307 and 308 of the Clean Water Act in two different ways. These requirements may be enforced directly against industrial users, or they may be enforced indirectly, through waste discharge requirements issued for publicly owned treatment works.

Chapter 5.5 of the Porter-Cologne Act expressly authorizes the state and regional board to obtain injunctive relief upon failure of an industrial user to comply with any cost or charge adopted by a public agency under section 204(b) of the Clean Water Act. § 13386(b). Chapter 5.5 of the Porter-Cologne Act also provides for civil and criminal penalties, as well as injunctive

relief, against industrial users who violates pretreatment standards established under section 307 of the Clean Water Act. §§ 13385, 13386, 13387.

Section 13383 provides the state and regional boards with powers to impose monitoring requirements, and with powers of entry, inspection and monitoring, equivalent to EPA's powers under section 308 of the Clean Water Act. Compare § 13383 with Clean Water Act section 308, 33 U.S.C. § 1318. These powers apply to industrial users as well as dischargers of pollutants to waters of the United States. § 13383. Failure to comply with recording, reporting, entry, inspection or monitoring requirements may result in civil or criminal liability. See Cal. Civ. Proc. Code § 1822.57; §§ 13267, 13268. The state and regional boards may also obtain injunctive relief to enforce the requirements of section 13383. § 13386(b).

Chapter 5.5 of the Porter-Cologne Act authorizes the state and regional boards to issue waste discharge requirements which "apply and ensure compliance with all applicable provisions" of the Clean Water Act. § 13377. The requirements of sections 204(b), 307, and 308 of the Clean Water Act are applicable provisions of the Clean Water Act; they must be enforced as part of a state NPDES program. See Clean Water Act section 402(b)(9), 33 U.S.C. § 1342(b)(9). Accordingly, the state and regional boards may establish conditions in waste discharge requirements requiring that publicly owned treatment works' apply and enforce the requirements of sections 204(b), 307 and 308 of the Clean Water Act against

industrial users.

Indeed, pretreatment, entry, inspection and monitoring requirements are mandatory permit conditions for waste discharge requirements issued to publicly owned treatment works. EPA regulations require that permits issued to publicly owned treatment works include conditions requiring the public entity to apply and enforce pretreatment, entry, inspection and monitoring requirements against industrial users. 40 C.F.R. §§ 122.44(j), 403.8; cf. id. §§ 35.929 (construction grant regulation requiring user charges), 35.935-19 (construction grant regulation requiring pretreatment programs), 122.44(n) (grant conditions that are reasonably necessary to achieve effluent limitations must also be imposed as permit conditions). Where EPA regulations require that permits include conditions meeting specified requirements, waste discharge requirements issued by the state and regional boards must impose those conditions, unless a stricter requirement is set pursuant to state law. See § 13377; 23 Cal. Admin. Code § 2235.2.

State law provides authority for public entities that own or operate treatment works to establish user charges, and to apply and enforce pretreatment standards and entry, inspection and monitoring requirements to industrial users. Cal. Gov't Code §§ 54738, 54739, 54740.

L. Authority to Issue Notices and Provide Opportunity For Public Hearings

State law provides authority to comply with requirements

of the Clean Water Act and EPA regulations for State NPDES programs and state pretreatment programs to:

- o Notify the public, affected states, and appropriate governmental agencies of proposed actions concerning the issuance or modification of permits, and approval of publicly owned treatment works pretreatment programs;
- o Provide an opportunity for public hearing, with adequate notice, prior to ruling on permit applications and applications for approval of publicly owned pretreatment works pretreatment programs.

Federal Authority: Clean Water Act sections 101(e), 304(i)(2)(B), 402(b)(3), 402(b)(4), 402(b)(5), 402(b)(6); 40 C.F.R. §§ 124.6, 124.8, 124.10, 124.11, 124.12, 403.11.

State Authority: Cal. Gov't Code § 11120 et seq.; §§ 1058, 13167, 13263, 13377, 13378, 13384; 23 Cal. Admin. Code §§ 2235.1, 2235.2.

Remarks: Chapter 5.5 of the Porter-Cologne Act and state board regulations require that waste discharge requirements apply and ensure compliance with all applicable NPDES program requirements. § 13377; 23 Cal. Admin. Code §§ 2235.1(c), 2235.2. This includes a requirement that the procedures for processing reports of waste discharge, issuing waste discharge requirements and approval of publicly owned treatment works pretreatment programs be consistent with public notice and hearing requirements established by the Clean Water Act and EPA

regulations. See id.; §§ 13378, 13384.

Even where NPDES program requirements do not require notice and an opportunity for a hearing, see, e.g., 40 C.F.R. § 122.63, the hearing requirements of the Porter-Cologne Act and the requirements of the Bagley-Keene Open Meeting Act require notice and an opportunity for a hearing before the state board or a regional board may issue or modify waste discharge requirements. See Cal. Gov't Code § 11120 et seq.; § 13263.

M. Authority to Transmit Data and Share Information

State law provides authority to comply with requirements of the Clean Water Act and EPA regulations for state NPDES programs and state pretreatment programs to:

- Transmit necessary information to EPA, and receive information transmitted by EPA; and
- Ensure that any information obtained or used in the administration of the state program is available to EPA without restriction.

Federal Authority: Clean Water Act sections 304(i)(2)(B), 402(b)(4), 402(d); 40 C.F.R. §§ 123.41, 123.42, 123.43, 123.44.

State Authority: Cal. Gov't Code § 6253.1; § 13377; 23 Cal. Admin. Code § 2235.1(c), 2235.2.

Remarks: Chapter 5.5 of the Porter-Cologne Act and state board regulations require that waste discharge requirements

for point source discharges be issued and administered in accordance with NPDES program requirements. § 13377; 23 Cal. Admin. Code § 2235.1(c), 2235.2. Consistent with these requirements, the state and regional boards must comply with all applicable provisions of the Clean Water Act and EPA regulations requiring transmittal of information and information sharing as part of a state NPDES program or state pretreatment program.

The California Public Records Act, Cal. Gov't Code § 6250 et seq., which makes public records available for public inspection but exempts certain documents from disclosure, does not impose any limitation of the ability of the state and regional boards to share information with EPA. The Public Records Act allows agencies to voluntarily disclose records that are exempt from disclosure under the Public Records Act, except where disclosure is prohibited by other laws. Cal. Gov't Code § 6254; see id. § 6254.5.

The Memorandum of Agreement for a state NPDES program must include provisions for sharing information with EPA. 40 C.F.R. § 123.24(b)(3). To the extent that the Memorandum of Agreement provides for disclosure of documents which would otherwise be exempt from disclosure under the Public Records Act, execution of the Memorandum of Agreement by the state board constitutes adoption of requirements that allow greater access to documents than required by the minimum standards set by the Public Records Act. The Public Records Act expressly allows state agencies to adopt such requirements for greater access to

documents:

> "Except as otherwise prohibited by law, a state or local agency may adopt requirements for itself which allow greater access to records than prescribed by the minimum standards set forth in this chapter [the Public Records Act]."

Cal. Gov't Code § 6253.1.

The provision of the Public Records Act which provides that disclosure of a public record to any member of the public constitutes a waiver of any exemption from disclosure otherwise provided by law is not a limitation on the board's authority to make information available to EPA without restriction. See Cal. Gov't Code § 6254.5. The section which provides that disclosure constitutes a waiver of any exemption continues:

> "For the purposes of this section, before a disclosure of an otherwise exempt public document to a federal agency, is made, the federal agency shall agree in writing to comply with [the Public Records Act]."

Id. The apparent intent of this section is to offer a procedure by which state agencies may voluntarily disclose to information to federal agencies without waiving exemptions from disclosure to the general public. Cf. Parrot v. Rogers, 103 Cal.App.3d 377, 383, 163 Cal.Rptr. 75, 78 (1980) (disclosure of information by one official to another who is subject to the same rules governing public disclosure does not constitute public disclosure of an exempt document). It should not be construed to require an agreement by the federal agency if the state agency is willing to waive exemptions from disclosure to the general public. The use

of the term "shall" in a state statute is not necessarily intended to foreclose the exercise of discretion. Cochran v. Herzog Engraving Co., 153 Cal.App.3d 405, 411, 205 Cal.Rptr. 1, 4 (1984) (dicta). Furthermore, section 6254.4 exempts certain disclosures from the requirement that a federal agency agree to comply with the Public Records Act. Section 6254.5(c) provides as follows: "This section [6254.5] however, shall not apply to disclosures...[w]ithin the scope of disclosure of a statute which limits disclosure of specified writings to certain purposes". Id. Information shared with EPA pursuant to NPDES program requirements fall within the scope of a federal statute and federal regulations authorized by that statute. The disclosure required when information is shared with EPA is for certain purposes: information is available for EPA's use, and may not necessarily be available to the general public. See 40 C.F.R. § 123.41. While EPA generally may disclose information to the public, the Clean Water Act and EPA regulations impose limitations on what may be disclosed. See Clean Water Act Section 308(b), 33 U.S.C. § 1318(b)); 40 C.F.R. part 2; id. § 123.41.

EPA regulations require that information obtained as part of the state NPDES program be made available to EPA "without restriction". 40 C.F.R. § 123.41. A requirement that EPA agree to restrict disclosure of information subject to disclosure under the Clean Water Act and EPA regulations would conflict with those regulations. State agencies should construe

state laws so that they may be harmonized with federal statutes and regulations. Regents of the University of California v. Public Employees Relations Board, 139 Cal.App.3d 1037, 1042, 189 Cal.Rptr. 298, 301-03 (1983). To avoid any possible conflict with the Clean Water Act and EPA regulations, the Public Records Act may be construed so that no agreement from EPA is required before the state shares information with EPA. To the extent that the Clean Water Act and EPA regulations require or authorize EPA to restrict public access to information provided by the states, and EPA decides to use the information for EPA's internal purposes only, section 6254.5 of the Government Code obviously is inapplicable. Cal. Gov't Code § 6254.5(c). Where a state agency shares an otherwise exempt document with EPA without restricting EPA's use of the document, and EPA, as required or authorized by the Clean Water Act and EPA regulations, discloses the information to the general public, the state agency's action is authorized under provisions of the Public Records Act which allow voluntary disclosure of otherwise exempt documents. Cal. Gov't Code §§ 6253.1, 6254.

N. Authority to Provide Public Access to Information

State law provides authority to make information available to the public, consistent with the Clean Water Act and EPA regulations. As part of this authority, state law provides:

- o Except insofar as trade secrets would be disclosed, the following information is available to the public for

inspection and copying: (1) Any draft or final fact sheet, permit, permit application, draft permit form or request for publicly owned treatment works pretreatment program approval; (2) Any public comments, testimony or other documentation concerning a permit application or request for publicly owned treatment works pretreatment program approval;

- o The state may hold confidential any information (except effluent data) submitted subject to a claim of confidentiality and shown to be information which, if made public, would divulge methods or processes entitled to protection as trade secrets.
- o The state may make available to the public any information obtained pursuant to any monitoring, recording, reporting, sampling or other investigatory activities of the state.

Federal Authority: Clean Water Act sections 304(i)(2)(B), 308(b), 402(b)(2), 402(j); 40 C.F.R. §§ 122.7(b), 122.7(c), 123.41, 124.3(a), 124.6, 124.8, 403.11, 403.14(b), 403.14(c).

State Authority: Cal. Evid. Code § 1060; Cal. Gov't Code §§ 6253, 6254, 6254.7; §§ 13167, 13267, 13377, 13383; 23 Cal. Admin. Code § 2235.1.

Remarks: Chapter 5.5 of the Porter-Cologne Act and state board regulations require that waste discharge requirements

for point source discharges to waters of the United States be issued and administered in accordance with all NPDES program requirements. § 13377, 23 Cal. Admin. Code § 2235.1(c), 2235.2. Issuance and administration of waste discharge requirements in accordance with NPDES program requirements includes adherence to all requirements for providing public access to information. See Clean Water Act section 402(j); 40 C.F.R. §§ 122.7(b), 122.7(c), 123.41, 124.3(a), 124.6, 124.8, 403.11, 403.14(b), 403.14(c).

The California Public Records Act, Cal. Gov't Code § 6250 et seq., establishes minimum requirements for making records available to the public for inspection and copying. Public records subject to the Public Records Act include any writing prepared by or submitted to the state and regional boards in connection with any report of waste discharge or request for approval of a publicly owned treatment works pretreatment program. See Cal. Gov't Code §§ 6252(d), 6254.7(a).

Certain kinds of documents are exempt from disclosure under the Public Records Act. Id. § 6254. For example, trade secrets are exempt from disclosure under the Public Records Act. See Cal. Evid. Code § 1060; Cal. Gov't Code § 6254(k). The Public Records Act, however, sets only minimum requirements for disclosure. A public agency may disclose information which is exempt from disclosure under the Public Records Act, unless disclosure is prohibited by some other state or federal law. Cal. Gov't Code §§ 6253.1, 6254.

Nothing in Chapter 5.5 of the Porter-Cologne prohibits the disclosure of any information to the public. Trade secret data submitted subject to a claim of confidentiality are protected from disclosure, however, except where disclosure is required under NPDES program requirements.

Provisions of the Porter-Cologne Act outside of Chapter 5.5 apply to actions taken in administering the state NPDES program, except where they are inconsistent with Chapter 5.5 or NPDES program requirements incorporated into Chapter 5.5. § 13372. Section 13267 establishes a procedure by which persons who submit technical or monitoring reports requested by the state and regional boards may request that those portions of the reports which would disclose trade secrets be withheld from the general public. § 13267(b).

Where a state and federal statute addressing the same subject have similar language, interpretations of the federal statute are persuasive authority in interpreting the state statute. See State ex rel. Director of Employment v. General Insurance Co., 13 Cal.App.3d 853, 859 n.3, 96 Cal.Rptr. 744, 747 n.3 (1971). The protection for "trade secrets" provided by the Clean Water Act has been interpreted not to extend to effluent data, permits, permit applications, and information required of all permit applicants. 40 C.F.R. §§ 122.7(b), 122.7(c); see Clean Water Act section 308(b), 33 U.S.C. § 1318(b). Accordingly, the protection of "trade secrets" provided by section 13267(b) may be interpreted not to extend to this

information. Compare § 13267(b) (providing trade secret protection for trade secret information submitted in response to requests for technical and monitoring program reports) with §§ 13260, 13263, 13267(a), 13267(c) (requiring submittal of reports of waste discharge to the regional boards, providing for issuance of waste discharge requirements, and authorizing surveillance and monitoring by the regional boards, without any provision barring disclosure of trade secrets). If the protection for trade secrets set by § 13267(b) were interpreted to extend to information that is not trade secret under the Clean Water Act, the provisions of section 13267(b) protecting trade secrets would not apply to activities carried out pursuant to Chapter 5.5 of the Porter-Cologne Act. See §§ 13272, 13377; 23 Cal. Admin. Code § 2235.2.

Thus, the state and regional boards have authority to make available to the public for inspection and copying any information required to be available under NPDES program requirements, even if disclosure is not required under the Public Records Act. See Cal. Gov't Code §§ 6253.1, 6254; § 13167.

O. Authority to Terminate or Modify Permits

State law provides authority to:

- Modify, revoke and reissue or terminate permits (but not to extend the term of a permit beyond five years from the original date of issuance) for cause including, but not limited to: (1) Violation of any condition of the

permit including, but not limited to, conditions concerning monitoring, entry, and inspection; (2) Obtaining a permit by misrepresentation, or failure to disclose fully all relevant facts; (3) Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge; (4) Information indicating that the permitted discharge poses a threat to human health or the environment; or (5) Change in ownership or control.

- Where required by 40 C.F.R. §§ 122.44(b), 122.44(c) and 122.62(a)(7), modify, or revoke and reissue permits to incorporate any applicable toxic effluent standard or prohibition that is more stringent than any limitation in the permit.
- Modify, or revoke and reissue permits for such other causes as are set out in 40 C.F.R. § 122.62.

Federal Authority: Clean Water Act section 402(b)(1)(C); 40 C.F.R. §§ 122.41, 122.44, 122.61, 122.62, 122.63, 122.64.

State Authority: §§ 1058, 13377, 13381, 23 Cal. Admin. Code § 2235.2.

Remarks: The provisions of Chapter 5.5 of the Porter-Cologne Act for termination or modification of waste discharge requirements for cause are patterned after the provisions of the Clean Water Act. Compare § 13381 with Clean Water Act

section 402(b)(1)(C), 33 U.S.C. § 1342(b)(1)(C). As such, EPA regulations interpreting what constitutes cause for termination or modification of permits are persuasive authority in interpreting Chapter 5.5 of the Porter-Cologne Act. See generally No Oil, Inc. v. City of Los Angeles, 18 Cal.3d 68, 86 n.21, 629 P.2d 66, 78 n.21, 118 Cal.Rptr. 34, 46 n.21 (1974).

Consistent with 40 C.F.R. §§ 122.41(f), 122.41(l)(3), 122.44(b), 122.44(c), waste discharge requirements must expressly provide that they may be terminated or modified for cause, including promulgation of any effluent standard or prohibition for toxic pollutants which is more stringent than any limitation in the permit, or for which there is no limitation in the permit. See § 13377; 23 Cal. Admin. Code § 2235.2.

The Porter-Cologne Act also provides that all waste discharge requirements, for point and non-point source discharges, may be reviewed and revised upon the regional board's own motion. § 13263. The authority to revise waste discharge requirements includes authority to terminate or revoke and reissue waste discharge requirements in appropriate cases. This authority supplements the express authority set forth in section 13381, and is limited to actions that are not inconsistent with NPDES program requirements. See § 13372.

P. Authority to Abate Violations of Permits or the Permit Program

State law provides authority to:

- Abate violations of: (1) Requirements to obtain permits; (2) Terms and conditions of issued permits; (3) Effluent standards and limitations and water quality standards (including toxic effluent standards); (4) National categorical pretreatment standards; (5) Prohibitive discharge limitations applicable to direct users of publicly owned treatment works; and (6) Requirements for recording, reporting, monitoring, entry, inspection and sampling.
- Immediately and effectively halt or eliminate any imminent or substantial endangerment to the public health or welfare resulting from the discharge of pollutants.
- Apply sanctions against violations described above, and to enforce orders issued to halt or eliminate any imminent or substantial endangerment, including: (1) Injunctive relief, without the necessity of a prior revocation of the permit; (2) Civil penalties; (3) Criminal fines for willful and negligent violations; and (4) Criminal fines against persons who knowingly make any false statement, representation or certification in any form, notice, report, or other document required by the terms or conditions of any permit or otherwise required by the State a part of a recording, reporting or monitoring requirement.
- Assess civil penalties that are appropriate to the

violations. The maximum penalties are comparable to the maximum amounts recoverable under section 309 of the Clean Water Act. Civil and criminal penalties and fines may be obtained for each instance of violation.

Federal Authority: Clean Water Act sections 309, 402(b)(7), 402(h), 504; 40 C.F.R. §§ 123.27, 403.8, 403.10.

State Authority: §§ 13261, 13262, 13264, 13265, 13268, 13300, 13301, 13303, 13304, 13305, 13331, 13340, 13350, 13385, 13386, 13387.

Remarks:

Authority to restrain immediately, by order or by suit in state court, any person from engaging in any unauthorized activity or discharging pollutants that endanger public health or the environment

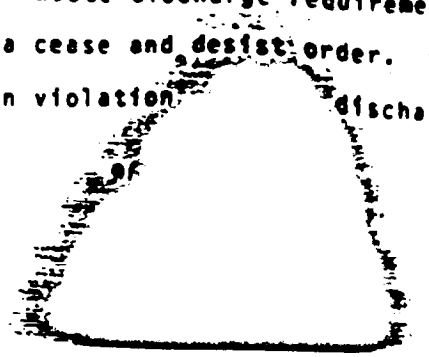
Section 13386 provides authority for the Attorney General, upon request of a regional board or the state board, to petition the appropriate court for issuance of a preliminary or permanent injunction, or both, for violations of state NPDES program requirements.

An injunction may be issued for violation of any "prohibition". § 13386. Prohibitions are established by statute, in Chapter 5.5 of the Porter-Cologne Act, against any discharge of any radiological, chemical, or biological warfare agent, § 13375, and against any point source discharge that is not authorized by waste discharge requirements. § 13376; cf

§ 13264(b) (providing supplementary authority to enjoin unpermitted discharges in specified cases). Prohibitions may also be established in waste discharge requirements and water quality control plans. § 13243.

An injunction may also be issued for any violation of waste discharge requirements, any violations of any "effluent limitation, water quality related effluent limitation, national standard of performance, pretreatment or toxicity standard," and any violation of any inspection, monitoring, or entry requirement. § 13386. An unauthorized point source discharge would constitute a violation of an "effluent limitation" established under section 301 of the Clean Water Act. See Clean Water Act section 301(a), 33 U.S.C. § 1311(a). Introduction of pollutants into a publicly owned treatment works in violation of pretreatment requirements would constitute a violation of a "pretreatment standard" established under section 307 of the Clean Water Act. See id. § 1317. An injunction may also be issued to require compliance with any cost or charge adopted by a public agency pursuant to section 204(b) of the Clean Water Act. § 13386.

Certain activities may also result in administrative orders requiring immediate corrective action. When a regional board finds that a discharge is taking place or threatening to take place in violation of waste discharge requirements, the regional board may issue a cease and desist order. § 13301. When a discharge occurs in violation [redacted] discharge



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requirements, the regional board may also issue a cleanup and abatement order. § 13304.

The regional board may also issue a cleanup and abatement order when waste has been discharged or deposited where it enters or threatens to enter waters of the state and create a condition of pollution or nuisance. § 13304. As used in the Porter-Cologne Act, "pollution" and "nuisance" include, but are not limited to, damage to public health or the environment resulting from the discharge of pollutants. See §§ 13050(l): 13304(e). The executive officer may issue a cleanup and abatement order without a prior hearing. See §§ 13223, 13304. "The Legislature specifically set up a process whereby a Regional Board Executive Officer could act expeditiously to correct water quality problems." State Water Resources Control Board Order No. WQ 85-10 at 5. Where a condition of pollution or nuisance is created or is threatened by a discharge or deposit, a cleanup and abatement order may be issued without proof of any violation of waste discharge requirements. See §§ 13263(g), 13304.

The Porter-Cologne Act provides authority for the Attorney General, upon request of a regional board or the state board, to obtain an injunction to enforce a cease and desist order or cleanup and abatement order. §§ 13304, 13331, 13386.

The Porter-Cologne Act also authorizes the Attorney General, upon request of a regional board, to bring an action for an injunction in an emergency requiring immediate action in response to a discharge or threatened discharge that threatens to

create a condition of pollution or nuisance. § 13340. As in the case of a cleanup and abatement order, the authority to obtain an emergency injunction for abatement of pollution or nuisance conditions does not depend upon proof of a violation of waste discharge requirements. See § 13340.

The authority to issue and enforce cease and desist and cleanup and abatement orders, and to obtain an emergency injunction, is not a limitation on the authority of the state and regional boards to obtain an injunction pursuant to section 13386 for violation of NPDES program requirements. § 13377.

The Porter-Cologne Act provides a procedure by which certain regional board decisions, including action or failure to act on waste discharge requirements, cease and desist orders or cleanup and abatement orders, may be appealed to the state board. § 13320. The pendency of an appeal does not stay the effect of a regional board order unless the state board, after notice and a hearing, issues a stay. § 13321. Absent a stay, the regional board may require compliance with an order subject to appeal, and refer any violations to the Attorney General for enforcement. As a matter of policy, the state board does not hear appeals of regional board actions referring matters to the Attorney General for enforcement. State Water Resources Control Board Order No. WQ 80-4 at 37-38.

Thus, the appeal procedures provided by the Porter-Cologne Act do not pose any barrier to the power of the regional boards to restrain immediately any unauthorized activity or any

activity which threatens to create a condition of pollution or nuisance.

In any action brought pursuant to the Porter-Coloone Act for injunctive relief on behalf of the state board or a regional board, it is unnecessary to prove irreparable harm. § 13361. The superior court has no authority to allow violations of the Porter-Cologne Act to continue. People ex rel. California Regional Water Quality Control Board v. F.E. Crites, Inc., 51 Cal.App.3d 961, 965, 124 Cal.Rptr. 664, 666 (1975). In this regard, the Porter-Cologne Act provides more effective enforcement powers than the Clean Water Act. Compare id. (court cannot permit operations to continue pending issuance of waste discharge requirements) with Weinberger v. Romero-Barcelo, 456 U.S. 305, 102 S.Ct. 1798 (1982) (court has equitable discretion to allow unpermitted discharge to continue pending issuance of NPDES permit). See generally Plater, Statutory Violations and Equitable Discretion, 70 Calif.L.Rev. 524 (1982).

The reasonableness and validity of waste discharge requirements cannot be attacked as a defense to enforcement actions brought pursuant to Chapter 5.5 of the Porter-Cologne Act. The provisions of Chapter 5.5 should be construed according to the Legislature's declared purpose in enacting Chapter 5.5 of ensuring that the state has the legal authority necessary to implement a state NPDES program. See § 13370. In particular, it is the intent of the Legislature "to authorize the state to implement the provisions of the [Clean Water Act] and federal

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regulations and guidelines issued pursuant thereto". Id. EPA program guidance for state NPDES programs specifies that "a State could not allow a permittee to challenge its permit limits in an enforcement proceeding and State law that provided such an option would be inconsistent with the federal requirements". Office of Water, United States EPA, National Pollutant Discharge Elimination System State Program Guidance at 3-21 (July 29, 1986). The enforcement provisions of Chapter 5.5 should be construed to be consistent with this program guidance. This construction is consistent with the general rule under California law that failure to challenge the validity of permit conditions at the time a permit is issued bars the permit holder from challenging those permit conditions in a later enforcement action. County of Imperial v. McDougal, 19 Cal.3d 505, 510-11, 564 P.2d 14, 18, 138 Cal.Rptr. 472, 476, appeal dismissed, 434 U.S. 944, 98 S.Ct. 469 (1977).

Section 13330 does not require that challenges to permit conditions be allowed in Chapter 5.5 enforcement actions. Section 13330 provides, in part, that a failure to seek immediate judicial review by petition for writ of mandate after exhausting the administrative appeals available under the Porter-Cologne Act does not preclude a party from challenging the reasonableness and validity of a state or regional board order in a subsequent judicial proceeding brought to enforce that order. Section 13330 does not apply to actions and proceedings under Chapter 5.5, however, to the extent that section 13330 would be inconsistent

with the provisions of Chapter 5.5. § 13372. The enforcement provisions of Chapter 5.5 of the Porter-Cologne Act, as construed to ensure consistency with EPA NPDES program guidance, are not consistent with that portion of section 13330 which would excuse failure to exhaust the judicial remedy of petitioning for writ of mandate. Therefore, that portion of section 13330 does not apply to enforcement proceedings brought pursuant to Chapter 5.5 of the Porter-Cologne Act. Even if it did apply, it would excuse only the failure to exhaust the judicial remedy of filing a petition for writ of mandate; the requirement for exhaustion of administrative remedies would still apply. See generally Hampson v. Superior Court, 67 Cal.App.3d 472, 477, 136 Cal.Rptr. 722, 726 (1977) (doctrine of exhaustion of administrative remedies applies to issues raised as a defense to an enforcement action) (dicta). In particular, failure to exhaust the right to an administrative appeal to the state board precludes a challenge to the terms of waste discharge requirements as a defense to an enforcement action. See Sierra Club v. Union Oil Co., No. 85-2868 ___ F.2d ___, ___ (9th Cir., filed April 3, 1987) (slip opinion at 15-18).

The Attorney General also has authority independent of the Porter-Cologne Act to bring an action, upon request of a state board or a regional board, or upon the Attorney General's own motion, to enjoin any pollution or nuisance. See § 13002(c); People v. New Penn Mines, Inc., 212 Cal.App.2d 667, 28 Cal.Rptr. 337 (1963). See also Cal. Gov't Code § 12607 (authorizing

Attorney General to bring action for equitable relief to protect natural resources).

Authority to sue in courts of competent jurisdiction to enjoin violations of program requirements, including violations of permit conditions, without the necessity of permit revocation

As discussed above, the state boards and regional boards have the authority to obtain an injunction against activities in violation of NPDES program requirements, either through an action filed by the Attorney General to enjoin the activity, or by an action filed by the Attorney General to enforce a cease and desist order or cleanup and abatement order. These actions may be brought without the necessity of prior revocation of waste discharge requirements. See §§ 13263(g), 13301, 13304, 13331, 13340, 13386. Specifically, actions may be brought for violations of conditions of waste discharge requirements. See §§ 13301, 13304, 13386.

Where the state board or a regional board brings an enforcement action agaist an industrial user for violation of pretreatment requirements, and the publicly owned treatment works has failed to bring an enforcment action, the publicly owned treatment works may be joined as a defendent. See Cal.Civ.Proc. Code § 379. See generally §§ 13377, 13386; 23 Cal. Admin. Code §§ 2233, 2235.2, 2235.3; Clean Water Act sections 309(f), 402(b)(8), 33 U.S.C. §§ 1319(f), 1342(b)(8); 40 C.F.R. § 122.44(j). Section 13386(b) is patterned after section 309(b)

of the Clean Water Act, 33 U.S.C. § 1319(b). As such, section 13386 provides authority to enjoin any threatened or continuing violation of NPDES program requirements, to the same extent that EPA is authorized to enjoin violations pursuant to section 309 of the Clean Water Act. See § 13386. See also § 13340 (providing authority comparable to EPA's authority under section 504 of the Clean Water Act, 33 U.S.C. § 1364.

Section 13386 and section 309 of the Clean Water Act provide authority to enjoin threatened violations where no prior violation has occurred. As the purpose of the injunction is to prevent future violations, not to punish previous violations, the availability of relief should depend upon whether future violations are threatened, not on whether previous violations have occurred. Statutes providing administrative power to effectuate a broad regulatory program to protect water quality and other natural resources should be given a liberal construction. Blumfield v. Bay Conservation and Development Commission, 43 Cal.App.3d 50, 56, 117 Cal.Rptr. 327, 330 (1974).

Other provisions of the Porter-Cologne Act provide authority to enjoin threatened or continuing violations in appropriate cases. §§ 13362, 13264(b), 13304, 13331, 13340. By their terms, some of these provisions authorize injunctive relief against threatened violations, without any requirement of a showing of any prior violations. See §§ 13262, 13304, 13340; cf. §§ 13300, 13301 (time schedule orders and cease and desist orders may be issued for threatened violations). These

provisions supplement the authority provided by Chapter 5.5, and may provide authority for an injunction where an injunction could not be obtained under section 13386. They do not limit the availability of injunctive relief under Section 13386. See § 13372. Similarly, the availability of the administrative enforcement orders, see §§ 13300, 13301, 13304, 13305, does not establish a procedure which must be exhausted before the state may seek injunctive relief for violations of NPDES program requirements. See § 13372.

Authority to assess or sue for civil monetary remedies

State law provides for authority to sue in court to recover civil monetary liability comparable to, and in many cases greater than, that provided for in section 309 of the Clean Water Act, 33 U.S.C. § 1319. § 13385. State law establishes liability for violation of any NPDES filing requirement, any NPDES permit condition, any entry, inspection or monitoring requirement, or any state or regional board order issued to abate NPDES program violations. See §§ 13261, 13268(a), 13268(b), 13385. State law also establishes liability for violation of any requirement of section 301, 302, 306, or 307 of the Clean Water Act, including violations of applicable effluent standards and limitations and violations of categorical and prohibitive discharge standards and limitations applicable to industrial users of publicly owned treatment works. § 13385.

Because state law specifically provides for liability

for violation of any effluent limitation, water quality related effluent limitation, national standard or performance, or pretreatment or toxicity standard, and because state law provides for application of federal regulations without the necessity of adopting independent state regulation, see § 13377, providing remedies for violation of state regulations is unnecessary. Indeed, as state regulations merely incorporate federal regulations, see Cal. Admin. Code § 2231.2, providing for civil liability for violation of state regulations would not add to the liability already provided for under section 13385 for violation of NPDES permit requirements and for violations of regulations issued pursuant to sections 301, 302, 306, and 307 of the Clean Water Act.

Section 13385 expressly provides for civil penalties for any discharge of pollutants which is not permitted by waste discharge requirements, or for violation of any waste discharge requirement, cease and desist order, or cleanup and abatement order. Section 13385 does not expressly refer to time schedule orders adopted pursuant to section 13300. The state and regional boards do not use these time schedule orders when they seek to restrain immediately NPDES program violations, and do not use these orders as a basis for obtaining injunctive relief. See § 13300; cf. §§ 13301, 13304, 13386 (providing for immediate restraint of violations and for injunctive relief). But violation of a time schedule order adopted under section 13300 may result in civil penalties. Where violation of the time

schedule order results in violation of any time schedule or other requirement established as part of the waste discharge requirements, civil penalties may be imposed for violation of waste discharge requirements. § 13385. Civil monetary remedies may also be imposed under subdivisions (a) and (b) of section 13268 for failure to comply with any reporting requirements incorporated in a time schedule order. See § 13268.

Inspection, entry and monitoring requirements are imposed as a condition of waste discharge requirements. See § 13377; 23 Cal. Admin. Code § 2235.2; 40 C.F.R. §§ 122.41(i), 122.41(j). Violation of any duty imposed by these conditions would provide a basis for civil penalties pursuant to section 13385. Where inspection, entry and monitoring requirements are established independent of any condition of waste discharge requirements, violations may result in liability pursuant to § 13268. To the extent not inconsistent with NPDES program requirements, the procedures established under section 13267, and the liability for violations provided for under subdivisions (a) and (b) of section 13268, apply to violation of monitoring requirements imposed under section 13283. See §§ 13267, 13268, 13372, 13383.

Section 13261 provides additional authority to impose liability for violation of NPDES permit application filing reuqirements. Where the state board or a regional board requests that a report of waste discharge be filed, any person who fails to comply with the request is subject to liability pursuant to

subdivisions (a) and (b) of section 13261, even when there is no discharge. § 13261. See generally §§ 13372, 13376, 13377.

Liability under subdivision (b) of section 13261, under subdivisions (a) and (b) of section 13268 and under section 13385 is based upon a standard of strict liability. See State Water Resources Control Board Order No. WQ 80-1 at 10 n.6. These provisions do not expressly establish any requirement of knowledge, intent or negligence as a basis for liability. This is in contrast to other nearby liability provisions that expressly require establishment of intent or negligence to establish liability under those other provisions. Cf. § 13261(c) (liability for failure to furnish report of wate discharge, for certain non-point source discharges, if the violations are committed "knowingly"); § 13268(c) (liability for violation of reporting or monitoring requirements, for certain non-point source discharges, if the violations are committed "knowingly"); § 13386 (criminal liability based on violations committed "willfully or negligently"). Where there are no qualifying words concerning intent or negligence, it is appropriate to construe regulatory statutes to provide for strict liability offenses. People v. Chevron Chemical Co., 143 Cal.App.3d 50, 52-54, 191 Cal.Rptr. 537, 538-39 (1983); see, e.g., People v. Travers, 52 Cal.App.3d 111, 115, 124 Cal.Rptr. 728, 730 (1975); Aantex Pest Control v. Structural Pest Control Board, 108 Cal.App.3d 696, 702-03, 166 Cal.Rptr. 763, 767 (1980). But cf. People ex rel. Younger v. Superior Court,

16 Cal.3d 30, 40-41, 544 P.2d 1322, 1328-29, 127 Cal.Rptr. 122, 128-29 (clause basing liability on intent or negligence construed to apply to subsequent clause in the same sentence which does not expressly refer to intent or negligence).

Where a California statute is patterned after a federal act, decisions of the federal courts interpreting the federal act are persuasive authority as to how the state statute should be interpreted. Kaplan's Fruit and Produce Co. v. Superior Court, 26 Cal.3d 60, 65, 603 P.2d 1341, 1343, 160 Cal.Rptr. 745, 747 (1969). Section 13385 is patterned after section 309(d) of the Clean Water Act. Compare § 13385 with Clean Water Act section 309(d), 33 U.S.C. § 1319(d). The federal courts have construed section 309(d) of the Clean Water Act to establish penalties based upon strict liability. See, e.g., United States v. Earth Sciences, Inc., 599 F.2d 1368 (10th Cir. 1979). Accordingly, section 13385 should be construed to establish a standard of strict liability.

Sections 13261, 13268 and 13385 should be construed where possible to effectuate the intent of the Legislature that the state and regional boards have the authority necessary for a state NPDES program. See § 13370. EPA regulations require that a state desiring to administer a state NPDES program have authority to impose penalties based upon a standard of strict liability. See 40 C.F.R. § 123.27(b)(2). As there is nothing in the express language of subdivisions (a) and (b) of section 13261, in the express language of subdivisions (a) and

(b) of section 13286 or in the express language of section 13385 indicating an intent to require proof of intent or negligence, these provisions should be construed to establish monetary remedies based upon a standard of strict liability.

Where reporting or monitoring requirements are established under Chapter 5.5 of the Porter-Cologne Act, and the state board or a regional board sues to impose civil monetrary remedies under section 13268, the maximum liability is $5,000 per day of violation. § 13268(b)(2). Similarly, where the state board or a regional board is authorized to request a report of waste discharge for purposes of Chapter 5.5 of the Porter-Cologne Act, and the board sues to impose civil monetary remedies under section 13261 for failure to file a report of waste discharge, the maximum liaibility is $5,000 per day of violation. § 13261(b)(2).

The amount of liability available under section 13385 is $10,000 or more per day of violation, depending on the type of violation. Where there is a discharge and a cleanup and abatement order is issued, maximum liability under section 13385 is $15,000 per day of discharge plus $15,000 for each day the cleanup and abatement order is violated. § 13385(a)(1). Where there is a discharge and no cleanup and abatement order is issued, liability is based upon the volume discharged. § 13385(a)(2). For large discharges, this may result in liability significantly higher than the $15,000 per day. To ensure that for smaller discharges the amount of liability

available is no less than that provided for under section 309(d) of the Clean Water Act, state board program guidance directs that a cleanup and abatement order shall be issued for any discharge in violation of NPDES program requirements where the amount of liability that would otherwise be available would be less than $10,000 per day of violation. Memorandum from William R. Attwater, Chief Counsel, to State Board Members, Michael A. Campos, and Regional Board Executive Officers, Water Quality Enforcement: Analysis and Implementation of the McCorquodale Bill (SB 2131; Stats. 1984, Chapter 1541) at 8 (November 26, 1984). Where there is a violation of NPDES program requirements but no discharge, the maximum liability available under section 13385 is $10,000 per day of violation.

Once a violation of section 13385 is established, the amount of liability is presumed to be the maximum allowable; the burden of proof is on the violator to establish that liability set at less than the statutory maximum would be appropriate to the violation. State v. City and County of San Francisco, 94 Cal.App.3d 522, 531-32, 156 Cal.Rptr. 542, 547 (1979).

Other provisions of the Porter-Cologne Act may be used to impose civil monetary remedies in appropriate cases. §§ 13265(a), 13265(b), 13350; see § 13372. Where the state board or a regional board sues to impose civil monetary remedies under section 13350, the amount of liability is the same as under section 13385. Compare § 13350 with § 13385. For some violations, the Porter-Cologne Act provides that liability cannot

be imposed under both section 13350 and section 13385. §§ 13350(j), 13386(c). By implication, for any other violation for which liability may be imposed under section 13350, or where liability may be imposed under section 13261, 13265, or 13268, that liability would be in addition to any liability imposed under section 13385. See § 13350(j).

Each of the sections of the Porter-Cologne Act that provides for civil monetary remedies, except for section 13385, provides the option of administrative assessment of civil liability. §§ 13261, 13265, 13268, 13350. The state and regional boards provide for public participation, as required by 40 C.F.R. § 123.27(d)(2), before imposing administrative civil liability for violations of NPDES program requirements. See Memorandum from Betsy Miller Jennings, Staff Counsel, to William R. Attwater, Chief Counsel, Administrative Civil Liability 3 (August 29, 1985).

Civil monetary remedies under Section 13385 and other sections of the Porter-Cologne Act may be imposed on any person, including any state or local agency. See § 13050(c): San Francisco Civil Service Association Local 400 v. Superior Court, 16 Cal.3d 46, 544 P.2d 1331, 127 Cal.Rptr. 122 (1976). But see Clean Water Act section 313, 33 U.S.C. § 1313 (personal liability may not be imposed on federal officers to the extent that the liability constitutes a "penalty").

The availability of administrative enforcement orders under the Porter-Cologne Act does not establish a procedure which

must be exhausted before the state and regional boards may seek civil monetary remedies. See §§ 13261, 13265, 13268, 13350, 13385. Nor are there any circumstances where the state and regional boards are required to seek civil monetary remedies under provisions outside of Chapter 5.5 of the Porter-Cologne Act, instead of seeking civil penalties under section 13385. § 13272.

Authority to impose criminal penalties for willful or negligent violations of applicable standards or limitations, NPDES filing requirements or NPDES permit conditions

The criminal penalty provisions of Chapter 5.5 of the Porter-Cologne Act are patterned after the provisions of the Clean Water Act that provide criminal penalties for violation of NPDES program requirements. Compare § 13387 with Clean Water Act section 309(c), 33 U.S.C. § 1319(c). Under subdivision (a) of section 13387, criminal liability also may be imposed for any unpermitted discharge, or for any discharge in violation of waste discharge requirements. § 13387(a). Criminal liability also may be imposed for violation of a prohibition or cease and desist order, or for violation of any standard or limitation established under section 301, 302, 306, or 307 of the Clean Water Act. Id. Criminal liability may be imposed only if the violation is willful or negligent. Id.

Upon conviction, a fine of not more than $25,000, and not less than $5,000 per day of violation is imposed. A term of

imprisonment, of up to one year, may also be imposed. For second offenders, a maximum fine of up to $50,000 per day of violation, and up to two years imprisonment, may be imposed. Id.

Other provisions of the Porter-Cologne Act may provide for criminal prosecution in appropriate cases. See §§ 13261, 13265, 13268, 13271, and 13272. The possibility of criminal prosecution under these other provisions does not limit the applicability of section 13387. See § 13372.

Authority to impose criminal penalties against any person who knowingly makes any false statement in any document filed or required to be maintained under the state program, or who knowingly renders inaccurate any monitoring device or method required under the state program

Chapter 5.5 of the Porter-Cologne Act establishes criminal penalties for false statements and for tampering with monitoring devices, to the same extent as criminal penalties are established for these actions under section 309 of the Clean Water Act. Compare § 13387(b) with Clean Water Act section 309(c)(2), 33 U.S.C. § 1319(c)(2). Violation may result in a fine of up to $25,000, or up to six months imprisonment, or both. § 13386(b).

Additional enforcement powers

The Porter-Cologne Act provides authority to issue a cease and desist order and obtain injunctive relief to prohibit the introduction of additional pollutants from domestic and industrial sources to a publicly owned treatment works in the event of a

violation or threatened violation of waste discharge requirements. §§ 13301, 13331.

The Porter-Cologne Act also provides authority for a governmental entity to recover its cost of cleanup and abatement of unauthorized discharges or conditions of pollution or nuisance. §§ 13304, 13305.

Public participation

Where the state and regional boards issue administrative orders to restrain unauthorized activities or issue orders assessing civil monetary remedies administratively, concerned citizens have a right to participate in those administrative proceedings. See 23 Cal. Admin. Code § 648.3.

Citizens may seek to intervene in state court proceedings under California Code of Civil Procedures section 387(b), which is patterned after Federal Rules of Civil Procedure Rule 24(a)(2). When the state and regional boards, which are the enforcement authorities for purposes of the Porter-Cologne Act, refer violations to the Attorney General for judicial enforcement proceedings, the boards do not oppose intervention by interested citizens on the ground that the citizens' interests are already adequately represented by the existing parties. The final decision on whether to oppose intervention is a litigation decision made by the Attorney General's Office, not by the client agency. The state and regional boards provide a public comment period of at least thirty days before settlement of any suit

involving NPDES program violations. See generally 23 Cal. Admin. Code § 2235.2; 40 C.F.R. § 123.27(d)(2).

The state board has adopted procedures to provide for investigation and written responses to all citizen complaints. State Water Resources Control Board, Administrative Procedures Manual 21-24 (1985). If a citizen requests enforcement action and the regional board does not take enforcement action, the citizen may petition the state board for review. § 13320. Upon review, the state board may issue an enforcement order or direct the regional board to take enforcement action. See, e.g., State Water Resources Control Board Order No. WQ 85-1. If the state board concludes that the regional board acted properly in not instituting enforcement proceedings, the state board issues a letter or order explaining its reasons for upholding the regional board. See, e.g., State Water Resources Control Board Order No. WQ 85-2.

O. Board Membership

No state board or body which has or shares authority to approve permit applications or portions of permit applications, either initially or on appeal, includes as a member, any person who receives, or during the previous two years has received, a significant portion of his or her income as defined in 40 C.F.R. § 123.25(c)(ii) directly or indirectly from permit holders or applicants for a permit. No state law requires representation on any board which shares authority to issue permits in such a matter

as would violate the disqualification from membership provision in section 304(i)(2)(D) of the Clean Water Act.

Federal Authority: Clean Water Act section 304(i)(2)(D); 40 C.F.R. § 123.25(c).

State Authority: § 13388; 23 Cal. Admin. Code § 644 et seq.

Remarks: Chapter 5.5 of the Clean Water Act and state board regulations follow the conflict of interest requirements set by the Clean Water Act and EPA regulations. See § 13388; 23 Cal. Admin. Code § 644 et seq.

R. Water Quality Planning

The state has authority for a continuing planning process under section 303(e) of the Clean Water Act.

Federal Authority: Clean Water Act section 303(e)(2); 40 C.F.R. § 123.25(b).

State Authority: §§ 1058, 13160, 13164, 13170, 13240 et seq., 13955 et seq., 13970 et seq., 13985 et seq., 13999 et seq.; 23 Cal. Admin. Code § 3618 et seq.

Remarks: The state board has authority to approve or adopt water quality control plans which meet the requirements of section 303 of the Clean Water Act, 33 U.S.C. § 1313. §§ 13170, 13240 et seq. These plans have been submitted to EPA for review, and approved pursuant to section 303(e) of the Clean Water Act. See, e.g., letter from Sheila Prindiville, Acting Regional Administrator, EPA Region IX to Carla Bard, Chairwoman, State

Water Resources Control Board (September 11, 1981) (approving Lake Tahoe Basin Water Quality Plan under sections 303(d) and 303(e) of the Clean Water Act).

The state board also has all powers assigned to the state, or to the governor of the state, under section 208 of the Clean Water Act, 33 U.S.C § 1288. § 13160; letter from George Deukmejian, Governor, to W. Don Maughan, Chairman, State Water Resources Control Board (April 30, 1987) (delegation of authority); letter from Ronald Reagan, Governor, to W. W. Adams, Chairman, State Water Resources Control Board (June 26, 1973) (same).

The state board maintains a priority list, updated annually, of projects eligible for construction grants under the Clean Water Act and state law. 23 Cal. Admin. Code § 3618 et seq.

EPA has approved the state board's continuing planning process. Letter from David B. Jones, Chief, California Branch Water Management Division, EPA Region IX to Edward C. Anton, Chief, Division of Technical Services, State Water Resources Control Board (June 28, 1984).

S. Federal Facilities Requirements

The state has jurisdiction over federal officials and federal facilities.

Federal Authority: Clean Water Act section 313.

State Authority: § 13050(c).

Remarks: There are no barriers, prohibitions or exclusions under state law which limit the state's water pollution control and abatement authority as applied to federal officials or federal facilities. Federal officials and federal agencies are subject to the requirements of the Porter-Cologne Act. See, e.g., Northwest Indian Cemetary Protective Association v. Peterson, 795 F.2d 688 (9th Cir. 1986) (applying state water quality standards to federal agency). Other state and regional board programs which apply to federal officials and federal agencies include regulation of surface impoundments containing hazardous wastes. Cal. Health & Safety Code § 25208 et seq., underground tanks regulations, id. § 25280 et seq., hazardous waste cleanup actions, id. § 25356.1 et seq., and actions taken to protect water quality as part of the state's water rights program. §§ 174, 1242.5, 1243, 1253, 1257, 1258, 2100 et seq; see United States v. State Water Resources Control Board, 182 Cal.App.3d 82, 134-37, 227 Cal.Rptr. 161, 190-92 (1986). Federal officials and federal agencies must also comply with water quality programs administered by other state and local agencies in California. See Clean Water Act section 313, 33 U.S.C. § 1323; § 13002.

When EPA approved of California's state NPDES program in 1973, EPA retained authority to issue permits for federal facilities. After section 313 of the Clean Water Act was amended in 1977 to clarify that states have complete authority to apply state water quality requirements to federal facilities, EPA recognized that California has adequate authority to regulate

federal facilities. EPA therefore approved of California's NPDES program as applied to federal facilities. Letter from Douglas M. Costle, Administrator, Environmental Protection Agency to Edmund G. Brown, Governor, State of California (May 5, 1978).

T. Activities on Indian Lands

The State of California has jurisdiction over certain activities on Indian lands which may affect water quality, including point source discharges resulting from activities by non-Indians, and discharges which demonstrably affect off-reservation water quality. Although the state has authority over certain activities on Indian lands, the state is not requesting NPDES program approval, as applied to activities on Indian lands, at this time. Except where EPA approves a tribal NPDES program, EPA should continue to administer the program, and not suspend the issuance of NPDES permits for activities on Indian lands, unless and until the State of California submits and obtains approval of a supplemental submission requesting approval to administer the NPDES program for discharges from Indian lands. The state will exercise concurrent jurisdiction, issuing its own waste discharge requirements, to the extent deemed necessary to protect the quality of the waters of the state.

Federal Authority: Clean Water Act section 510; federal common law.

State Statutory and Regulatory Authority: §§ 19, 13376.

Remarks: In the absence of any authorization or

preemption of state regulation under applicable federal statues, the state's jurisdiction to regulate activities on Indian reservations depends upon a "particularized inquiry" test, established under federal common law. The following discussion provides a summary of applicable state and federal law, and explains why the "particularized inquiry" test applies. The discussion is intended to provide additional information with respect to the state's program. It is also intended to make clear that the state's decision not to seek, as part of this submission, NPDES program approval for activities on Indian lands is not based upon a conclusion that the state lacks authority. Because the state is not seeking NPDES program approval as applied to activities on Indian lands, and EPA therefore is not required to review the adequacy of the state's authority, this discussion does not go into detail as to how the "participated inquiry" test applies.

Background

There are 102 recognized Indian tribes in the State of California. See Department of the Interior, Bureau of Indian Affairs, Indian Tribal Entities Recognized and Eligible to Receive Services, 50 Fed. Reg. 6055 (February 13, 1985). Reservations or rancherias have been established for all but two of these tribes. See Bureau of Indian Affairs, Sacramento Area Office, Tribal Information and Directory (October 1985). The first of these reservations and rancherias were established by an Act of April 8,

1864, 13 Stat. 39-41, c. 48. The most recent was established on October 18, 1974 by P.L. 93-451, 88 Stat. 1368.

Most of the reservations and rancherias are relatively small. Seventy-one of the reservations and rancherias include less than 1,000 acres; forty-five include less than 100 acres. See Bureau of Indian Affairs, Sacramento Area Office, Tribal Information and Directory (October 1985). Clearly, discharges from lands in these reservations have the potential to affect surface and ground waters outside the reservation. All of the reservations and rancherias that are larger than 1,000 acres are adjacent to or include within their boundaries rivers or streams which flow beyond the reservation boundaries into other areas of California, or lakes which extend beyond the reservation boundaries.

Relatively few Indians live on or adjacent to reservations and rancherias in California. None of the reservations and rancherias has a population of over 5,000. Only six have a population of over 1,000. Half have a population of less than 100. As a consequence, the principal threats to water quality from activities on Indian lands stem from activities by non-Indians, such as mining or solid waste disposal, and discharges from facilities built to serve non-Indians, such as recreational facilities.

State law

Under California law, the laws of the State of California

apply to activities on Indian lands or other lands owned or held in trust by the United States, except to the extent that state jurisdiction is limited by federal law. See Cal. Gov't Code § 110. The California Constitution does not include any provision disclaiming authority over Indians or activities on Indian lands.

As part of the Porter-Cologne Act, the California Legislature has declared that "the state must be prepared to exercise its full power and jurisdiction to protect the quality of waters in the state from degradation originating inside or outside the boundaries of the state". § 13000; cf. § 13376 (requiring submission of report of waste discharge from any person proposing to discharge to surface waters "within the jurisdiction of this state"). It follows that the Porter-Cologne Act applies to activities on Indian lands to the extent that the State may exercise jurisdiction over those activities consistent with federal law. Cf. California State Board of Equalization v. Chemehuevi Indian Tribe, ___ U.S. ___, ___ 106 S.Ct. 289, 290 (1985) (state law need not explicitly state how it applies to activities on Indian lands for the State to enforce its law to the extent that the State's action would not violate federal law).

Federal law

In general, the question whether the State of California may apply its water quality regulatory program to activities on Indian lands will depend upon whether federal common law prohibits the State from exercising jurisdiction. None of the eighteen

treaties entered into by the United States with Indians in California was ever ratified by the United States Senate. Acosta v. San Diego County, 126 Cal.App.2d 455, 463, 272 P.2d 92, 96 (1954). Except under limited circumstances, the Clean Water Act and other federal statutes neither authorize nor prohibit the exercise of state jurisdiction over activities on Indian lands which may affect water quality.

Section 510 of the Clean Water Act, 33 U.S.C.A. § 1370, provides that nothing in the Clean Water Act precludes a State from adopting and enforcing any water pollution control requirement, except where that requirement is less stringent than an applicable Clean Water Act requirement, or where the Clean Water Act expressly preempts state law. Nothing in the Clean Water Act expressly limits state jurisdiction over activities on Indian lands.

Section 518 of the Clean Water Act authorizes EPA to treat an Indian tribe as a State for purposes of several provisions of the Clean Water Act, including section 402 of the Clean Water Act. Clean Water Act section 518(e), 33 U.S.C. § 1378(e). It is unlikely that many of the Indian tribes in California will obtain authorization to issue NPDES permits in the near future. See Clean Water Act section 518(e)(3), 33 U.S.C. § 1378(e)(3). Even where a tribe has an approved NPDES program, that should not preclude state regulation. Where a State does not have an approved NPDES permit program, and permits are issued by EPA, state regulation is not preempted. Clean Water Act section 510,

33 U.S.C. § 1370. Issuance of NPDES permits by an Indian tribe should not have any different effect.

In some circumstances, a State may not adopt or enforce standards that are less stringent than those set by an Indian tribe. If EPA treats an Indian tribe as a state for purposes of section 303 of the Clean Water Act and approves standards set by the tribe, a State apparently could not adopt or enforce a less stringent standard. See Clean Water Act sections 301(b)(1)(C), 303(c), 510, 518(e), 33 U.S.C. §§ 1311(b)(1)(C), 1313(c), 1370, 1378(e). Otherwise, section 518 of the Clean Water Act does not affect state authority over activities on Indian lands which may affect water quality. Section 518 of the Clean Water Act does not expressly preempt state law. Therefore, section 510 of the Clean Water Act dictates that section 518 of the Clean Water Act shall not be construed to impair or in any manner affect the jurisdiction of the State.

It may be anticipated that EPA would not approve a state NPDES program for areas of the state where there is an approved NPDES program administered by an Indian tribe, unless a cooperative agreement between the State and the Indian tribe provides for joint administration of the NPDES program. See Clean Water Act section 518(d), 33 U.S.C. § 1378(d). But EPA's decision not to approve a State's NPDES program as applied to those areas where there is an approved NPDES program administered by an Indian tribe should not preclude approval of the state program as applied to other Indian lands where there is no tribal NPDES program. Nor

would a decision by EPA not to approve a state NPDES program as applied to any Indian lands within the State affect the State's authority to apply and enforce State law: lack of EPA approval simply means that a state permit does not serve as an NPDES permit and a permit issued by EPA or an Indian tribe with an approved program is required. See Clean Water Act sections 402(c), 510, 33 U.S.C. §§ 1342(c), 1370.

The Supreme Court has ruled that the Clean Water Act "preempts state law to the extent that the state law is applied to an out-of-state point source". International Paper Co. v. Ouelette, ___ U.S. ___, ___, 97 S.Ct. 805, 816 (1987). Section 510 of the Clean Water Act preserves state jurisdiction over point source discharges only for those discharges "within the State". See id. at ___, 97 S.Ct. at 812. But the reservations and rancherias in California are "within the State." See 18 U.S.C. § 1162. The reason for preemption of state regulation of out-of-state point source discharges is because of the vagueness and uncertaintly that could result from application of "numerous States' law" to discharges to interstate waterways. International Paper Co. v. Ouelette, ___ U.S. at ___, 97 S.Ct. at 814. This threat of a source "being subject to an indeterminant number of potential regulations" does not arise when only one State, the State within whose boundaries the discharge occurs, applies its regulatory authority. Id. at ___, 97 S.Ct. at 815. Thus, the Supreme Court's ruling has no apparent applicability to discharges from Indian lands within the State seeking to regulate

the discharge.

Although section 510 of the Clean Water Act dictates that nothing in the Clean Water Act shall be construed to preempt state regulation of discharges from Indian lands within the State, section 510 of the Clean Water Act does not grant the States authority to enforce water quality control requirements where state jurisdiction is preempted under other federal laws. See Train v. Colorado Public Interest Group, 420 U.S. 1, 16-17, 96 S.Ct. 1938, 1945 (1976). Under certain circumstances, involving federal facilities and conditions which must be included in EPA issued NPDES permits, the Clean Water Act may provide some basis for requiring that activities on Indian lands comply with state water quality requirements. See Clean Water Act sections 301(b)(1)(C), 313, 401, 402, 502(4), 502(5), 33 U.S.C.A. §§ 1311(b)(1)(C), 1323, 1341, 1342, 1362(4), 1362(5). In general, however, the State's authority to issue NPDES permits for activities on Indian lands does not involve a question of interpretation of the Clean Water Act. Rather, the issue is whether other federal law, including judicial decisions on the extent of state jurisdiction over activities on Indian lands, precludes the State from enforcing its water quality law.

In contrast to the State of Washington's claim, in Washington Department of Ecology v. Environmental Protection Agency, 742 F.2d 1465 (9th Cir. 1975), that the federal Resources Conservation and Recovery Act provided the State with authority to regulate hazardous waste sites on Indian lands, California does

not contend that its authority to issue waste discharge requirements for discharges from Indian lands depends upon an authorization made by the Clean Water Act. Rather, California contends that its authority is not preempted by the Clean Water Act, or any other federal law. California is not currently requesting EPA approval of the state NPDES program as applied to activities on Indian lands, and the State's jurisdiction to issue waste discharge requirements does not depend upon EPA approval. State jurisdiction over activities on Indian lands is permitted, even in the absence of any express congressional consent or any delegation of federal authority, unless state jurisdiction is preempted by federal statutes or common law. See California v. Cabazon Band of Mission Indians, ____ U.S. ____, ____, 107 S.Ct. 1083, 1091-92 (1987).

Since no federal statute preempts California's authority, the extent of permissible state jurisdiction depends on the extent of preemption under federal common law.

The "particularized inquiry" test

The Supreme Court has adopted a federal common law in determining the applicability of state laws on Indian reservations. Under this federal common law, state laws are applicable on Indian reservations unless such application would interfere with tribal self-government or would impair a right granted or reserved by federal law. Mescalero Apache Tribe v. Jones, 411 U.S. 145, 148, 93 S.Ct. 1267, 1270 (1973); Organized

Village of Kake v. Egan, 369 U.S. 60, 74-75, 82 S.Ct. 562, 571 (1962); see California v. Cabazon Band of Mission Indians, ____ U.S. _____, _____, 107 S.Ct. 1083, 1091-92 (1987); White Mountain Apache Tribe v. Bracker, 448 U.S. 136, 142, 100 S.Ct. 2578, 2583 (1980); Eastern Band of Cherokee Indians v. North Carolina Wildlife Comm'n, 588 F.2d 75, 77-78 (4th Cir. 1978); Fort Mojave Tribe v. County of San Bernardino, 543 F.2d 1253, 1256 (9th Cir. 1976). Increasingly, the focus is on preemption rather than tribal self-government. "The trend has been away from the idea of inherent Indian sovereignty as a bar to state jurisdiction and toward reliance on federal preemption." McClanahan v. Arizona State Tax Commission, 411 U.S. 164, 172, 93, S.Ct. 1257, 1262 (1973). The preemption issue ultimately turns on a "particularized inquiry" into "the nature of state, federal, and tribal interests at stake". White Mountain Apache Tribe v. Bracker, 448 U.S. at 145, 100 S.Ct. at 2584.

A complete exposition of the "particular inquiry" test is beyond the scope of this discussion. It should be clear, however, that the balance of state, tribal and federal interests supports state regulation.

The State's interest in controlling the discharge of pollutants from Indian lands is compelling. The impacts of discharges from Indian lands are often not confined to Indian lands, but often affect the quality of waters downstream from the point of discharge. Cf. United States v. Anderson, 736 F.2d 1358, 1365-66 (9th Cir. 1984) (balance weighs heavily in favor of state

regulation of water use where waterway extends beyond reservation boundaries). Discharges from Indian lands may also affect migratory fish and wildlife.

"A State's regulatory interest will be particularly substantial if the State can point to off-reservation effects that necessitate State intervention." New Mexico v. Mescalero Apache Tribe, 462 U.S. 324, 336, 103 S.Ct. 2378, 2388 (1983).

By comparison, the tribal interest in preventing state regulation to protect water quality is relatively weak. State regulation serves to help protect water quality for beneficial uses, including instream beneficial uses, by tribe members. The applicability of state water quality requirements also reduces the ability of non-Indian dischargers to use threats to locate their facilities on other reservations as a means of pressuring an Indian tribe to allow water quality degradation. Cf. Natural Resources Defense Council v. Train, 510 F.2d 692, 709 (D.C. Cir. 1972) (the Clean Water Act is intended to set uniform minimum limitations for dischargers in order to prevent industries from coercing States by threatening to relocate their facilities.)

The interest in tribal self-government is not accorded great weight under the "particularized inquiry" test in areas where there is no historical tradition of tribal self-government. Rice v. Rehner, 463 U.S. at 720, 103 S.Ct. at 3296. There is no established tradition of tribal regulation of point source discharge to navigable waters. Further, the extent of tribal authority to enforce controls over non-members for the protection of instream beneficial uses is uncertain. Cf. Montana v. United

States, 450 U.S. 544, 101 S.Ct. 1245 (1981) (tribe cannot enforce hunting and fishing regulations against non-members on navigable streams within the reservation). The State's interest is strongest, and the tribal interest weakest, where activities of non-Indians on the reservation are concerned. See Rice v. Rehner, 463 U.S. at 720, 103 S.Ct. at 3296.

Application of California's waste discharge regulatory program in no way limits the authority of tribal governments to adopt and enforce their own water quality protection programs, to the extent that the tribes have the necessary authority. The regulatory powers assigned to the state and regional boards under the Porter-Cologne Act do not limit the powers of other governmental entities to set and enforce their own programs to provide additional protection of water quality. See § 13002. Because the state regulatory program allows for concurrent regulation by other governmental bodies, interests in tribal self-government cannot justify exclusion of state regulation.

The federal interest appears to be consistent, or at least is not inconsistent, with the conclusion that the State has the right to regulate point source discharges on Indian reservations. The Supreme Court has recognized federal and tribal interests in encouraging tribal self-sufficiency and economic development through promotion of tribal enterprises. California v. Cabazon Band of Mission Indians, ___ U.S. at ____, 107 S.Ct. at 1092. But the State's application of its water quality laws is not intended to prevent Indian tribes from conducting any type of business on

Indian lands. The State seeks only to assure that activities on Indian lands are conducted in a manner which assures protection of water quality. Where a discharge from a tribal enterprise has a demonstrable impact on off-reservation water quality, and the State seeks to regulate the discharge, the balance of state, tribal and federal interests is far different than where the State seeks to forbid a tribal enterprise supported by the federal government. Cf. California v. Cabazon Band of Mission Indians, supra, ____ U.S. at ____, 107 S.Ct. at 1094 (State's concern about infiltration by organized crime, infiltration which has not in fact occurred, is insufficient basis for prohibiting tribal high stakes bingo enterprises). The federal and tribal interests in promoting tribal enterprises do not override the federal and tribal interests in protecting water quality. See generally EPA Policy for the Administration of Environmental Programs on Indian Reservations ("the fundamental objective of the Environmental Protection Agency is to protect human health and the envionment").

Federal policy encourages the administration of Clean Water Act programs by Indian tribes. See Clean Water Act section 518(b)(2), 33 U.S.C. § 1578(b)(2). The Clean Water Act also establishes an important federal policy of maintaining and protecting the quality of the Nation's waters, a policy which is furthered by preserving and protecting state regulatory authority. See Clean Water Act sections 101(a), 101(b), 33 U.S.C. §§ 1251(a), 1251(b).

In summary, the balance of state, tribal and federal interests appears to permit state regulation of point source discharges from Indian lands, at least under certain circumstances. These circumstances include discharges resulting from activities conducted by non-Indians, and discharges which demonstrably affect off-reservation water quality.

U. Outstanding Permits

Under authorities in effect at the time of this statement, no outstanding permits issued by this State for the discharge of pollutants, other than waste discharge requirements issued in accordance with the State's existing EPA approved state NPDES program, are valid for the purposes of the National Pollutant Discharge Elimination System created by the Clean Water Act. All persons presently in possession of a valid State permit for the discharge pollutants are required to comply with all applicable provisions of the Clean Water Act and EPA regulations, in accordance with EPA's approval of the State's NPDES permit program.

Date: May 11, 1987

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APPENDIX A. STATE INCORPORATION OF THE FEDERAL CLEAN WATER ACT

ISSUES

1. Whether the California Legislature in enacting Chapter 5.5 of Division 7 of the California Water Code intended to incorporate by reference into state law future amendments to the federal Clean Water Act and regulations implementing the Clean Water Act.

2. Whether the California State Water Resources Control Board (State Board) was authorized to adopt regulations that incorporate by reference future federal amendments and regulations.

3. Whether the Legislature's incorporation of future federal amendments and regulations is an improper delegation of authority.

4. Whether the Legislature's incorporation of future federal amendments and regulations violates due process requirements for certainty.

RESPONSE

1. The Legislature intended to incorporate by reference current and future federal legislation and regulations.

2. The State Board is authorized to adopt regulations incorporating prospectively the requirements of federal law.

3. The Legislature's enactment of Chapter 5.5 does not constitute an improper delegation of authority. The Legislature has made the fundamental policy decision that the state will implement the Clean Water Act permit system for point source

discharges. Adequate safeguards exist to prevent arbitrary use of the delegated authority.

4. California's incorporation by reference of federal Clean Water Act requirements provides adequate certainty as to what conduct is proscribed.

DISCUSSION

A. Background

The federal Clean Water Act, 33 U.S.C § 1251 et seq., establishes the National Pollutant Discharge Elimination System (NPDES) which requires a permit for point source discharges to surface waters. Id. § 1342. Initially, the Environmental Protection Agency (EPA) issues NPDES permits. A state that wishes to administer its own permit program may submit its program for approval by EPA. Id. § 1342(b). Once the program is approved, EPA suspends its issuance of NPDES permits and the state undertakes the issuance of NPDES permits under the state program. Id. § 1342(c)(1). The California Legislature has determined that the state's interest lies in the state administering the NPDES program in California, thereby avoiding the direct federal regulation of persons already subject to state regulation. Cal. Water Code § 13370. (All section citations are to the California Water Code unless otherwise noted.)

To obtain EPA approval, a state must have adequate authority to implement requirements enumerated in the Clean Water Act. 33 U.S.C. § 1342(b). More specifically, a state must have adequate authority to issue permits that apply and ensure compliance with applicable technology-based effluent limitations,

water quality related effluent limitations, national standards of performance, toxic pollutant effluent limitations, pretreatment standards and ocean discharge criteria (referred to collectively as "limitations and standards"). Id. at § 1342(b)(1)(A). The state also must have adequate authority to require a discharger to maintain certain records, use monitoring equipment and methods and allow inspection. Id. § 1342(b)(2). These limitations, standards and monitoring requirements are set by EPA by regulation. See, e.g., id. §§ 1311(b)(1)(A), 1312(a), 1318(a)(A); 40 C.F.R. Subchapter N.

Because Congress periodically amends the Clean Water Act (see, e.g., Municipal Wastewater Treatment Construction Grant Amendments of 1981, Pub.L. No. 97-117, 95 Stat. 1623) and EPA frequently adopts new or amended regulations (see e.g., EPA, Regulatory Agenda, 50 Fed. Reg. 44644 (Oct. 29, 1985) (identifying 33 current, projected, or recently completed rulemakings)), a state with an EPA approved program must develop a mechanism to adopt these changes into its program. In California, the Legislature decided to adopt automatically these changes as they are enacted or adopted. The Legislature enacted statutes that incorporate by reference current and future federal legislation and regulations. The Legislature thereby avoided the risk that the state program would be inconsistent with the requirements of the Clean Water Act and implementing regulations. The risk lies primarily in the unavoidable delay between the enactment of federal law and the enactment or adoption of state law or regulations that are responsive to the federal changes.

For example, in California, unless the Legislative enacts a statute as urgency legislation by a two-thirds vote, a statute does not take effect until January 1 of the year following a 90-day period after the end of the legislative session. Cal. Const. Art. IV, § 8. Adoption of regulations requires a minimum of 145 days and in practice, between one and four years. See Office of Administrative Law, Regulations Handbook, Appendix 2 (1983).

Incorporation of prospective federal laws and regulations also saves scarce legislative and administrative resources that would otherwise be expended to enact and promulgate state laws and regulations to implement each change at the federal level. The expenditure of resources at the administrative level would be particularly questionable because the Board currently is mandated under state law to apply federal law and regulations.

B. The Legislature Intended To Incorporate Prospective Federal Law and Regulations.

The State Board and the California Regional Water Quality Control Boards (Regional Boards) implement the state NPDES program in California pursuant to the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) found at Division 7 of the California Water Code (§ 13000 et seq.). Several provisions of the Porter-Cologne Act clearly indicate a legislative intent to incorporate prospectively the provisions of federal water quality law in defining the scope of state and regional board authority, and in establishing minimum standards for certain

activities regulated by the State and Regional Boards. See, e.g., §§ 13160, 13170, 13370, 13377, 13385, 13386, 13387.

The most direct expression of legislative intent to incorporate future federal law and regulations is found in Chapter 5.5 of Division 7 (§ 13370 et seq.). Section 13370 states as follows:

> "The Legislature finds and declares that since the Federal Water Pollution Control Act (33 U.S.C. 1251, et seq.), as amended, provides for permit systems to regulate the discharge of pollutants and dredged or fill material to the navigable waters of the United States and provides that permits may be issued by states which are authorized to implement the provisions of such act, it is in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to this division, to enact the provisions of this chapter in order to authorize the state to implement the provisions of the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto; provided, however, that the requirements of this chapter relating to the discharge of dredged or fill material shall be applicable only when the state has an approved permit program for the discharge of dredged and fill material in accordance with the provisions of the Federal Water Pollution Control Act; and provided further, that the state board shall request federal funding under the Federal Water Pollution Control Act for the purpose of carrying out its responsibilities under this program." (Emphasis added.)

The verbal declaration to authorize the state to implement acts that amend or supplement existing federal water quality law expresses an intent to incorporate prospective changes in federal law. The phrase "federal regulations and guidelines issued pursuant thereto" refers to regulations issued under the Clean Water Act and "acts amendatory thereof or supplementary thereto." Section 13370 thus refers to future

regulations, expressing the Legislature's intent to implement federal regulations and guidelines promulgated in the future.

The timing of the enactment of Chapter 5.5 also indicates that the Legislature intended to incorporate federal regulations prospectively. Section 13370 specifically refers to federal regulations. EPA regulations for the NPDES program, however, had not yet been promulgated when Chapter 5.5, including section 13370, was enacted as an urgency statute and took effect on December 12, 1972. See 1972 Cal. Stats. Ch. 1256, § 3; EPA, State Program Requirements for Participation in the NPDES System, 37 Fed.Reg. 28391 (Dec. 22, 1972). By referring to regulations that had not yet been issued, the Legislature clearly indicated its intent to authorize the state and regional boards to carry out an NPDES program consistent with EPA regulations to be promulgated in the future.

The legislative intent to incorporate prospective federal law and regulations is also expressed in section 13377 which provides as follows:

> "Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance." (Emphasis added.)

The provisions of the Clean Water Act themselves require dischargers to comply with subsequently enacted EPA regulations.

See, e.g., Clean Water Act § 306(b)(1)(13), 33 U.S.C. § 1316(b)(1)(13). Hence, the requirement that waste discharge requirements apply all applicable provisions of the Clean Water Act includes a requirement that waste discharge requirements apply EPA regulations in effect at the time waste discharge requirements are issued, even though the regulations may have been promulgated after the Legislature enacted section 13377.

The legislative history of section 13377 also indicates the Legislature's intent to incorporate future federal requirements automatically. Prior to its amendment in 1978, section 13377 listed the specific types of requirements established under the Clean Water Act and implementing regulations that state-issued permits were required to apply. The Legislature's replacement of the specific list with a general requirement that state-issued permits ensure compliance with "all applicable provisions of the [Clean Water] act and acts amendatory thereof or supplementary thereto" reinforces an intent to incorporate future federal changes automatically without the need for state statutory amendments. Compare 1972 Cal. Stats. Ch. 1256, pp. 2486-2487, § 1, and 1978 Cal. Stats. Ch. 616, p. 2068, § 1.

The enforcement provisions of Chapter 5.5 of the Porter-Cologne Act, sections 13385, 13386, and 13387, also incorporate prospective requirements set by EPA regulations. A comparison of these sections and section 309 of the Clean Water Act discloses the Legislature's intent to incorporate federal regulations, including future regulations. Sections 13385,

13386, and 13387 are patterned generally after Section 309 of the Clean Water Act. Section 309 refers to violations of sections 301, 302, 306, 307, 308, 318 or 405. Section 301 provides for effluent limitations; section 302, for water quality related effluent limitations; section 306, for national standards of performance; section 307, for toxic and pretreatment effluent standards; 308, for records, monitoring and inspections; 318, for discharge of specific pollutants associated with an approved aquaculture project; and 405, for the disposal or use of sewage sludge. The state statutes, sections 13385, 13386, and 13387, each refer to violations of any "effluent limitation[1/], water quality related effluent limitation, national standard of performance, pretreatment or toxicity standard." It must be inferred that the Legislature by its use of these terms intended to incorporate the terms as used in the Clean Water Act. In fact, these terms have no meaning except by reference to the Clean Water Act. The plain meaning of the words of each term do not suggest a clear definition of the term. Also, these terms do not appear in the Porter-Cologne Act except in Chapter 5.5 which, as stated above, was enacted in order to conform state law to the Clean Water Act (§ 13370). Thus, the terms "effluent limitation," "water quality related effluent limitation," "national standard of performance," "pretreatment standard" and "toxicity standard" mean those limitations and standards prescribed in the Clean Water Act and implementing regulations.

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1. Section 13387 refers to "effluent standard."

The Legislature's intent to include future as well as current federal standards and limitations in effect at the time sections 13385, 13386 and 13387 were enacted is implied by several factors. A settled rule of statutory construction provides that incorporation by reference of law generally on a particular subject includes not only contemporary law but future amendments. See State School Bldg. Finance Comm. v. Betts (1963) 216 Cal.App.2d 685, 692 [31 Cal.Rptr. 258]. The Legislature's reference to the standards and limitations is in broad general terms -- "any effluent limitation, water quality related effluent limitation, national standard of performance, pretreatment or toxicity standard" -- and implies an incorporation of future-promulgated standards and references. In addition, the Legislature in section 13370 states the purpose of chapter 5.5, which includes sections 13385, 13386, and 13387, to authorize the state "to implement" current and future federal regulations. The implementation of regulations includes their enforcement. See 33 U.S.C. § 1342(b)(7). An interpretation of sections 13385, 13386 and 13387 excluding future promulgated federal standards and limitations would be inconsistent with the Legislature's stated purpose and therefore must be rejected. See California Toll Bridge Authority v. Kuchel (1952) 40 Cal.2d 43, 53 [251 P.2d 4].

The Legislature's decision reflected in Chapter 5.5 t ensure that the state permit program conforms to federal requirements by incorporating those requirements into state law is consistent with other provisions of the Porter-Cologne Act that deal with the federal-state relationship in water quality

control. When referring to the Clean Water Act, the Legislature consistently includes reference to future amendments of the Act. Section 13160 designates the State Board "as the state water pollution control agency for all purposes stated in the Federal Water Pollution Control Act and any other federal act, heretofore or hereafter enacted, and is ... authorized to exercise any powers delegated to the state by the Federal Water Pollution Control Act (33 U.S.C. 1251, et seq.) and acts amendatory thereto." (Emphasis added.) Section 13170 authorizes the State Board to adopt water quality control plans for waters for which water quality standards are required by the Federal Water Pollution Control Act and acts "amendatory thereof or supplementary thereto." (Emphasis added.)

The State Board and Regional Boards have consistently interpreted the provisions of Chapter 5.5 of the Porter-Cologne Act to incorporate the Clean Water Act and implementing regulations prospectively. The State and Regional Boards have followed this interpretation both in regulations, see, e.g., 23 Cal. Admin. Code §§ 2235(e), 2235.2, and in individual permit decisions, see, e.g., State Water Resources Control Board Order No. WQ 78-17 (applying EPA pretreatment regulations). As the agencies charged with enforcement of the Porter-Cologne Act, their construction of the law is entitled to great weight and will be upheld by the courts, unless clearly erroneous. See Gay Law Students Assn. v. Pacific Tel. & Tel. Co. (1979) 24 Cal.3d 458, 491 [595 P.2d 592, 156 Cal.Rptr. 14].

A question has arisen whether the Legislature intended that federal law and regulations would be incorporated as state law automatically upon their enactment or only after the promulgation of regulations by the Board incorporating the federal regulations. The language of sections 13377, 13385, 13386 and 13387 indicates that these sections are self-executing and do not require the adoption of implementing regulations to become operable. Federal regulations that fall within the scope of these sections become operable automatically upon their enactment.

Section 13377 directs the State Board and Regional Boards to issue waste discharge requirements that apply and ensure compliance with all applicable provisions of the Act. The mandate is complete and can be implemented directly by the boards. The mechanism for ensuring compliance with applicable federal law, waste discharge requirements, already is in place. There is no need to promulgate regulations to make the directive operable.

Similarly, sections 13385, 13386 and 13387 are complete mandates. The Legislature states that violation of "any" of the listed standards or limitations makes the discharger liable for civil or criminal penalties. As discussed above, the listed standards and limitations include federally-promulgated standards and limitations. The Legislature's express listing of federally-promulgated standards and limitations implies that those standards and limitations become enforceable without the

necessity for administrative rule-making by any California agency.

Section 13371 does not require a different interpretation of sections 13377, 13385, 13386 or 13387. Section 13371 was enacted in 1972 and states as follows:

> The Legislature further finds and declares that it is necessary for the state board to amend its administrative regulations in order to comply with the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder.

Under California law, statutes are to be construed with reference to the entire scheme of which they are a part so that the provisions may be harmonized and retain effectiveness. People v. Kuhn (1963) 216 Cal.App.2d 695, 698 [31 Cal.Rptr. 253]. An interpretation of section 13371 rendering the provisions of sections 13377, 13385, 13386 and 13387 inoperative with respect to federal regulations until the Board adopts regulations implementing the federal regulations is inconsistent with the mandatory self-executing language of these sections. In addition, the legislative history of section 13371 indicates that the provisions of section 13371 are limited to a specific historical context that ceased to exist in 1978.

Section 13377, as enacted in 1972 with section 13371, required the Boards to issue waste discharge requirements that "ensure compliance with all applicable effluent limitations, national standards of performance, toxic and pretreatment

effluent standards, and any ocean discharge criteria." In its 1972 version, section 13377 did not expressly incorporate the procedural requirements established by EPA under section 304(i) of the Clean Water Act. Section 304(i) requires EPA to establish guidelines for "procedural and other elements of any state program", including monitoring requirements, reporting requirements, and enforcement provisions. 33 U.S.C. § 1314(i). Accordingly, in 1972, it was necessary for the State Board to adopt regulations to ensure that the state's permit procedures were consistent with Clean Water Act requirements, as set forth in EPA guidelines adopted pursuant to Clean Water Act Section 304(i). 33 U.S.C. § 1314(i). The Legislature made a finding to that effect in section 13371. The State Board regulations implementing the 1972 legislation set forth in detail the procedural requirements for permitting, while relying on incorporation by reference to apply the substantive requirements of sections 301, 302, 306, 307 and 403 of the Clean Water Act. Register 73, No. 6, filed February 2, 1973, formerly codified at 23 Cal. Admin. Code § 2235 et seq. In 1978, the Legislature amended section 13377 to require the Boards to issue waste discharge requirements that "apply" and ensure compliance with "all applicable" Clean Water Act requirements, not just the requirements of sections 301, 302, 306, 307 and 403 of the Clean Water Act. § 13377; 1978 Cal. Stats. ch. 746, § 3. Section 13377 now incorporates the procedural requirements for permitting, as well as the substantive requirements setting limitations and standards. The need for administrative

regulations to implement the procedural requirements of the Clean Water Act no longer exists and the provisions of section 13371 are subsumed under section 13377.

C. The State Board Is Authorized to Adopt Regulations That Incorporate Prospective Federal Regulations.

The State Board has adopted regulations which incorporate prospectively EPA regulations applicable to the processing of NPDES applications and issuance of NPDES permits. 23 Cal. Admin. Code §§ 2235.1(c), 2235.2; § 2235.4. Section 2235.1(c) states as follows:

> "Each report of waste discharge to navigable water shall be filed and processed in compliance with the applicable federal regulations governing the NPDES permit program promulgated by EPA."

Section 2235.2 states as follows:

> "Waste discharge requirements for discharge from point sources to navigable waters shall be issued and administered in accordance with the currently applicable federal regulations for the National Pollutant Discharge Elimination System (NPDES) program."

By referring to "the applicable" or "the currently applicable" NPDES requirements, these regulations are intended to apply the NPDES regulations in effect when a report of waste discharge is processed and waste discharge requirements are issued.

The State Board is authorized to adopt rules and regulations "as it may from time to time deem advisable in carrying out its powers and duties" under the Water Code. § 1058.

Chapter 5.5 of the Porter-Cologne Act directs the State and Regional Boards to implement the requirements of the Clean Water Act and implementing regulations, including any amendments to the act or implementing regulations promulgated after enactment of Chapter 5.5 of the Porter-Cologne Act. See §§ 13370, 13377. The Board's regulations that direct compliance with EPA regulations, including future amendments, fall within the Board's statutory mandate to implement federal law and regulations, including future amendments. §§ 13377, 13370.

The State Board's regulations implementing Chapter 5.5 of the Clean Water Act have consistently incorporated prospective federal regulations. Former Section 2235.5(b) of Title 23 of the California Administrative Code, as adopted by the State Board on February 1, 1973, provided, in part:

> "(1) All waste discharge requirements shall comply with effluent limits adopted under Sections 301, 302, 306 and 307 of the Federal Water Pollution Control Act and whenever applicable any more stringent limitation necessary to meet any other federal law or regulation.
>
> (2) If a toxic effluent standard is established pursuant to Section 307 of the Federal Water Pollution Control Act for a

toxic pollutant which is present in a discharge and such standard is more stringent than the current waste discharge requirement, the waste discharge requirements shall be revised in accordance with such toxic effluent standard."

Register 73, No. 6. The clear intent of this regulation was to apply EPA regulations setting effluent guidelines and standards, all of which EPA regulations were promulgated after the State Board adopted its regulation. See, e.g., EPA, Effluent Guidelines and Standards, 39 Fed.Reg. 4532 (Feb. 1, 1974).

As stated above, the Board's interpretation of its authority is entitled to great weight. Gay Law Students, supra, 24 Cal.3d 458, 491. Moreover, the Legislature has amended various provisions of Chapter 5.5 from time to time since 1973, without imposing any limitations on the State Board's authority to implement EPA's NPDES program regulations. See, e.g., 1984 Cal. Stats. ch. 1541; 1978 Cal. Stats. ch. 746. Coupled with the Legislature's own use of prospective incorporation by reference (see 1978 Cal. Stats. ch. 746, § 3), the Legislature may be deemed to have accepted the manner in which the Board used prospective incorporation by reference. See California Welfare Rights Organization v. Brian (1974) 11 Cal.3d 237, 241 [520 P.2d 970, 972, 113 Cal.Rptr. 154], cert. denied, 419 U.S. 1022, 95 S.Ct. 497.

The Board's regulations incorporating prospective federal regulations were adopted in compliance with applicable

state rule-making law. The bulk of the current state law prescribing minimum stylistic and procedural requirements for the adoption of administrative regulations (Cal. Gov't. Code, § 11346) became effective after the adoption of the Board's regulations and therefore is not applicable. See 1979 Cal. Stats. ch. 567, §§ 1,3.[2/] The Board's use of incorporation by reference in its regulations, however, is not inconsistent with the statutory requirements or the regulations promulgated by the Office of Administrative Law (OAL) implementing those requirements. See 1 Cal. Admin. Code, § 10 et seq. For example, section 20(c)(4) of Title 1 of the California Administrative Code provides as follows:

> "(c) An agency may 'incorporate by reference' only if the following conditions are met:
>
> . . .
>
> (4) The regulation text states that the document is incorporated by reference and identifies the document by title and date of publication or issuance. Where an

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2. The Board's use of incorporation by reference in its regulations also is consistent with the current requirements that a state agency must prepare a statement of reasons and information digest for the proposed regulation and, if promulgated, the adopted regulation. See Cal. Gov't. Code § 11346.7. This provision took effect after the Board promulgated the current regulations and therefore did not govern the Board's rulemaking procedure. See Cal. Gov't Code § 11340.2; 1979 Cal. Stats. c. 567, §§ 1, 3. The requirement for a statement of reasons and information digest do not apply to the promulgation of certain regulations that are mandated by federal law or regulations. Cal. Gov't. Code § 11346.7(c). The exception, however, does not apply to the adoption of state regulations that incorporate prospective federal regulations. Thus, the Board could be required to prepare a statement of reasons and an information digest for promulgation of a regulation that adopts future federal regulations.

authorizing California statute or other applicable law requires the adoption or enforcement of the incorporated provisions of the document as well as any subsequent amendments thereto, no specific date is required."

In its reference to a law that requires adoption or enforcement of the incorporated provisions of a document "as well as any subsequent amendments thereto," the drafters of the OAL regulation anticipated a state law that requires adoption or enforcement of present as well as future provisions. Section 13377 is an example of the statute described in subsection 20(c)(4). At section 13377, the Legislature has directed the State Board and Regional Boards to "apply and ensure compliance with all applicable provisions of the [Clean Water] Act and acts amendatory thereof or supplementary thereto...."

D. Prospective Incorporation By Reference Is Not An Impermissible Delegation.

The question has been raised whether the prospective incorporation of federal law and regulations constitutes an impermissible delegation of legislative authority to Congress and EPA. The doctrine against delegation of authority rests upon the premise that the Legislature may not abdicate its responsibility to resolve fundamental policy issues. City of Santa Ana v. City of Garden Grove, (1979) 100 Cal.App.3d 521, 529 [100 Cal.Rptr. 907, 911]; Kugler v. Yocum (1968) 69 Cal.2d 371, 376 [71 Cal.Rptr. 687, 445 P.2d 303]. On the other hand, the courts recognize the practical necessity for delegating legislative authority in light of the ever-increasing multiplicity and

complexity of administrative affairs, and are reluctant to invalidate legislation as an unlawful delegation. Kugler, supra, 69 Cal.2d at 383-384. As stated by the California Supreme Court in Kugler,

> "[o]nly in the event of a total abdication of [legislative] power, through failure either to render basic policy decisions or to assure that they are implemented as made, will this court intrude on legislative enactment because it is an 'unlawful delegation,' and then only to preserve the representative character of the process of reaching legislative decision."

Kugler, supra, 69 Cal.2d at 384; see Clean Air Constituency v. Calif. State Air Resources Board (1974) 11 Cal.3d 801, 817 [523 P. 2d 617]. Accordingly, legislation will be upheld as long as (1) the Legislature has resolved the truly fundamental policy issues and (2) adequate safeguards exist to assure proper implementation of the policy decision. Kugler, supra, 69 Cal.2d at 376; Wilkinson v. Madera Community Hospital (1983) 144 Cal.App.3d 436 [192 Cal.Rptr. 593].

The test pronounced in Kugler applies to incorporation by reference of future as well as contemporary enactments. Prospective incorporation by reference is not per se invalid. Legislative schemes that adopt future enactments by reference have been sustained by state and federal courts. See Arwin v. Board of Medical Examiners (1907) 151 Cal. 499, 503; Ex parte Gerino (1904) 143 Cal. 412, 419; People v. Ovama (1946) 29 Cal.2d 164, 173 [173 P.2d 794]; Kugler, supra, 69 Cal.2d at 379; In re Lasswell (1934) 1 Cal.App.2d 183, 188, 203 [36 P.2d 678]; Manmoros v. State Bd. of Equalization (1948) 87 Cal.App.2d 140,

144 [296 P.2d 857]; Moore v. State Bd. of Equalization (1946) 76 Cal.App.2d 758 [174 P.2d 323]; City of Downey v. Board of Administration (1975) 47 Cal.App.3d 621, 630 [121 Cal.Rptr. 295]; 43 Ops.Cal.Atty.Gen. 1, 3-4 (1964); 43 Ops.Cal.Atty.Gen. 276, 277 (1964); U.S. v. Sharpnack (1957) 355 U.S. 286, 293-294 [78 S.Ct. 291]. In Ex parte Gerino, supra, 143 Cal. at 419, the California Supreme Court upheld a legislative requirement that an applicant for admission to the practice of medicine must have a diploma from a medical school with requirements no less than those prescribed by the Association of American Medical Colleges. The Court stated:

> "Evidently the standard of proficiency in scholarship as a preparation, and the particular studies necessary to secure a fair preparation, must change as the discoveries in natural science open new fields of investigation and suggest or reveal new curative agencies. The legislature cannot successfully prescribe in advance a standard to meet these new and changing conditions. The method adopted appears to be sufficiently definite to enable all colleges to reach the required standard when in good faith they desire to do so. The law is as fixed, definite, and certain in this respect as the nature of the subject and the object to be attained will permit, and we do not think it should be held void because it adopts the standard fixed from time to time by those who, it will be presumed, are the most eminent in the profession which it attempts to regulate, and who should be the most interested in maintaining the highest degree of professional proficiency, skill and training." 143 Cal. 412, at 419.

Sixty-four years later, in Kugler, the Supreme Court confirmed prospective incorporation by reference.

In Kugler, the California Supreme Court upheld proposed legislation setting the minimum wage for the firemen of the City of Alhambra based upon the average of the wages set by the City

of Los Angeles for the City's firemen and the wages set by the County of Los Angeles for the County's firemen. Kugler, supra, 69 Cal.2d at 374. The Court found that the fundamental policy issue - that the Alhambra wages for firemen should be on parity with Los Angeles wages - was being decided by the legislative body. Kugler, supra, 69 Cal.2d at 377. The Court also found that the proposed ordinance contained built-in and automatic safeguards against "exploitive consequences" from the operation of the ordinance. Id. at 382-383.

> "Los Angeles is no more anxious to pay its firemen exorbitant compensation than is Alhambra. Los Angeles as an employer will be motivated to avoid the incurrence of an excessive wage scale; the interplay of competitive economic forces and bargaining power will tend to settle the wages at a realistic level. As we noted in an analogous area involving the establishment of prices: 'the Legislature could reasonably assume that competition . . . coupled with . . . bargaining power. . . would provide a safeguard against excessive prices. In all probability, that safeguard is at least as effective as any which the Legislature could be expected to provide by promulgating explicit standards. . . .' (Wilke & Holzheiser, Inc. v. Dept. of Alcoholic Beverage Control (1966) 65 Cal.2d 349, 367-368 [55 Cal.Rptr. 23, 420 P.2d 735]." Kugler, supra, 69 Cal.2d at 382.

The dangers contemplated by the opponents of the proposed legislation -- that the legislative body will neither know in advance nor control the level of the minimum wage -- were dismissed by the Court. Kugler, supra, 69 Cal.2d at 378-379; see Metropolitan Water District v. Whitsett (1932) 215 Cal. 400, 419 [10 P.2d 781]. Although external bodies would be involved in establishing the minimum wages for Alhambra, the Court found that the City could properly expect these bodies to reasonably discharge their obligations, which were reasonably related to the

fulfillment of the purpose of the ordinance. Hudler, supra, 69 Cal.2d at 382-383.

> "Once Alhambra establishes the policy of parity between the Alhambra and the Los Angeles wages, the fact that the Los Angeles governing bodies participate in setting Los Angeles salaries does not defeat the Alhambra legislation since Alhambra could expect that the authorities would reasonably investigate, negotiate, and finally determine such salaries. Thus the designated method appropriately attains the purposes of the ordinance." Id. at 383.

The validity of prospective incorporation by reference has been questioned in the past in several statements and decisions. See In re Burke (1923) 190 Cal. 326, 328-329 [212 P. 193]; Brock v. Superior Court (1937) 9 Cal.2d 291, 297 [71 P.2d 209]; Palermo v. Stockton Theatre, Inc., (1948) 32 Cal.2d 53, 59-60 [193 P.2d 1]; People v. Kruger (1975) 48 Cal.App.3d Supp. 15, 19 [121 Cal.Rptr. 581]; People v. Williams (1985) 175 Cal.App.3d Supp. 16, 29; 63 Ops.Cal.Atty.Gen. 566 (1980). The statements in Burke, Brock, and Palermo are dicta and therefore not entitled to precedential value. Beking Moving & Storage Co. v. Prudential Ins. Co. (1988) 176 Cal.App.2d 248, 252 [221 Cal.Rptr. 738]. In fact, the statements are dicta relying on other dicta for authority. In Burke, the court expressly reserved the question whether incorporation of future law was valid. 190 Cal. 326 at 328. In Brock, the court cited the Burke opinion and a South Carolina decision to support its dictum. 9 Cal.2d 211, at 297. The Palermo decision cited Brock, Burke and Rancho Santa Anita v. City of Arcadia (1942) 20 Cal.2d 315, 322 [125 P.2d 475]. In Rancho Santa Anita, the court interpreted an ordinance incorporating state law to mean that only the current version of

a state statute and not future versions were incorporated. 20 Cal.2d at 322. The court expressly reserved the question of the validity of future incorporation by reference. 20 Cal.2d at 322. People v. Williams (1985) 175 Cal.App.3d Supp. 16, 24. In addition to lacking precedential value, these statements also lack persuasive value because the statements are made without analysis or explanation of the underlying rationale. Indeed the Kuoler decision disavows the dicta in Burke as not passing on the issue. See Kuoler, supra, 69 Cal.2d at 379-380 n. 6; 64 Ops.Cal.Atty.Gen. at 514 (1981).

In People v. Krueger, the appellate department of the superior court held that the state regulations at issue were invalid because they incorporated by reference future federal regulations setting fishing limits. In California, appellate department decisions are not binding on either the Court of Appeal or the Supreme Court and have been regarded as not controlling even in the appellate department. Worthington v. Unemp. Ins. App. Bd. (1976) 64 Cal.App.3d 384, 389 [134 Cal.Rptr. 867]. The decision in Krueger lacks persuasive value because it relies solely on dicta in Brock without any supporting analysis. The only state authority cited in Brock was Burke which, as discussed above, was impliedly rejected in Kuoler.

In People v. Williams, the court reviewed the validity of state law incorporating federal law setting the maximum speed limit. Williams, supra, 175 Cal.App.3d Supp. at 22-23. As stated above, decisions of the appellate department have limited precedential value. See Worthington, supra, 64 Cal.App.3d at

389. The court in dicta implied that the automatic repeal of the state law based upon the repeal of the federal statute would be an invalid delegation of authority. Williams, supra, 175 Cal.App.3d Supp. at 22. In fact, however, the state law does incorporate a prospective federal repeal. The state law provides that "it shall remain in effect 120 days from the date that the 55-mile-per-hour national maximum speed limit, as specified in . . . the United States Code, is repealed." Id. at 23. Thus, if the Legislature fails to act within the 120-day period, the state law is automatically repealed.

The 1980 opinion from this Office in fact confirms the test enunciated in Eucler. 63 Ops.Cal.Atty.Gen. 566, 571-572. The opinion finds that under the legislative scheme at issue, there are inadequate safeguards to ensure that the Legislature's policy will be carried out. 63 Ops.Cal.Atty.Gen. at 582. The opinion also involved the incorporation of standards adopted by a private entity, a circumstance that perhaps requires greater scrutiny for the adequacy of safeguards than an incorporation of standards adopted by the federal government. See, e.g., Salmon Trollers Marketing Association v. Fullerton (1981) 124 Cal.App.2d 291, 301 [177 Cal.Rptr. 362, 376].

The Legislature's enactment of chapter 5.5 incorporating present and future federal law and regulations satisfies the Eucler test and thus is not an invalid delegation of legislative authority. As stated above, Congress in the Clean Water Act has provided states the opportunity to take over primary responsibility for implementing the provisions of the

Clean Water Act establishing the NPDES permit system to regulate the discharge of pollutants. 33 U.S.C. § 1342(b). States choosing to avail themselves of this opportunity must obtain EPA approval of their program pursuant to the criteria set out by Congress at section 402(b) of the Clean Water Act. These criteria include the requirements that the state has adequate authority to issue permits that "apply and ensure compliance" with federally-promulgated limitations and standards.

The Legislature has made the fundamental policy decision that the interest of the people of the state of California lies in the state's implementation of the NPDES program. The Legislature found that by administering the program in California, the state would "avoid direct regulation by the federal government of persons already subject to regulation under [the Porter-Cologne Act]." § 13370. The Legislature chose to implement this policy decision by incorporating present and future federal law and regulations into state law. The prospective incorporation of federal law and regulations ensures continuing compliance with the criteria for EPA approval of a state program. In fact, the policy of continuing qualification for EPA approval might very well be defeated as a practical matter if an incorporation of federal law and regulations did not provide for future federal law and regulations. See 43 Ops.Cal.Atty.Gen. at 281 (1964).

The Legislature's policy decision to implement the NPDES program is accompanied by adequate safeguards. In fact, the principal safeguard is that Congress and EPA are committed to

the responsible and effective administration of the NPDES program. 33 U.S.C. § 402. The courts have upheld similar delegations to outside agencies when the entity performs a function that is related to the legislative policy and the entity can be expected to perform that function in a reasonable manner. See Kucler, supra, 69 Cal.2d at 382; 43 Ops.Cal.Atty.Gen. 1 (1964); 43 Ops.Cal.Atty.Gen. 275 (1964). It is axiomatic that Congress and EPA perform a function that is related to the State's legislative policy to implement the NPDES program in California. Indeed, the State's policy is to conform to Congress' and EPA's implementation of the NPDES program. § 13370. Also, it is a truism that Congress and EPA can be expected to perform their functions in a reasonable manner. Where a delegation to Congress or a federal agency is at issue, comity would appear to dictate almost automatic recognition that it will reasonably perform its function. The State of California is an inseparable part of the United States of America, Cal. Const., Art. III, Sec. 1, and the Congress of the United States includes senators and representatives from the State of California. Federal agencies are created by statutes enacted by Congress. It may be presumed then that the Legislature can expect the federal government to reasonably perform its function. See Salmon Trollers Marketing Association v. Fullerton, supra, 124 Cal.App.2d at 301.

The presumption that Congress and EPA will act reasonably is bolstered by safeguards built into the NPDES

program that provide ample incentive for Congress and EPA to avoid arbitrary or unreasonable action with respect to the NPDES program. One safeguard is that the requirements of the NPDES program will apply to discharges in the state whether the state or EPA administer the NPDES program. See 33 U.S.C. §§ 1323, 1342, 1365(5). The fact that Congress and EPA will themselves have to enforce requirements provides an incentive to act reasonably. In states that do not have an EPA-approved program, EPA will enforce these requirements directly. 33 U.S.C. § 1342(a). In states such as California that do have an EPA-approved program, EPA enforces these requirements indirectly through its oversight function. See 33 U.S.C. §§ 1342(c) and (d). Another safeguard built into the NPDES program is that Congress and EPA are implementing the NPDES program with full awareness that states with EPA-approved programs will be implementing NPDES requirements. See 33 U.S.C. §§ 1251(b), 1342(b). Congress' and EPA's recognition that the NPDES program is being implemented by the states reduces the likelihood that state incorporation of NPDES requirements could have unanticipated effects.

The Porter-Cologne Act provides additional safeguards. The Legislature authorizes the State Board and Regional Boards to apply effluent standards or limitations that are more stringent than applicable federal limitations and standards where "necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance." § 13377. In addition, if federal limitations and standards are relaxed,

existing waste discharge requirements for point source discharge requirements would remain in effect until they were revised by the Regional Boards. See § 13263(c). Additional safeguards lie in the availability of administrative and judicial review of action by the State and Regional Boards regarding waste discharge requirements. §§ 13263(a), 13300 et seq., and 13320 et seq. The administrative appeals provisions of the Porter-Cologne Act provide that any aggrieved person, including regulated parties and interested citizens, may appeal to the State Board from any action or failure to act by a Regional Board, including action or failure to act pursuant to Chapter 5.5. § 13320(c). Appealable action or inaction includes issuance of waste discharge requirements, issuance of enforcement orders or refusal to take enforcement action. The State Board's decision also is subject to judicial review. § 13330.

An example illustrates these administrative review procedures. A discharger who believes that a Regional Board has improperly applied an EPA regulation may petition the State Board for review. The discharger may contest whether the EPA regulation is within the scope of the incorporation by reference established under the Porter-Cologne Act, whether the Regional Board has properly interpreted the regulation, and, if the Regional Board has gone beyond the minimum requirements of the Clean Water Act, whether the Regional Board's action is reasonably necessary to implement the requirements of state law. See, e.g., Southern California Edison Co. v. State Water Resources Control Board, (1981) 116 Cal.App.3d 751, 756-60. [172

Cal.Rptr. 306, 310]. Similarly, if a Regional Board's action satisfies the minimum requirements of the Clean Water Act, but an environmental group believes that more stringent requirements are necessary to promote the purposes of the Porter-Cologne Act, the environmental group may petition the State Board for review.

The state scheme contains adequate safeguards even though it adopts federal law and regulations automatically. In analyzing the adequacy of safeguards the courts consider safeguards that are inherent in the delegation process, including the process for the exercise of the delegated power. See Kugler, supra, 69 Cal.2d at 381-382; 1 Davis, Admin. Law Treatise (1958) § 2.15. The courts do not insist on an external standard or procedural check to validate the actual incorporation of another entity's determinations. See People ex rel. Younger v. County of El Dorado (1971) 5 Cal.3d 480, 507 [487 P.2d 1193, 1210, 96 Cal.Rptr. 553, 570]. While the courts have upheld delegation schemes in which the Legislature directs the agency to adopt regulations incorporating federal regulations (see Salmon Trollers, supra, 124 Cal.App.3d 291, 301), the intermediate administrative act of adopting federal law by regulation is not a mandatory requirement under Kugler.

In Kugler, the City automatically incorporated the average of the adjoining City and County wages as a minimum wage. Kugler, supra, 69 Cal.2d at 373. While the City reserved its discretion to set a higher wage, it did not reserve its discretion to alter the applicable minimum wage set by the Los Angeles wages. Id. at 373-374. See also, People ex rel. Younger

v. County of El Dorado, supra, 5 Cal.3d at 507 (direct incorporation of rules of external body into criminal statute); City of Downey v. Board of Administrators (1975) 47 Cal.App.3d 621, 629-31 & n.6, [121 Cal.Rptr. 295, 301-02 & n.6]; In re Lasswell (1934) 1 Cal.App.2d 183 [36 P.2d 678]; cf. 43 Ops.Cal.Atty.Gen. 275 (1964) (state regulations may prospectively incorporate federal regulations), 43 Ops.Cal.Atty.Gen. 1 (1964) (same). In People ex rel. Younger, the court upheld a statute prospectively incorporating rules to be adopted by an interstate agency, the Tahoe Regional Planning Agency. People ex rel. Younger, supra, 5 Cal.3d at 507. The state statute, adopted before the interstate agency adopted its first ordinance, provided that: "Violation of any ordinance of the [interstate] agency is a misdemeanor." 1968 Cal. Stats. ch. 998, formerly codified at Cal. Gov't Code § 66801. As such the statute is similar to sections 13385 and 13387, which provide civil and criminal penalties for violation of pretreatment standards, national standards of performance, and other specified requirements established by EPA regulations. The interstate agency's rules were automatically incorporated into a California criminal statute, without the necessity of any action by a state or local agency to adopt that interstate ordinance as a rule of that state or local agency. Cf. In re Lasswell, supra, 1 Cal.App.2d at 183 (upholding misdemeanor statute which automatically incorporated rules to be approved by the federal executive). In this respect, California law is the same as

federal law. See United States v. Shermack (1958) 355 U.S. 286 [78 S.Ct. 291].

In sum, the Legislature's decision embodied in Chapter 5.5 to incorporate prospective as well as current federal law and regulations is not an impermissible delegation of legislative authority. The Legislature has made the fundamental policy decision that California will implement the NPDES program in a manner that complies with the federal criteria and requirements for state NPDES programs. See §§ 13370, 13372, 13377. Ample safeguards exist to ensure that the state's acquiescence to NPDES requirements enacted by Congress and implemented by EPA will not result in an unreasonable or arbitrary water quality control program.

E. Chapter 5.5 Is Not Invalid For Vagueness or Uncertainty.

In Ross v. Locke (1975) 423 U.S. 48, 49-50 [96 S.Ct. 283, 299; 46 L.Ed.2d 185], the United States Supreme Court stated the rule proscribing vagueness or uncertainty:

> "The fair-warning requirement embodied in the Due Process Clause prohibits the State from holding an individual 'criminally responsible for conduct which he could not reasonably understand to be proscribed'... [E]ven trained lawyers may find it necessary to consult legal dictionaries, treatises, and judicial opinions before they may say with any certainty what some statutes may compel or forbid. [Citations omitted]. All the Due Process Clause requires is that the law give sufficient warning that men may conduct themselves so as to avoid that which is forbidden." Ross v. Locke, 423 U.S. 48, 49-50.

All presumptions and intendments favor the validity of a statute, and it will be upheld unless its unconstitutionality clearly, positively and unmistakably appears. In re Dennis M. (1969) 70 Cal.2d 444, 453 [75 Cal.Rptr. 1, 450 P.2d 296]; People

v. Medina (1972) 27 Cal.App.3d 473, 479 [103 Cal.Rptr. 721]; People v. Tufts (1979) 97 Cal.App.3d Supp. 37, 46 [159 Cal.Rptr. 163]; People v. Gonda (1982) 138 Cal.App.3d 744, 780 [188 Cal.Rptr. 295, 296].

The "void for vagueness" doctrine has only limited applicability to civil sanctions. It is not likely to present a problem where regulation of speech or expression, or conditions of government employment are not at issue:

> "Although enactments outside the criminal area have occasionally been subjected to scrutiny on grounds of vagueness -- especially in cases involving the right to practice of a recognized profession...we have normally limited such examination to situations where First Amendment rights have been at stake."

Goldin v. Public Utilities Commission (1979) 23 Cal.3d 638, 659, [592 P.2d 289, 302, 153 Cal.Rptr. 802, 815]. See Cranston v. City of Richmond (1985) 40 Cal.3d 755, 763 [710 P.2d 845, 849, 221 Cal.Rptr. 779, 783] (conditions of government employment).

Where a challenge to a statute does not involve First Amendment freedoms, the statute cannot be challenged as vague in the abstract. The challenge must be based upon the facts of the particular case. Cranston v. City of Richmond, supra, 40 Cal.3d at 763-64. Thus, where the state seeks to impose sanctions for violations of water quality laws, it is not necessary to delineate every conceivable situation where sanctions could be imposed in order to avoid a void for vagueness challenge. All that is required is that there be reasonable notice that the particular conduct at issue in the enforcement action is proscribed. See id.

A statute may prospectively incorporate other statutes or administrative regulations in defining criminal conduct. See Braxton v. Municipal Court (1973) 10 Cal.3d 138, 152, [514 P.2d 697, 705, 109 Cal.Rptr. 897, 905]; People v. Rehman (1967) 253 Cal.App.2d 119, 156 [61 Cal.Rptr. 65, 89], cert. denied 390 U.S. 947, 88 S.Ct. 1033 (1968); United States v. Bryant (6th Cir. 1983) 716 F.2d 1091, 1095, cert. denied 104 S.Ct. 1006 (1984). Insofar as void for vagueness issues are concerned, incorporation of federal statutes and regulations does not present any issues that are fundamentally different than those raised when state statutes and regulations are incorporated. Federal statutes and regulations are as readily available to the regulated public as state statutes and regulations. Whether state or federal law is incorporated into a criminal statute, the test is still whether the law provides sufficient warning as to what is forbidden.

Incorporation by reference of other statutes and regulations ordinarily should not present any vagueness problems. See United States v. Bryant, supra, 716 F.2d at 1095, upholding a federal statute incorporating state fish and game laws. In fact, the courts have used incorporation by reference as a means of avoiding vagueness problems. Even statutes and regulations which do not expressly incorporate by reference have been interpreted to do so, so that the standards set by the incorporated document may be used to provide adequate criteria for enforcement. See Associated Home Builders v. City of Livermore (1976) 18 Cal.3d 582, 596-99, [557 P.2d 473, 481-82, 135 Cal.Rptr. 41, 49-50]; Braxton v. Municipal Court, supra, 10 Cal.3d at 152. Further,

the use of prospective incorporation helps avoid vagueness problems that might arise if a statute incorporated only the laws in effect at the time of its enactment. United States v. Francisco (9th Cir. 1976) 536 F.2d 1293, 1295-96 (construing federal criminal statute which incorporates state laws to incorporate those state laws prospectively).

Civil and criminal penalties are established as part of Chapter 5.5 of the Porter-Cologne Act in sections 13385 and 13387. Penalties may be imposed for the following types of violations:

(1) point source discharges which are not permitted by waste discharge requirements;

(2) knowingly making a false statement to the state board or a regional board, or falsifying or tampering with monitoring devices or methods required to be maintained under the Porter-Cologne Act;

(3) violation of waste discharge requirements or other specified state and regional board orders or prohibitions;

(4) violation of the requirements of Sections 301, 302, 306, or 307 of the Clean Water Act.

§§ 13385, 13387. The violations must be willful or negligent for criminal penalties to be imposed. § 13387. In some cases, criminal penalties may not be imposed unless the violations were made knowingly. See § 13387(b).

With respect to the first two categories of violations listed above, unpermitted discharges and specified reporting and monitoring violations, sections 13385 and 13387 on their face provide more than adequate notice and specification of what conduct is proscribed. Where penalties are imposed for violations of the waste discharge requirements and other orders or prohibitions, those waste discharge requirements or other orders or prohibitions should provide adequate warning and certainty as to what is required.

The statutes' authorization of penalties for violation of "any effluent standard, water quality related effluent standard, national standard of performance, [or] toxicity or pretreatment standard" established under Section 301, 302, 306 or 307 of the Clean Water Act also should not present any vagueness problems. § 13387; see § 13385. As discussed earlier, the express language of the provisions of Chapter 5.5, and the similarity of sections 13385 and 13387 to Section 309 of the Clean Water Act, leave little doubt that they are intended to apply the requirements of the Clean Water Act. See pp. 7-9, supra; see also United States v. Phelps Dodge (D.C. Ariz. 1975) 391 F.Supp. 1181 upholding section 309 of the Clean Water Act against a void for vagueness challenge. Further, construing sections 13385 and 13387 to reference the requirements of the Clean Water Act serves to eliminate any potential ambiguity as to what effluent standards, water quality related effluent standards, national standards of performance or toxicity or pretreatment standards are intended to be applied.

The notice provided by sections 13385 and 13387 is in marked contrast with the notice provided by the provisions of the Fish and Game Code considered in People v. Kruger, supra, 48 Cal.App.3d Supp. 15. There, a state regulation, which incorporated federal regulations, prohibited conduct that was expressly authorized by a provision of the Fish and Game Code. The superior court held that the defendant had no notice that his conduct was criminal. Id. at 20, 121 Cal.Rptr. 584 (alternative holding).3/ By contrast, the existence of penalties for violations of effluent limitations, water quality related effluent limitations, national standards of performance of toxicity or pretreatment standards is expressly set forth in the Porter-Cologne Act itself, in sections 13385 and 13387, not in a

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3. Even as applied to the provisions of the Fish and Game Code before it, People v. Kruger is unpersuasive and internally inconsistent. The court held that federal regulation of the activity involved, fishing between 200 and 1300 miles offshore, is so all-encompassing that any state regulation, even enforcement of the same requirements as those set under federal law, is preempted. 48 Cal.App.3d Supp. at 19. Yet its alternative holding that there was inadequate notice that the defendant's conduct was criminal gave effect to a state statute which was inconsistent with applicable federal regulations. The superior court also failed to consider whether federal law provided adequate notice of the criminal nature of the conduct, independent of the provisions of the California Fish and Game Code. Although the superior court suggests that it is difficult for the regulated public to keep informed of regulations published in the Federal Register, id. at 20, it cannot seriously be contended that the difficulty results in a void for vagueness problem. See Yakus v. United States, 321 U.S. 414, 444, 64 S.Ct. 660, 672 (1944) (constructive notice is given to all persons affected by regulations published in the Federal Register) (dicta). See also id. at 433, 64 S.Ct. at 667 (criminal statute may prospectively incorporate federal regulations without allowing challenge to validity of those regulations as a defense to prosecution).

state board regulation. Moreover, nothing in the Porter-Cologne Act expressly or impliedly permits violation of these standards and limitations. See §§ 13370.5, 13372, 13376, 13385. In many cases, additional notice is provided because compliance with these standards and limitations will also be required pursuant to conditions of waste discharge requirements. See § 13377; 40 C.F.R. §§ 122.41(a), 122.44(b), 122.44(j), 403.8(f).

Independent of sections 13385 and 13387, the federal government may impose criminal penalties for violations of sections 301, 302, 306 and 307 of the Clean Water Act, and for violations of waste discharge requirements issued as part of the state's NPDES program. Clean Water Act section 309(c), 33 U.S.C. § 1319(c). Thus, even if sections 13385 and 13387 were vague or indefinite, they would not be subject to challenge as applied to violations, such as unpermitted discharges and violations of pretreatment standards, for which criminal penalties may also be imposed under section 309 of the Clean Water Act. As the Fifth Circuit reasoned in a decision rejecting a vagueness challenge to a federal statute which prospectively incorporated state criminal laws:

> "[T]he acts performed in violation of [the federal act] are necessarily proscribed by state law. Such violators cannot complain, therefore, of being lulled...into a false sense of security that their behavior stood outside the ambit of criminal prosecution."

United States v. McCoy (5th Cir. 1976) 539 F.2d 1050, 1058.

In sum, the provisions of Chapter 5.5 and State Board

regulations incorporating requirements of the Clean Water Act are not unconstitutionally vague or uncertain.

Cf. 64 Ops.Cal.Atty.Gen. 1 (rejecting similar challenges to state regulation incorporating federal law.)

D. GILDERSLEEVE

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Part III

Environmental Protection Agency

40 CFR Parts 122, 123, 124 and 504
National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Proposed Rule

0207

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 122, 123, 124 and 504

[FRL 3376-8]

National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: Section 405 of the Water Quality Act of 1987 (WQA) added Section 402(p) of the Clean Water Act (CWA) to require the Environmental Protection Agency (EPA) to establish regulations setting forth National Pollutant Discharge Elimination System (NPDES) permit application requirements for: storm water discharges associated with industrial activity; discharges from a municipal separate storm sewer system serving a population of 250,000 or more; and discharges from a municipal separate storm sewer system serving a population of 100,000 or more, but less than 250,000. Today's notice requests comments on proposed permit application requirements for these discharges and for storm water discharges which are designated on a case-by-case basis for a permit for which the Administrator, or State, as the case may be, determines contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

Section 401 of the WQA amended Section 402(1)(2) to provide that NPDES permits shall not be required for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of such operations. Today's notice requests comments on regulations proposed to clarify and implement this provision.

DATES: Comments on this proposed rule must be received on or before March 7, 1989.

Public meetings are scheduled as follows:

(1) January 13, 1989, 9:00 a.m. to 12:00 p.m. to discuss permit application and notification requirements for storm water discharges associated with industrial activity and 1:00 p.m. to 4:00 p.m. to discuss requirements for municipal separate storm sewer systems, in Washington, DC.

(2) January 24, 1989, 9:00 a.m. to 12:00 p.m. to discuss permit application and notification requirements for storm water discharges associated with industrial activity and 1:00 p.m. to 4:00 p.m. to discuss requirements for municipal separate storm sewer systems, in Chicago, IL.

(3) January 26, 1989, 9:00 a.m. to 12:00 p.m. to discuss permit application and notification requirements for storm water discharges associated with industrial activity and 1:00 p.m. to 4:00 p.m. to discuss requirements for municipal separate storm sewer systems, in Dallas, TX.

(4) January 31, 1989, 9:00 a.m. to 12:00 p.m. to discuss permit application and notification requirements for storm water discharges associated with industrial activity and 1:00 p.m. to 4:00 p.m. to discuss requirements for municipal separate storm sewer systems, in Oakland, CA.

(5) February 7, 1989, 9:00 a.m. to 12:00 p.m. to discuss permit application and notification requirements for storm water discharges associated with industrial activity and 1:00 p.m. to 4:00 p.m. to discuss requirements for municipal separate storm sewer systems, in Jacksonville, FL.

(6) February 9, 1989, 9:00 a.m. to 12:00 p.m. to discuss permit application and notification requirements for storm water discharges associated with industrial activity and 1:00 p.m. to 4:00 p.m. to discuss requirements for municipal separate storm sewer systems, in Boston, MA.

The morning and afternoon sessions may be adjourned earlier if there are no remaining comments.

Persons wishing to make oral presentations must restrict them to 15 minutes and are encouraged to have written copies of their complete comments for inclusion in the official record.

ADDRESSES: The public should send an original and two copies of their comments to Tom Seaton, Permits Division (EN-336), Environmental Protection Agency, 401 M Street SW., Washington, DC 20460. The public record is located at EPA Headquarters, NE-208, and is available for viewing from 9:30 a.m. to 4:00 p.m., Monday through Friday, excluding Federal holidays. Appointments may be made by calling Yvonne Marshall at (202)-475-7460. Copies cost $.15/page.

Public meetings will be held at the following addresses:

(1) Washington—Auditorium of the EPA Education Center at U.S. Environmental Protection Agency Headquarters, 401 M St. SW; Washington, DC 20460.

(2) Chicago—Lakeview Conference Room, Southeast Corner, 16th Floor, U.S. Environmental Protection Agency Region V, 230 South Dearborn St., Chicago, IL 60604.

(3) Dallas—Arkansas Room, 12th Floor, U.S. Environmental Protection Agency Region VI, 1445 Ross Ave., Dallas TX 75270.

(4) Oakland—Hyatt at Oakland International, 455 Hegenberger Rd., Oakland, CA 94621.

(5) Jacksonville—Jacksonville Hilton, 14000 Dixie Clipper Drive, Jacksonville Airport, Jacksonville, FL 32218.

(6) Boston—John F. Kennedy Federal Building, Room 2003, U.S. Environmental Protection Agency Region I, Boston, MA 02203.

FOR FURTHER INFORMATION CONTACT: For further information on the proposed rule contact: James Gallup, Kevin Weiss, or Tom Seaton, Office of Water Enforcement and Permits (EN-336), United States Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, (202)-475-8518.

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SUPPLEMENTARY INFORMATION:

I. Background

A. Water Quality Concerns

The 1972 amendments to the Federal Water Pollution Control Act (referred to as the Clean Water Act or CWA), prohibit the discharge of any pollutant to navigable waters from a point source unless the discharge is authorized by a NPDES permit. Efforts to improve water quality under the NPDES program have traditionally focused primarily on reducing pollutants in discharges of industrial process wastewater and municipal sewage. This program emphasis has developed for a number of reasons. At the onset of the program in 1972, many sources of industrial process wastewater and municipal sewage were not adequately controlled, and represented pressing environmental problems. In addition, sewage outfalls and industrial process discharges were easily identified as responsible for poor, often drastically degraded water quality conditions. However, as pollution control measures were initially developed for these discharges, it became evident that more diffuse sources (occurring over a wide area) of water pollution, such as agricultural and urban runoff were also major causes of water quality problems. Some diffuse sources of water pollution, such as agricultural storm water discharges and irrigation return flows, are statutorily exempted from the NPDES program. Controls for other diffuse sources have been slow to develop under the NODES program.

Since enactment of the 1972 amendments to the CWA, considering the rise of economic activity and population, significant progress in cleaning up water pollution has been made, particularly with regard to industrial process wastewater and municipal sewage. Expenditures by EPA, the States, and local governments to construct and upgrade sewage treatment facilities have substantially increased the population serviced by higher levels of treatment. Permitting backlogs for industrial process wastewater discharges have been reduced. Continuing improvements are expected for these discharges as the NPDES program continues to shift to toxic and water quality-based pollution control.

Although assessments of water quality are extremely difficult to perform and verify, several National assessments of water quality are available. For the purpose of these assessments, urban runoff is considered to be a diffuse source or nonpoint source pollution, although legally, most urban runoff is discharged through conveyances such as separate storm sewers or other conveyances which are point sources under the CWA, and are subject to the NPDES program. The "National Water Quality Inventory, 1986 Report to Congress" provides a general assessment of water quality based on biennial reports submitted by the States under Section 305(b) of the CWA. In preparing the Section 305(b) Reports, the States were asked to indicate the fraction of the States' waters that were fully supporting, partly supporting, or not supporting designated uses. The Report indicates that of the rivers, lakes, and estuaries that were assessed by States (approximately one-fifth of stream miles, one-third of lake acres and one-half of esturine waters), roughly 75% are supporting the uses for which they are designated. For waters with use impairments, States were asked to determine impacts due to nonpoint (agricultural and urban runoff and other sources), municipal sewage, industrial (process wastewaters), combined sewer overflows, natural, and other sources, then combine impacts to arrive at estimates of the relative percentage of State waters affected by each source. In this manner, the relative importance of the various sources of pollution causing use impairments was assessed and weighted national averages were calculated. Based on 37 States that provided information of sources of pollution, industrial process wastewaters were cited as the cause of nonsupport for 9% for rivers and streams, 1% lakes, and 8% for estuaries. Municipal sewage was the cause of nonsupport for 17% of rivers and streams, 8% lakes, and 22% estuaries. Nonpoint sources was the cause of nonsupport for 65% of rivers and streams, 76% lakes and 45% estuaries. The Assessment concluded that pollution from diffuse sources such as runoff from agricultural and urban areas is cited by the States as the leading cause of water quality impairment. These sources appear to be increasingly important contributors of use impairment as discharges of industrial process wastewaters and municipal sewage plants come increasingly under

control and intensified data collection efforts provide additional information.

The States conducted a more comprehensive study of diffuse pollution sources under the sponsorship of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) and EPA. The study resulted in the report "America's Clean Water—The States' Nonpoint Source Assessment, 1985" which indicated that 38 States reported urban runoff as a major cause of beneficial use impairment. In addition, 21 States reported construction site runoff as a major cause of use impairment.

To provide a better understanding of the nature of urban runoff from commercial and residential areas, from 1978 through 1983, EPA provided funding and guidance to the Nationwide Urban Runoff Program (NURP). The NURP program included 28 projects across the Nation, conducted separately at the local level but centrally reviewed, coordinated, and guided.

One focus of the NURP program was to characterize the water quality of discharges from separate storm sewers which drain residential, commercial, and light industrial (industrial parks) sites. The majority of samples collected in the study were analyzed for eight conventional pollutants and three metals. Data collected in NURP indicated that on an annual loading basis, suspended solids in discharges from separate storm sewers draining runoff from residential, commercial and light industrial areas are around an order of magnitude or more greater than effluent from sewage treatment plants receiving secondary treatment. In addition, the study indicated that annual loadings of chemical oxygen demand (COD) is comparable in magnitude to effluent from sewage treatment plants receiving secondary treatment. When analyzing annual loadings associated with urban runoff, it is important to recognize that discharges of urban runoff are highly intermittent, and that the short-term loadings associated with individual events will be high and may have shockloading effects on receiving water such as sag in dissolved oxygen levels. NURP data also showed that fecal coliform counts in urban runoff are typically in the tens to hundreds of thousand per 100 ml of runoff during warm weather conditions, although the study suggested that fecal coliform may not be the most appropriate indicator organism for identifying potential health risks in storm water runoff. Although NURP did not evaluate oil and grease, other studies have demonstrated that urban runoff is an extremely important source of oil pollution to receiving waters, with hydrocarbon levels in urban runoff typically being reported at a range of 2 to 10 mg/1. These hydrocarbons tend to accumulate in bottom sediments where they may persist for long periods of time, and exert adverse impacts on benthic organisms.

A portion of the NURP program involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. Seventy-seven priority pollutants were detected in samples of storm water discharges from residential, commercial and light industrial lands taken during the NURP study, including 14 inorganic and 63 organic pollutants. Table A-1 shows the priority pollutants which were detected in at least ten percent of the discharge samples which were sampled for priority pollutants.

Priority Pollutants Detected in at Least 10% of NURP Samples

TABLE A-1

	Frequency of detection (percent)
Metals and inorganics:	
Antimony	13
Arsenic	52
Beryllium	12
Cadmium	48
Chromium	58
Copper	91
Cyanides	23
Lead	94
Nickel	43
Selenium	11
Zinc	94
Pesticides:	
Alpha-hexachlorocyclohexane	20
Alpha-endosulfan	19
Chlordane	17
Lindane	15
Halogenated aliphatics: Methane, dichloro	11
Phenols and cresols:	
Phenol	14
Phenol, pentachloro-	19
Phenol, 4-nitro	10
Phthalate esters: Phthalate, bis(2-ethylhexyl)	22
Polycyclic aromatic hydrocarbons:	
Chrysene	10
Fluoranthene	16
Phenanthrene	12
Pyrene	15

The NURP data also showed a significant number of these samples exceeded various freshwater water quality criteria.

The NURP study provides insight on what can be considered background levels of pollutants for urban runoff, as the study focused primarily on monitoring runoff from residential, commercial and light industrial areas. However, NURP concluded that the quality of urban runoff can be adversely impacted by several sources of pollutants that were not directly evaluated in the study and are generally not reflected in the NURP data, including illicit connections, construction site runoff, industrial site runoff and illegal dumping.

Other studies have shown that many storm sewers contain illicit discharges of non-storm water, and that large amounts of wastes, particularly used oils, are improperly disposed in storm sewers. Removal of these discharges present opportunities for dramatic improvements in the quality of storm water discharges. Storm water discharges from industrial facilities may contain, in addition to illicit connections and improperly disposed wastes, toxics and conventional pollutants when material management practices allow exposure to storm water.

In some municipalities, illicit connections of sanitary, commercial and industrial discharges to storm sewer systems have had a significant impact on the water quality of receiving waters. Although the NURP study did not emphasize identifying illicit connections to storm sewers other than to assure that monitoring sites used in the study were free from sanitary sewage contamination, the study concluded that illicit connections can result in high bacterial counts and dangers to public health. The study also noted that removing such discharges presented opportunities for dramatic improvements in the quality of urban storm water discharges.

Other studies have shown that illicit connections to storm sewers can crate severe, wide-spread contamination problems. For example, the Huron River Pollution Abatement Program inspected 660 businesses, homes and other buildings located in Washtenaw County, Michigan and identified 14% of the buildings as having improper storm drain connections. Illicit discharges were detected at a higher rate of 60% for automobile related businesses, including service stations, automobile dealerships, car washes, body shops and light industrial facilities. While some of the problems discovered in this study were the result of improper plumbing or illegal connections, a majority were approved connections at the time they were built.

Intensive construction activities may result in severe localized impacts on water quality because of high unit loads of pollutants, primarily sediments. Construction sites can also generate other pollutants such as phosphorus and

nitrogen from fertilizer, pesticides, petroleum products, construction chemicals and solid wastes. These materials can be toxic to aquatic organisms and degrade water for drinking and water-contact recreation. Sediment runoff rates from construction sites are typically 10 to 20 times that of agricultural lands, with runoff rates as high as 100 times that of agricultural lands, and typically 1,000 to 2,000 times that of forest lands. Even a small amount of construction may have a significant negative impact on water quality in localized areas. Over a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades.

B. Previous Regulatory Approaches

The appropriate means of regulating storm water point sources within the National Pollutant Discharge Elimination System (NPDES) program has been a matter of serious concern since implementation of the NPDES program. Each attempt to devise a workable program has been the focus of substantial controversy, in view of the large number of storm water sources, the nature of storm water runoff and the realities of program priorities and resources. In 1973, EPA promulgated its first storm water regulations exempting from permit requirements those conveyances carrying storm water runoff uncontaminated by industrial or commercial activity unless the particular storm water discharger had been identified by the NPDES Director as a significant contributor of pollution (38 FR 13530 (May 22, 1973)). The Agency maintained that, while these sources fell within the definition of a point source, they were nonetheless ill-suited to the traditional end-of-pipe, technology-based controls that are the basis of the NPDES program for process discharges and discharges from Publicly-Owned Treatment Works (POTWs). Because of the intermittent, variable and unpredictable nature of storm water discharges, EPA reasoned that the problems caused by storm water discharges were better managed at the local level through nonpoint source controls such as the imposition of specific management practices to prevent the pollutants from entering the runoff. The Agency also justified its decision by noting that issuing individual NPDES permits for the hundreds of thousands of storm water point sources in the United States would create an overwhelming administrative burden and would divert resources away from control of industrial process wastewater and municipal sewage, which at the time, were more pressing and identifiable environmental problems.

In the first in a series of challenges to the storm water regulations, the Natural Resources Defense Council (NRDC) brought suit in the U.S. District Court for the District of Columbia, challenging the Agency's authority to selectively exempt categories of point sources from permit requirements. *NRDC v. Train*, 396 F.Supp. 1393 (D.D.C. 1975), *aff'd. NRDC v. Costle*, 568 F.2d 1369 (D.C. Cir. 1977). The District Court held that EPA could not exempt discharges identified as point sources from regulation under the NPDES permit program. However, in acknowledging the administrative burden placed on the Agency by requiring individual permits, the court recognized EPA's discretion to use certain administrative devices, such as area permits, to help manage its workload. In addition, the court recognized some discretion on EPA's part to define what constitutes a point source.

In response to the District Court's decision in *NRDC v. Train*, EPA issued a rule on March 18, 1976, (41 FR 11307) establishing a comprehensive permitting program for all storm water discharges except for rural runoff uncontaminated by industrial or commercial activity. This rule substantially increased the number of storm water discharges subject to the NPDES program. Permits continued to be required for conveyances carrying contaminated storm water runoff from areas used for industrial or commercial activities, as well as storm water discharges designated by the permit-issuing authority as significant contributors of pollution. These sources were required to submit the then-existing individual permit applications required of industrial and commercial process wastewater dischargers. In addition, the 1976 rule brought into the permitting program separate storm sewers which were defined as "conveyance or system of conveyances . . . located in an urbanized area and primarily operated for the purpose of collecting and conveying storm water runoff." Channelized storm water runoff from rural areas continued to be defined as non-point sources unless designated otherwise by the permitting authority. Individual permit applications were not required for separate storm sewers at that point in time. EPA planned to study such discharges and issue "general" or area permits to such sources as these discharges were expected to be less significant than storm water contaminated by industrial wastes.

On June 7, 1979 and May 19, 1980, EPA published comprehensive revisions to the NPDES regulations (44 FR 32854 (June 7, 1979); 45 FR 33290 (May 19, 1980)). With regard to storm water discharges, these rules essentially retained the March 18, 1976 broad definition of storm water discharges subject to NPDES permit requirements, but applied new application requirements to storm water point sources. Under these regulations the same application information required of all industrial and commercial process wastewater dischargers would be required of all storm water point sources. This meant that the new individual permit application requirements of the 1979/1980 rules applicable to process wastewater discharges would also be required for all storm water discharges. These new requirements included testing under certain circumstances for a substantially greater number of pollutants identified in the 1977 amendments to the Clean Water Act (CWA) which stressed the control of toxic pollutants.

This regulation brought suits in several Court of Appeals and District Courts by a number of major trade associations, several of their member companies, NRDC and Citizens for a Better Environment. The suits challenged many aspects of the NPDES regulations, including the storm water provisions. Eventually all petitions for review were consolidated in the D.C. Circuit Court of Appeals (*NRDC v. EPA*, 673 F.2d 392 (D.C. Cir. 1980)).

After two years of intensive settlement negotiations with representatives of most of the petitioners, the Agency and industry petitioners signed a settlement agreement on July 7, 1982, which addressed a number of issues relating to the NPDES program, including storm water. Under the terms of the agreement, EPA agreed to propose changes to the storm water regulations (47 *FR* 52073 (November 18, 1982)). The proposal reflected the Agency's attempt to balance the environmental concerns associated with such discharges with the practical limitations of individual NPDES permits and the reality of limited resources. Thus, the proposal significantly narrowed the definition of storm water point source and reduced the application requirements. The proposal defined storm water point sources as consisting only of conveyances of storm water contaminated by process wastes, raw materials, toxics, hazardous pollutants or oil and grease.

The proposal also reduced application requirements. Storm water discharges were proposed to be divided into two groups based on their potential for significant pollution problems. Group I sources (expected to pose more significant pollution problems) would continue to be required to submit Application Forms 1 and 2C applicable to industrial and commercial process wastewater dischargers except that effluent testing data would be required only for conventional pollutants. For all other pollutants, the applicant would only have to indicate whether they believed any such pollutants were present or absent and explain why. Application requirements were further reduced for Group II. Essentially, the only information that would be required for Group II sources would consist of basic information to identify the type, number and location of Group II discharges. No effluent testing data was proposed to be required at that time from these sources. The Agency also proposed to extend the deadline for submission of storm water permit applications to six months after promulgation of a final rule.

Finally, as also agreed to in the Settlement Agreement, EPA issued a letter stating that while the proposal was pending, EPA would not take enforcement action against storm water dischargers other than those (1) covered by an existing NPDES permit; (2) subject to effluent limitations guidelines or toxic pollutant standards; or (3) designated as a significant contributor of pollutants. This "non-enforcement policy" did not apply to existing enforcement actions, and did not affect the right of an approved NPDES State or citizens group to bring a suit against a storm water discharger.

EPA's 1982 proposal to address the storm water issue again generated considerable reaction and comment from industrial groups and trade associations. They asserted that the proposal did not go far enough in restricting the definition of storm water point sources. They maintained that most storm water discharges were *de minimis* sources of pollution and thus are not appropriately regulated under the NPDES program. States and environmental groups took the position that the CWA requires permits for storm water discharges regardless of the level of pollutants present in such discharges. They contended that the proposal went too far in narrowing the scope of coverage and questioned whether EPA had a legally sufficient or technically supportable basis for the Group I/Group II designations in the proposal. EPA considered these public comments and published final storm water regulations on September 26, 1984 (49 FR 37998).

The 1984 final rule recognized that there are two fundamental issues regarding the NPDES regulation of storm water: (1) which storm water discharges are point sources and therefore within the NPDES program, and (2) what is the best way to regulate these sources.

On the first issue, the Agency was persuaded by commenters that the 1982 proposal had gone too far in narrowing the scope of coverage. Data available to EPA, such as the National Urban Runoff Program (NURP) study, indicated that there are water quality problems associated with storm water runoff in some situations. Thus, the final rule retained the broad coverage of the 1980 rule in mandating the permitting of all storm water point sources that discharge pollutants into waters of the United States. The September 26, 1984 rule defined a storm water point source as a channelized conveyance of storm water runoff that (1) is located in an urbanized area as defined by the Bureau of Census, or (2) discharges from lands of facilities used for industrial or commercial activities, or (3) is designated by the Director.

To address the second issue of how to regulate these sources administratively, the final rule retained the two-tiered classification described in the November 16, 1982 proposal. Thus, the final rule set forth two categories of storm water point sources with different application requirements for each. Group I storm water point sources were defined as those subject to effluent limitations guidelines, located at an industrial plant or plant associated area, or designated by the Director. All other storm water point sources were classified as Group II. Group I dischargers were required to complete both Form 1 and Form 2C, the NPDES Application Form for industrial and commercial process wastewater discharges, including certain sampling and testing data. The application requirements for Group II were significantly reduced from their existing requirements. Group II sources were required to submit only Form 1 plus a narrative description of the drainage area, receiving water, and any treatment applied to the discharge. Since Group II sources were expected to pose less significant pollution problems generally and therefore be a lower priority for permit issuance, additional information could be collected on these sources at a later date when permits were issued to these sources.

The final rule also revoked the non-enforcement letter issued as part of the Settlement Agreement and a new permit application deadline of April 26, 1985 was established.

These storm water regulations generated considerable controversy (through post-promulgation comment) and, once again, suits were filed. With regard to coverage, it was claimed that the new definitions would subject thousands of discharges to the program for the first time. In fact, the EPA's view, the coverage of storm water point sources under the NPDES program was essentially unchanged by the September 26 rulemaking. The 1984 rules deleted the term "contaminated" and relied instead on geographic criteria. However, this change in nomenclature resulted in the same coverage of discharges.

In post-promulgation comments on the 1984 rule, various industries and trade associations claimed that the April 26 application deadline would be impossible for many dischargers to meet. It was argued that many discharges were located in areas where testing during the winter months would not be feasible. It was also pointed out that the intermittent and unpredictable nature of storm water would result in difficult and time-consuming data gathering, and that six months was not enough time to locate, identify, sample and test thousands of storm water point sources. Many comments expressed the view that requiring full samplying from every single Group I discharger was excessive in terms of providing sufficient data for general permits, the preferred means of regulating these sources. They argued that the Agency would be overwhelmed with an unmanageble amount of data that would only be outdated by the time EPA and the States were able to issue permits. Commenters also objected to the expense of the testing when such data might not be utilized in a timely manner.

The environmental groups maintained that, at a minimum, EPA's decisions as reflected in the final rule were supported by the record and should not be changed without strong justification supported by hard data. They expressed concern that any change or delay would only exacerbate what they perceived as EPA's failure to regulate these sources of pollutants.

Upon consideration of these post-promulgation comments, EPA concluded that it was essential to obtain additional data on storm water discharges to assess their significance as an environmental problem, and to identify the best means of control. However, even though the number of dischargers

required to submit quantitative testing data had been reduced by the 1984 rule, tens of thousands of storm water point sources remained to be identified, tested and analyzed. Despite the improvments made in the 1984 regulation, EPA realized it was appropriate to request comment on whether the collection of data from each individual Group I discharger was necessary and efficient. In addition, EPA realized that new deadlines would need to be established. Thus, in an attempt to balance environmental concerns with administrative and practical feasibility, EPA published proposed changes to the storm water regulations on March 7, 1985 at 50 FR 9362.

II. March 7, 1985, Proposed Rule

A. Discussion

Several changes to the application requirements for Group I sources were proposed in the March 7, 1985 proposal. For industrial facilities, the system proposed in the March 7 notice would rely primarily on voluntary, written commitments from trade associations to submit quantitative data from selected representative Group I sources. In this way, EPA could obtain a manageable quantity of data to allow for the establishment of permitting priorities and the development of general permits, thereby reducing the cost to applicants and the administrative burden on EPA and State resources.

EPA proposed that the requirement that Group I dischargers submit Form 2C (sampling and analysis data of effluent) be eliminated. In lieu thereof, Group I dischargers would submit Form 1 and the narrative already required of Group II, with two additions: Group I applicants would also submit any available existing quantitative data for certain pollutants, and would identify (no sampling required) the presence of pollutants listed in the rule: oil and grease, total organic carbon, chemical oxygen demand, and any pollutant listed in Appendix D of 40 CFR Part 122 that the applicant knew or had reason to believe were present in its storm water discharge. The March 7 notice proposed no changes to the Group II application requirements.

As noted above, in proposing to suspend Form 2C, the Agency was relying in part on commitments from industries and trade associations that they would submit representative quantitative effluent testing data during 1985. In December 1984 and February 1985, EPA held meetings with representatives of several industries and trade associations who had raised concerns with the requirements of the September 26 final rule. At those meetings, a number of industry groups indicated a willingness to provide the Agency with representative data on the storm water discharges of their membership.

To follow up on these assurances, the Agency held a meeting on March 7, 1985, in order to clarify the details of this data-gathering initiative. This meeting was attended by representatives of several dozen industry trade associations, a few individual companies and an environmental group. At this meeting, EPA set forth criteria and minimum standards for the voluntary group data submissions. EPA requested that trade associations make a formal commitment to provide representative data and submit these data to EPA by Septembr 1, 1985. The Agency envisioned that these data would supplement existing data available to it and could provide a basis for establishing permitting priorities and setting permit terms and conditions. EPA held a second meeting on March 22 to further refine and explain the data-gathering process. Twenty-nine commitment letters were ultimately received.

With regard to the application deadline, the March 7 proposal suggested a deadline of December 31, 1985, and requested comments on the possibility of extending the deadline still further for Group II storm water point sources. As discussed in greater detail below, this part of the proposal was addressed in a final rule (50 FR 35200 (August 29, 1985)). The August 29 rule extended the deadline to December 31, 1987 for Group I, and June 30, 1989 for Group II.

The March 7 proposal also requested comments on whether, in the event the Form 2C requirement was retained, the regulations should include discretionary authority for the Director of the Office of Water Enforcement and Permits to waive the quantitative data submission requirement for a class or category of Group I storm water point sources.

B. Reaction of Comments

One hundred and thirty-two comments on the March 7 proposal were received from industries, trade associations, States, cities, Federal agencies and environmental groups. All but two commenters supported EPA's proposal as a manageable and environmentally sound approach to the storm water permitting problem. The two environmental groups commenting on the proposal objected to it on a number of grounds. At a minimum, they favored withdrawal of the proposal and retention of the September 26 requirements.

After evaluating the comments received on the March 7 proposal, assessing the commitments received from trade associations, and re-examining the issues, EPA decided to reopen the comment period on the March 7 notice to provide additional information and issues for public comment.

III. August 12, 1985, Reopener Notice

A. Group Application Option, Process and Procedures

On August 12, 1985 (50 FR 32548), EPA reopened the comment period on the March 7 proposal and requested comments on a group application approach for Group I applicants that essentially would codify the plan for submission of representative data detailed in the March 7, 1985 proposal and discussed at the two public meetings held that same month with representatives of trade associations, individual companies, and an environmental group.

Although EPA had received 29 commitment letters from trade associations (and a few individual companies) that indicated a willingness to voluntarily submit representative storm water data from their memberships, the Agency was concerned that such letters might not provide a sufficient basis for suspending the Application Form 2C requirement for all Group I sources. In EPA's view, the voluntary data submissions would not necessarily justify the elimination of testing requirements for those Group I sources that were either not covered by a trade association submission or chose not to participate in the voluntary data submissions. The 29 commitment letters that the Agency received also indicated widespread confusion about the scope of coverage for the data submissions by the trade associations. In addition, there was confusion about the appropriate pollutants to be sampled and analyzed and then submitted to the Agency as representative of the storm water discharges of the members of the group.

Nevertheless, the Agency still regarded the submission of representative data as the most practical and efficient means of determining appropriate permit terms and conditions, as well as permitting priorities, for the multitude of storm water point source discharges requiring NPDES permits. The August 12 proposal attempted to build upon the efforts expended by both the Agency and those

trade associations that cooperated under the March 7 voluntary approach.

The major element of the August 12 proposal was that all Group I storm water point sources would have to submit either an individual NPDES application (Form 1 and Form 2C) or participate in an approved group application. The group application was an optional alternative to the submission of the usual individual NPDES application, with the normal regulatory provisions governing permit application and issuance still applicable.

Under the proposed group application option, representative data on storm water discharges would be compiled by a trade association or similar representative entity for a subcategory or category of dischargers. The group submission would satisfy the application requirements for any storm water discharger falling within the particular subcategory or category.

The group application was to consist of two parts: Part 1 and Part 2. Part 1 would be a commitment by the trade association or representative entity to submit quantitative data from individual representative facilities within the subcategory or category, as well as a complete description of the group's data collection plans. Part 1 would also characterize the facilities covered under the group application and provide an identification of those individual facilities that would do the actual pollutant sampling and analyses. EPA proposed that those individual facilities submitting quantitative data would have to appropriately represent the subcategory or category covered by the group application. Factors proposed to ensure representativeness were a range of operations, sizes and geographic locations, facilities with and without treatment of their storm water discharges, data from facilities connected to sanitary sewers and from facilities discharging storm water directly to waters of the U.S. The Agency also proposed that the group application contain submissions from 10 percent of the subcategory or category, with a minimum of 10 individual facilities. Any historical data on storm water discharges from facilities within the group application were also to be submitted. Other discharges covered by the group application would not be required to submit individual Forms 1 and 2C.

EPA proposed to accept group applications based upon industrial subcategories as defined in 40 CFR Subchapter N. The Agency felt that the submission of a group application covering a subcategory of dischargers would allow for more effective analysis of any quantitative data received, as well as provide a clearer basis for subsequently developed permit terms and conditions. Submission on the basis of subcategories was also considered appropriate to avoid the "blurring of categories" due to the overlap of trade associations' memberships identified in the 29 voluntary commitment letters. However, the Agency did not preclude the submission of data by categories as long as the criteria for representativeness was met. Comments were requested on the acceptance of group applications based upon subcategories.

The August 12 notice also proposed that Part 1 of a group application would be submitted to the Office of Water Enforcement and Permits (OWEP) at EPA Headquarters in Washington, D.C. no later than 90 days after the publication date of any final rule. The Agency also solicited public comments on whether any group application should be accepted after the 90-day deadline. The Agency stated that it preferred the 90-day deadline be mandatory, such that failure to submit a Part 1 within that time would preclude the group application option for those dischargers within the subcategory or category.

Part 1 applications submitted to OWEP would be reviewed for acceptability based on the proposed representative criteria and in accordance with 40 CFR 122.21(e) (completeness of NPDES permit applications). Comments were solicited on the appropriateness of the proposed representative criteria.

The Agency proposed that a notice would be published in the Federal Register if OWEP determined that a Part 1 application was accepted for a particular subcategory or category of storm water dischargers. If a Part 1 application were unacceptable, OWEP could either deny the group application or request changes to the application and then make a final decision on the acceptability of the group application. Even if a group application were accepted, permitting authorities would retain the right to require an individual permit application from any individual storm water discharger.

Any storm water discharger falling within a subcategory or category for which a group application had been accepted would have the option of being covered under the group application or submitting an individual NPDES permit application. If the discharger chose coverage under the group application, no individual information would be required (unless that discharger was identified as one of the individual facilities submitting quantitative data for the group application). The Agency proposed that in lieu of all sources covered by the group application submitting a Form 1, sources would submit a Notice of Intent (NOI) to the permitting authority if the facility wished to be covered under the general permit for that subcategory or category.

Any Group I source that did not fall within a group application (or desiring not to be covered by the group application) would submit an individual NPDES permit application for their storm water discharges. Individual permit applications would be submitted to the applicable permitting authority (i.e., an EPA Regional Office or an NPDES State), the deadline for submittal of individual applications would be the same as that for Part 2 of the group application, December 31, 1987.

The August 12 proposal explained that Part 2 of the group application would consist of the actual quantitative effluent data from the representative facilities within the covered subcategory or category. Those individual facilities selected to perform sampling and analyses under the group application were to test for:

- Any pollutant limited in an effluent limitations guideline for its subcategory or category;
- Any pollutant listed in the individual facility's NPDES permit for its process wastewater;
- Oil and grease, TOC, COD, pH, BOD; and
- Any information on the discharge required under 40 CFR 122.21 (g)(7)(iii) (A) and (B).

The Agency requested public comments on the suitability of the pollutants to be tested, and their sufficiency to determine accurately the characteristics of storm water discharges.

EPA also proposed that those individual facilities selected to provide quantitative data under the group application would sample all of their storm water outfalls. EPA stated that since the individual facilities' data would be considered representative of the subcategory or category, it was appropriate to require information on all storm water outfalls in order to fully characterize the facilities' discharges.

Further, the August 12 proposal requested comment on the possibility of a waiver from testing certain pollutants for group applicants. 40 CFR 122.21(g)(7)(i)(B) of the existing NPDES regulations provides authority to the permitting authority to waive permit application reporting requirements for certain pollutants if the applicant

demonstrates to the satisfaction of the permitting authority that such information is unnecessary. Comment was also solicited on what data should be furnished to support such a waiver request.

Each individual facility submitting actual quantitative data under Part 2 of the group application would complete an NPDES permit Application Form 1 and form 2C. Both Form 1 and Form 2C would be signed by the individual facilities in accordance with the signatory requirements contained in 40 CFR 122.22.

The trade association or representative entity that submitted Part 1 of the group application would compile the individual Form 1s and Forms 2Cs, and would attach a narrative certifying that the Part 2 submission corresponds to the submission described in Part 1. The Agency requested comments on its proposal that the Part 2 narrative would be signed by an association officer (or comparable individual) responsible for policy or decision making functions and to whom authority to sign documents on behalf of the group applicants had been assigned. All Form 1s and Form 2Cs would be signed by the individual facilities in accordance with the general signatory requirements of 40 CFR 122.22.

Like Part 1 of the group application, Part 2 would be submitted to OWEP for review and used to develop permit issuance priorities and model general permit terms and conditions. The group application option and process comported with the Agency's intent to issue general permits in most instances to cover storm water point sources.

The August 12 proposal explained that the group application option, if promulgated as proposed, would only apply to those facilities in States not approved to administer the NPDES permit program (i.e., where EPA is the permit-issuing authority). Facilities within approved NPDES States must follow existing State regulations. Approved NPDES States, of course, would be free to amend their regulations to adopt the group application option for all storm water dischargers or as an alternative to individual storm water permit applications in certain cases. The Agency requested that States, especially NPDES States, comment on the proposed group application process. In addition, EPA strongly recommended in the proposal that NPDES States without general permit authority approved by EPA seek such authority since the ability to issue general permits provide an effective and efficient means of permitting certain storm water point sources and would allow States to make the best use of the results of the group applications.

B. Classification of Publicly-Owned Separate Storm Sewers

The August 12 reopener notice also requested comments on the Agency's clarification of whether publicly-owned separate storm sewers located in urbanized areas were classified as Group I or Group II storm water point sources. The Agency considered the September 26, 1984 final regulations to be ambiguous on this point, as evidenced by the numerous telephone inquiries received immediately after publication of the final rule addressing this issue. The August 12 proposal stated the Agency's view that municipal storm water sewers designed only to convey storm water runoff (a.k.a., publicly-owned separate storm sewers) are Group I storm water point sources based on the data available to the Agency through the National Urban Runoff Program (NURP) study. The NURP study found that in many instances storm water discharged from publicly-owned separate storm sewers was indeed contaminated with conventional pollutants (e.g., suspended solids and fecal coliform) as well as heavy metals (e.g., lead, copper, zinc, and cadmium). Because of the significance such discharges can have for water quality, the Agency felt that it was appropriate to classify publicly-owned separate storm sewers as Group I sources. The Agency requested comments on whether this clarification/classification was appropriate.

C. Discharges into Publicly-Owned Separate Storm Sewers

Under the September 26, 1984 final rule, dischargers into a publicly-owned separate storm sewer must either be covered by an individual NPDES permit or by a permit issued to the municipality or public entity operating the system. This provision, one of the items clarified under the terms of the NPDES Settlement Agreement (June 1982), which EPA proposed in November 1982, allowed the operator of the outfall discharging directly to waters of the U.S. to decline responsibility for discharges into the system while applying for a permit for the outfall.

The "either/or" nature of the September 26 rule allowed a municipality to decline responsibility for non-municipal storm water discharges into the publicly-owned separate storm sewer system. In this case, all non-municipal dischargers into the municipal system would be responsible for applying for and obtaining individual NPDES permits. This approach might conceivably mean that hundreds of thousands of individual NPDES permit applications would be received duplicating the information contained in the municipal storm water permit application(s).

The catch basins, pipes and outfalls that comprise a publicly-owned separate storm sewer system may be owned by a municipality, a flood control district, or various other public service entities. Under the NPDES regulations, such systems are not considered to be a "publicly-owned treatment works" (POTW) because they do not convey discharges to the POTW. For purposes of the NPDES regulations, separate storm sewers are non-POTW point sources and are subject to regulation in a manner that is analogous to privately-owned treatment systems. Under 40 CFR 122.44(m) (privately-owned treatment works), the Agency can require permits for any, some, or all of the contributors to the system.

In the August 12 notice, EPA solicited public comment on the appropriateness of relying on the issuance of permits to the municipality or public entity responsible for the separate storm sewer system, thereby relieving all dischargers of storm water into the system of the need to apply for and obtain individual NPDES permits. The permitting authority would retain the authority to designate operators of such contributing storm water discharges as co-permittees or to require individual permits.

EPA proposed that the municipality or other public entity responsible for the separate storm sewer would be required to identify all those Group I discharges into the system but would not be required to identify those Group II discharges into the system. The Agency stated that this was the most feasible means of covering the hundreds of thousands of discharges into publicly-owned storm water collection systems. Since the public entity (e.g., a municipality) is currently required to obtain an NPDES permit for the separate storm sewer system's individual outfalls, a "single permit" approach would relieve the paperwork burden on both potential permittees and permitting authorities. The Agency also felt that such an approach was likely to be the most environmentally sound, since the ability of permitting authorities to issue quality permits and address the cumulative impacts of storm water discharges would be enhanced.

IV. Water Quality Act of 1987

At the same time that EPA was evaluating the appropriate means to regulate storm water discharges.

Congress was examining the storm water issue in the course of the reauthorization of the Clean Water Act. Both the Senate and the House of Representatives passed bills to amend the Clean Water Act in the summer of 1985 that contained provisions addressing the storm water issue. The separate House and Senate bills were reconciled in Conference Committee in 1986, and on February 4, 1987, Congress passed the Water Quality Act of 1987 (WQA).

The WQA contains three provisions which specifically address storm water discharges. The central provision governing storm water discharges is section 405 which adds section 402(p) to the CWA. Section 402(p)(1) provides that EPA or NPDES States cannot require a permit for certain storm water discharges until October 1, 1992 except for storm water discharges exempted under section 402(p)(2). Section 402(p)(2) lists five types of storm water discharges which are required to obtain a permit prior to October 1, 1992:

(A) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(B) A discharge associated with industrial activity;

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more;

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more, but less than 250,000; or

(E) A discharge for which the Administrator or the State, as the case may be, determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.

Section 402(p)(2) requires EPA to promulgate final regulations governing storm water permit application requirements for storm water discharges associated with industrial activity and discharges from large municipal separate storm sewer systems (systems serving a population of 250,000 or more), by "no later than two years" after the date of enactment (i.e., no later than February 4, 1989). The WQA also requires EPA to promulgate financial regulations governing storm water permit application requirements for discharges from medium municipal separate storm sewer systems (systems serving a population of 100,000 or more but less than 250,000) by "no later than four years" after enactment (i.e., no later than February 4, 1991).

In addition, Section 402(p)(4) provides that permit applications for storm water discharges associated with industrial activity and discharges from large municipal separate storm sewer systems "shall be filed no later than three years" after the date of enactment of the WQA (i.e., no later than February 4, 1990). Permit applications for discharges from medium municipal systems must be filed "no later than five years" after enactment (i.e., no later than February 4, 1992).

NPDES permits for all other storm water discharges cannot be required until October 1, 1992, unless a permit for the discharge was issued prior to the date of enactment of the WQA (i.e., February 4, 1987), or the discharge is determined to be a significant contributor of pollutants to waters of the United States or is contributing to a violation of water quality standards.

The WQA clarified and amended the requirements for permits for storm water discharges in the new CWA section 402(p)(3). The Act clarified that permits for discharges associated with industrial activity must meet all of the applicable provisions of section 402 and section 301 including technology and water quality based standards. However, the new Act makes significant changes to the permit standards for discharges from municipal storm sewers. Section 402(p)(3)(B) provides that permits for such discharges:

(i) May be issued on a system- or jurisdiction-wide basis;

(ii) Shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and

(iii) Shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Director determines appropriate for the control of such pollutants.

These changes, including the standard of maximum extent practicable (MEP), are discussed in more detail later in today's notice.

The EPA, in consultation with the States, is required to conduct two studies on storm water discharges that are in the class of discharges for which EPA and NPDES States cannot require permits prior to October 1, 1992. The first study will identify those storm water discharges or classes of storm water discharges for which permits are not required prior to October 1, 1992 and determine, to the maximum extent practicable, the nature and extent of pollutants in such discharges. The second study is for the purpose of establishing procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality. Based on the two studies, the EPA in consultation with State and local officials, is required to issue regulations by no later than October 1, 1992 which designate additional storm water discharges to be regulated to protect water quality and establish a comprehensive program to regulate such designated sources. This program must, at a minimum, (A) establish priorities, (B) establish requirements for State storm water management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

Section 401 of the WQA amends section 402(l)(2) of the CWA to provide that the EPA shall not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities if the storm water discharge is not contaminated by contact with, or does not come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of such operations.

Section 503 of the WQA amends section 502(14) of the CWA to exclude agricultural storm water discharges from the definition of point source.

V. Remand of 1984 Regulations

On December 4, 1987, the United States Court of Appeals for the District of Columbia Circuit vacated 40 CFR 122.26 (as promulgated on September 26, 1984), and remanded the regulations to EPA for further rulemaking (*NRDC v. EPA*, No. 80-1607). EPA had requested the remand because of significant changes made by the storm water provisions of the WQA. The effect of the decision was to invalidate the storm water discharge regulations then found at § 122.26.

At the time of remand, § 122.26 set forth, among other things, the definitions for "storm water point source", "Group I storm water discharge", and "Group II storm water discharge" and criteria for designating a conveyance or system of conveyances as a storm water point source on a case-by-case basis.

On February 12, 1988 (53 FR 4157), EPA published a notice which deleted § 122.26 pursuant to the Court of Appeals' remand. The February 12, 1988, notice also deleted the deadlines for submittal of Group I and Group II storm water discharge permit applications set forth in § 122.21(c)(2). Section 122.21(c)(2) provided that permit applications must be submitted by

December 31, 1987, for Group I storm water discharges and June 30, 1989, for Group II storm water discharges. The section also required that any discharge that is designated on a case-by-case basis pursuant to § 122.26 must submit a storm water discharge permit application within 6 months of notification.

Storm water discharges which have been issued an NPDES permit prior to February 4, 1987, were not affected by the Court remand or the February 12, 1988, rule. (See section 402(p)(2)(A) of the CWA.) Similarly, the remand and the rulemaking did not affect the authority of EPA or an NPDES State to require a permit for any storm water discharge (except an agricultural storm water discharge) designated under section 402(p)(2)(E) of the CWA. The notice clarified that such designated discharges meet the regulatory definition of point source found at 40 CFR 122.2 and that EPA or an NPDES State can rely on the statutory authority and require the filing of an application (Form 1 and Form 2C) for an NPDES permit with respect to such discharges, on a case-by-case basis.

VI. Codification Rule

In the near future, EPA intends to publish a final rule which will codify numerous provisions of the WQA into EPA regulations. The codification rule will include several provisions dealing with storm water discharges. The codification rule will promulgate the language found at sections 402(p) (1) and (2) of the amended Clean Water Act at 40 CFR 122.26(a)(1). In addition, the codification rule will promulgate Section 503 of the WQA which exempted agricultural storm water discharges from the definition of point source at 40 CFR 122.2. Finally, EPA intends to codify Section 401 of the WQA addressing uncontaminated storm water discharges from mining or oil and gas operations at 40 CFR 122.26(a)(2).

In the codification notice, EPA intends to codify the statutory authority of section 402(p)(2)(E) of the CWA for the Administrator or the State, as the case may be, to designate storm water discharges for a permit on a case-by-case basis at 40 CFR 122.26(a)(1)(v). The provision authorizes such a designation if the Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. The case-by-case designation authority can be used to require a designated storm water discharge associated with industrial activity or a discharge from a municipal separate storm water system serving a population of 100,000 or more to obtain a permit prior to the time frame proposed in today's notice for the particular class of storm water discharges in question. In addition, the designation authority applies to storm water discharges that are not otherwise required to obtain a permit prior to October 1, 1992, under section 402(p)(1), but that are contributing to a violation of a water quality standard or are a significant contributor of pollutants to waters of the United States.

In determining that a storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States for the purpose of a designation under section 402(p)(2)(E), the legislative history for the provision provides that "EPA or the State should use any available water quality or sampling data to determine whether the latter two criteria [contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States] are met, and should require additional sampling as necessary to determine whether or not these criteria are met". Conference Report, *Cong. Rec.* S16443 (daily ed. October 18, 1986). In accordance with this legislative history, EPA intends to require storm water dischargers whose discharges are being considered for designation to submit permit applications in accordance with the requirements of 40 CFR 122.21 to be used to aid in the determination of whether the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. The agency will consider a number of factors when determining whether a storm water discharge is a significant contributor of pollution to the waters of the United States. These factors include: the location of the discharge with respect to waters of the United States; the size of the discharge; the quantity and nature of the pollutants reaching waters of the United States; and any other relevant factors. Today's notice proposes to incorporate these factors at 40 CFR 122.26(a)(1)(v).

Today's notice proposes to modify the permit application requirements for certain storm water discharges, including discharges designated on a case-by-case basis. Until these requirements are promulgated, operators of storm water discharges considered for designation must submit permit applications in accordance with the requirements of 40 CFR 122.21 (Form 1 and Form 2C). The exemption from certain application requirements given to Group II storm water discharges does not apply to facilities designated on a case-by-case basis. The Group II classification, which was remanded by the Court of Appeals in its December 4, 1987, order, was never intended to apply to storm water discharges which were designated on a case-by-case basis.

Until today's notice is promulgated and becomes effective, case-by-case designations, where appropriate, will be modeled after existing regulatory procedures found at 40 CFR 124.52 for NPDES permits required on a case-by-case basis. The procedures at 124.52 require that whenever the Regional Administrator decides that an individual permit is required, the Regional Administrator shall notify the discharger in writing of the decision that the discharge requires a permit and the reasons for the decision. In addition, an application form is to be sent with the notice. In implementing § 402(p)(2)(E), the Regional Administrator generally will notify the discharger in writing that the discharge is being considered for designation, and the reasons for the consideration. An application form will be sent with the notice. Deadlines for submitting permit applications will also be established on a case-by-case basis. Section 124.52 provides a 60 day period from the date of notice for submitting a permit application. Although this 60 day period may be appropriate for many designated storm water discharges, site specific factors may dictate that the Administrator or NPDES State provide additional time for submitting a permit application. For example, due to the complexities associated with designation of a municipal separate storm sewer system for a system- or jurisdiction-wide permit, the Administrator or NPDES State may provide the applicant with additional time to submit relevant information or may require that information be submitted in several phases.

VII. Today's Notice

Because of the long and complex history of the storm water permit application rulemaking and the subsequent enactment of the WQA, significant changes from the March 7, 1985 proposal and August 12, 1985 reopener have been made in today's notice. Where appropriate, EPA addresses major comments to these earlier proposals in the presentation of today's notice. However, to avoid potential confusion between current and past proposals, EPA requests that comments submitted on today's notice focus on the regulatory proposal

presented in today's notice. EPA intends to promulgate final regulations based on a consideration of comments received on today's notice and will not necessarily address comments received during previous proposals in the final rule. In printing the proposed regulatory changes at the end of today's notice, where existing regulations are modified, this notice may contain the existing regulatory language along with proposed changes. The existing regulatory language that is printed without proposed change is printed for the purpose of clarifying associated proposed changes for commenters. EPA does not request comment on existing regulatory language that is printed without proposed change.

A. Overview

Section 405 of the WQA alters the regulatory approach to control pollutants in storm water discharges by adopting a phased and tiered approach. The new provision phases in permit application requirements, permit issuance deadlines and compliance with permit conditions for different categories of storm water discharges. The approach is tiered in that storm water discharges associated with industrial activity must comply with sections 301 and 402 of the CWA (requiring control of the discharge of pollutants that utilize the Best Available Technology (BAT)), but permits for discharges from municipal separate storm sewer systems must require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP) and must include a requirement to effectively prohibit non-storm water discharges into the storm sewers. Furthermore, EPA in consultation with State and local officials must develop a comprehensive program to designate and regulate other storm water discharges to protect water quality.

Section 402(p)(1) of the amended CWA provides that EPA or NPDES States shall not require, with certain exceptions, permits for storm water discharge prior to October 1, 1992. During this grace period, EPA has three tasks.

EPA's first task is to identify storm water discharges which should be designated for immediate permitting because they contribute to a water quality standard violation or are significant contributors of pollutants to waters of the United States. Today's notice proposes to clarify the authority of the Administrator or NPDES State to require a permit for a storm water discharge prior to October 1, 1992, applies to any storm water discharge which the Administrator or NPDES State determines contributes to a water quality violation or is a significant contributor of pollutants to waters of the United States, unless the discharge is explicitly excluded from the NPEDES program (e.g., agricultural storm water discharges).

The second task is to begin to implement the storm water program by establishing permit application requirements and issuing permits for classes of storm water discharge that were specifically identified in section 402(p)(2). These priority storm water discharges include storm water discharges associated with industrial activity and discharges from a municipal separate storm sewer serving a population of 100,000 or more.

During this time, EPA will evaluate appropriate modifications for permit application requirements for storm water discharges which are designated for immediate permitting because they contribute to a water quality violation or are significant contributors of pollutants to waters of the United States.

EPA's third task under section 402(p) of the CWA is to consult with the States and conduct studies for the purpose of identifying storm water dischargers or classes of discharges for which permits are temporarily not required; determining the nature and extent of pollutants in such discharges; and establishing procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality. EPA is then required to issue regulations on or before October 1, 1992 which identify storm water discharges for which permits will be required to protect water quality. Identified storm water discharges are to be regulated under the comprehensive program which, at a minimum, establishes priorities, requirements for State storm water management programs, and expeditious deadlines.

Congress did not intend to limit the scope of the studies authorized by Section 402(p)(5) to the definition of storm water point source that was in EPA's regulations at 40 CFR 122.26(b)(1) on the date of enactment of the WQA. For example, the legislative history accompanying the provision states that after October 1, 1992, "*all* municipal separate storm sewers are subject to the requirements of sections 301 and 402." (emphasis added) (Vol. 132 Cong. Rec. H10576 (daily ed. October 15, 1986) Conference Report). Under the Agency's 1984 regulations, municipal separate storm sewers located outside urban areas were not storm water point sources unless designated on a case-by-case basis. However, Congress clearly did not intend to exclude these discharges from the section 402(p)(5) studies.

Today's notice does not propose to revive the remanded regulatory definition of storm water point source at this time. This action is taken to minimize the confusion between the regulatory program for storm water that was in place before the WQA was enacted and the new program that will be developed in accordance with the manadates of Section 405 of the WQA. In accordance with Congressional intend, EPA will continue to define the scope of the comprehensive program to regulate storm water discharges in rulemaking authorized under section 402(p)(6) of the CWA after completing the CWA section 402(p)(5) studies.

Until the scope of the storm water regulatory program is more completely defined, EPA will define which storm water discharges are required, in accordance with section 402(p)(2), to obtain permits. EPA will rely on the regulatory definition of "point source" at 40 CFR 122.2 to provide authority for requiring permits for those storm water discharges which are to be permitted prior to the completion of the rulemaking authorized under section 402(p)(6).

In addition, EPA does not propose to revive the remanded regulatory definitions of Group I and Group II storm water discharges. EPA is proposing and requesting comments on technical amendments to existing NPDES regulations to remove references to these terms.

B. Definition of Storm Water

Today's notice proposes to clarify the definition of storm water at 122.26(b)(10) as storm water runoff, surface runoff, street wash waters related to street cleaning or maintenance, infiltration (other than infiltration contaminated by seepage from sanitary sewers or by other discharges) and drainage related to storm events or snow melt. This proposed definition is consistent with the regulatory definition of "storm sewer" at 40 CFR 35.2005(b)(47) which is used in the context of grants for construction of treatment works. This definition aids in distinguishing separate storm sewer conveyances from sanitary sewers, combined sewers, process discharges and non-storm water non-process discharges.

In the WQA and other places, the term "storm water" is presented as a single word. The Agency, in preparing this notice, has attempted to consistently use the Government

Printing Office's approved form where storm water appears as two words. The Agency requests comment on the form (one-word or two) of the term perferred by the public.

C. Responsibility for Storm Water Discharges Associated with Industrial Activity into Municipal Separate Storm Sewers

1. Prior Approaches

In past rulemakings concerning permit applications and applicability for storm water discharges, EPA has, within the framework of the CWA, attempted to balance the need for addressing the environmental risk associated with storm water discharges with the administrative burden associated with processing permits and permit applications for the large number of storm water discharges. The regulatory term "storm water point source" was used to define which storm water discharges were subject to the NPDES program. However, under previous regulatory schemes, not all storm water point sources were required to submit an individual permit application. Under regulations promulgated under the September 26, 1984 final rule, one permit could be issued covering all storm water point sources that are discharged to a storm water conveyance system. Under this approach, all "storm water point sources" that discharge into a storm water conveyance system had to be covered either by an individual permit or a permit issued to an operator of the portion of conveyance which discharges directly to waters of the United States. Any permit written to cover more than one operator would have been required to identify the limitations applicable to each discharge. This "either/or" approach in the September 26, 1984 rule allowed the operator of the portion of the conveyance which discharges directly to waters of the United States to decline to assume responsibility for certain discharges into its separate storm sewer system. In that situation, operators of individual storm water point source discharges into the conveyance would have been responsible to file permit applications for their discharges.

In the August 12, 1985 (50 *FR* 32552) reopener notice, EPA requested comments on a proposal that would primarily hold municipalities responsible for obtaining a permit that would cover all the storm water point sources that discharged to a municipal storm water system. Under this approach, all operators of storm water point source discharges into a municipal separate storm sewer were to be relieved of the responsibility of having to obtain individual permits, unless the permitting authority designated such dischargers as a co-permittee with the municipality or required an individual permit from the operator of the discharge into the system. Under the August 12, 1985 proposal, the municipality responsible for the system would be required to identify Group I discharges into the municipal system. Sampling requirements for municipal separate storm sewers that received discharges from non-municipal Group I discharges were not specifically addressed in the August 12, 1985 notice, although the regulations in effect at that time required that applications for discharges from storm sewer systems contain any information regarding discharges into the system that would be required if separate applications were submitted for those discharges.

Fifty-seven (57) commenters addressed the proposal in the August 12 notice that would place the responsibility for applying for and obtaining an NPDES permit for all storm water discharges into the system upon the municipality or public service entity. Twenty-six (26) of the 57 felt that such an approach would relieve many individual operators of discharges from having to obtain permits, which would thereby reduce paperwork, but not reduce EPA's ability to address pollution problems. One municipality felt that under this approach, critical pollution sources could be identified and permitted individually if necessary. One industry representative claimed that individual municipalities are in the best position to determine if individual permits are needed for specific storm water discharges into the municipal system, while another industry representative argued that industrial dischargers into a municipal system should not be singled out for individual permits over discharges from shopping centers, parking lots, etc., which may have significant water quality impacts.

Twenty-one (21) commenters of the 47 were opposed to municipalities being responsible for obtaining a permit covering all discharges of storm water into the system. Eight (8) commenters, a county public service agency, 6 municipalities, and a land development company, cited the substantial costs involved in making a municipality responsible for all storm water discharges into its system, both in terms of identifying all discharges into the system and sampling and analytical costs. Three commenters (a county agency, a municipality, and a State) pointed out that a municipality may lack the authority to regulate non-municipal storm water point source discharges into its system, as well as nonpoint source runoff from many sources that drain into the municipal storm water sewer system. Two municipalities felt that industrial storm water discharges should be controlled by EPA, not the municipalities, while several other municipalities stated that the pollution generator may not be held responsible under the proposed approach.

Several municipalities argued that it is impossible to monitor all storm water inlets to the municipal system since municipalities, stated at least one municipal commenter, do not maintain records identifying dischargers into the system. Another municipality claimed that municipalities have already implemented activities to control storm water discharges (e.g., controls on construction site runoff, spill prevention and abatement ordinances, etc.) in order to improve water quality.

Several commenters objected to the requirement that municipalities identify all industrial storm water discharges into the municipal system since it shifts the burden of the regulatory requirements from the individual facility discharging to the municipal system to the municipality. They argued that there is no benefit to the municipalities under the proposed approach, and that the proposed approach was very complex and counterproductive. A county flood control district commented that a municipal storm water system does not create water pollution or change its ultimate destination. One municipality felt that any municipal group application should not require data on discharges into the municipal system, since that data should be similar to data from direct discharges.

An individual company felt that municipalities should not have the option of excluding non-municipal storm water discharges into the system in the permit covering the system, while on the other hand, two municipalities argued strongly that municipalities should be able to decline to assume responsibility for non-municipal discharges into the municipal system.

2. Today's Proposal Regarding Storm Water Discharges Associated with Industrial Activity into Large and Medium Municipal Separate Storm Sewer Systems

Under the scheme of section 405 of the WQA, operators of large municipal separate storm sewer systems (systems serving a population of 250,000 or more) and medium municipal separate storm sewer systems (systems serving a

population of 100,000 or more but less than 250,000), are required to submit permit applications for discharges from these systems prior to October 1, 1992. However, generally, permits are not required from operators of many storm water discharges (such as storm water discharges from certain commercial and residential facilities) into these large or medium municipal separate storm sewer systems prior to October 1, 1992, unless the Administrator or NPDES State determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States. Thus, in enacting the WQA, Congress endorsed a regulatory scheme where municipalities responsible for obtaining NPDES permits for discharges from large and medium municipal separate storm sewer systems are clearly responsible for many storm water discharges which discharge into these municipal systems.

In addition to receiving storm water discharges that are generally not required to obtain a permit prior to October 1, 1992 under section 402(p)(1), large and medium municipal separate storm sewer systems receive storm water discharges that are also excluded from section 402(p)(1), including: storm water discharges which have been issued a permit prior to the enactment of the WQA [section 402(p)(2)(A)]; storm water discharges associated with industrial activity [section 402(p)(2)(B)]; and storm water discharges which the Administrator or NPDES State determines contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (section 402(p)(2)(E)).

Today's notice requests comments on whether EPA should hold operators of large and medium municipal separate storm sewer systems primarily responsible for obtaining system-wide or area permits which cover storm water discharges associated with industrial activity which discharge into the municipal system, or if non-municipal operators of storm water discharges associated with industrial activity which discharge to large or medium municipal systems should be required to submit individual permit applications (or participate in a group application) for such discharges.

After a consideration of comments on the August 12, 1985 reopener, and reevaluation of the issue in light of the WQA, EPA still favors holding municipal operators of large or medium municipal storm sewer systems primarily responsible for applying for and obtaining an NPDES permit covering system discharges as well as storm water discharges to the system. Holding municipalities primarily responsible for obtaining a permit to cover storm water discharges associated with industrial activity which discharge into the municipal system would reduce the tremendous administrative burden associated with preparing and processing the thousands of permit applications that would be necessary if each storm water discharge associated with industrial activity that goes into a large or medium municipal separate storm sewer system had to apply individually (or as part of a group application). The Agency believes this approach is the most practical option available and holds the most promise for long-term environmental improvements.

The permit application requirements that EPA is proposing for large and medium municipal separate storm sewer systems, discussed in more detail later in today's notice, are intended to begin the development of this approach. EPA is proposing that municipal permit applications include the location of facilities which discharge storm water associated with industrial activity to the municipal system (see § VII.G.6 of the preamble). In addition, EPA is proposing that municipal applicants provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system (see § VII.G.6.c of the preamble). The proposed management program will identify priorities and procedures for inspecting industrial facilities and for establishing and implementing measures to reduce the discharge of pollutants in such discharges. The municipal application will be used by permit writers to develop management programs which will be incorporated as permit conditions in the permit issued for discharges from the municipal separate storm sewer system.

Controls developed in management plans for municipal system permits may take a variety of forms. Where necessary, municipal permittees can pursue local remedies to develop measures to reduce pollutants or halt troublesome discharges into the large or medium municipal storm sewer system. This approach is consistent with several comments to the August 12, 1985 proposal, which stated that many local entities have already implemented ordinances or laws that regulate the discharge of pollutants, while other municipalities have developed a variety of techniques to control pollutants in storm water. Alternatively, where appropriate, municipal permittees may develop end-of-pipe controls such as wet detention ponds or diverting flow to Publicly Owned Treatment Works. Finally, municipal applicants will be provided with an opportunity to bring individual storm water discharges which cannot be adequately controlled by the municipal permittees to the attention of the permitting authority who then could, at the Director's discretion, require an individual permit for the storm water discharges into the public system or require such dischargers to be co-permittees to the municipal system permit by establishing conditions applicable to such users.

Some municipal agencies with certain storm water responsibilities have commented on previous rulemakings that they lack legal authority to regulate discharges into their system. The Agency's initial analysis of legal authorities such as ordinances and controls on construction site runoff indicate that such local municipalities have adequate legal authority either to control storm water flows or control pollutant discharges to municipal systems, to the degree necessary to implement the programs envisioned in today's proposal. The Agency requests comments on the legal authority of municipal permittees, including detailed legal analysis of the legal authority of municipalities which contend that they are precluded from exercising adequate authority to implement such controls due to lack of authorization from the State in which the municipality is located. The Agency requests comments on the circumstances when it is not appropriate to hold a municipality responsible for discharges to municipal systems and under what circumstances it is feasible to rely on treatment of storm water discharges in lieu of controls which require legal authority to implement.

Section 402(p)(3) of the CWA establishes different standards for permits for storm water discharges associated with industrial activity and discharges from municipal separate storm sewers. Where individual permits are required for storm water discharges associated with industrial activity, these permits are required to meet all the applicable provisions of sections 402 and 301 of the Clean Water Act, including technology-based and, where necessary, water-quality based requirements. Permits for discharges from municipal separate storm sewers are required to adopt controls to reduce

the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. EPA anticipates that the application of maximum extent practicable controls developed in management programs in municipal system permits will generally result in similar levels of control on industrial discharges to the municipal separate storm sewer system as conditions placed in individual NPDES permits for storm water discharges associated with industrial activity.

In comparing the control mechanisms of individual permits and management plans developed in municipal separate storm sewer permits, it is important to note that currently, EPA has established effluent guideline limitations for storm water discharges for eight subcategories of industrial dischargers (Cement Manufacturing (40 CFR Part 411), Feedlots (40 CFR Part 412), Fertilizer Manufacturing (40 CFR Part 418), Petroleum Refining (40 CFR Part 419), Phosphate Manufacturing (40 CFR Part 422), Steam Electric (40 CFR Part 423), Coal Mining (40 CFR Part 434), and Ore Mining and Dressing (40 CFR Part 440)). Most of the existing facilities in these subcategories already have individual permits for their storm water discharges. Under today's proposal, facilities with existing NPDES permits for storm water discharges to a municipal storm sewer will generally be required to maintain these permits. EPA requests comments on whether storm water discharges associated with industrial activity from industries with promulgated effluent guidelines which discharge to municipal storm sewers should be required to obtain individual permits.

In order to aid municipalities in developing and implementing management programs, EPA is proposing that operators of storm water discharges associated with industrial activity which discharge to a large or medium municipal separate storm sewer system are not required to submit individual permit applications (or participate in a group application) provided:

- The operator of such a storm water discharge submits to the municipality responsible for the municipal separate storm sewer receiving the discharge the name of facility; the location of the discharge; and a certification that the discharge has been tested for the presence of non-storm water discharges;
- Such discharge is composed entirely of storm water;
- Such discharge is in compliance with applicable conditions of the NPDES permit issued for the discharge from the municipal separate storm sewer which receives the storm water discharge associated with industrial activity provided the discharger has been notified of such conditions; and
- Such discharge does not contain a hazardous substance in excess of reporting quantities established at 40 CFR 117.3 or 40 CFR 302.4.

The Agency specifically requests comments on requiring municipal permittees to develop controls to reduce pollutants in storm water discharges associated with industrial activity into municipal systems as an alternative to requiring individual permits (or issuing general permits) for storm water discharges associated with industrial activity.

3. Today's Proposal Regarding Storm Water Discharges Associated with Industrial Activity from Federal Facilities into Large and Medium Municipal Separate Storm Sewer Systems

EPA recognizes that storm water discharges associated with industrial activity from Federal facilities to municipal separate storm sewer systems may pose unique legal and administrative situations. In today's notice, the Agency favors proposing regulations which address storm water discharges from Federal facilities to municipal systems in the same manner as privately-owned storm water discharges to municipal storm sewers. That is, storm water discharges associated with industrial activity from Federal facilities to municipal storm sewers are generally covered by the permit issued for the municipal storm sewer system discharges and are not required to obtain an individual NPDES permit unless the Director of the NPDES program designates the discharge as a co-permittee with the municipality or requires an individual permit. However, the Agency specifically requests comments on applying this approach to Federal facilities, and whether Federal facilities which discharge storm water associated with industrial activity into municipal systems should be required to submit individual applications (or, where appropriate, participate in a group application), and obtain individual permits for such discharges.

4. Today's Proposal Regarding Storm Water Discharges Associated with Industrial Activity into Municipal Separate Storm Sewer Systems Serving a Population of Less than 100,000

Sections 402(p) (1) and (2) of the CWA provides that discharges from municipal separate storm sewer systems serving a population of less than 100,000 are not required to obtain a permit prior to October 1, 1992, unless designated on a case-by-case basis under section 402(p)(2)(E). Such discharges are to be included in the set of storm water discharges to be studied under section 402(p)(5) of the CWA and are subject to regulation under section 402(p)(6) of the Act. However, NPDES permits could be required under section 402(p)(2)(B) for storm water discharges associated with industrial activity which discharge into these municipal systems prior to October 1, 1992. EPA requests comments on whether industrial facilities discharging storm water to these systems should not be required to obtain a permit until after the completion of the studies mandated under section 402(p)(5) of the CWA. Evaluating these discharges under the studies mandated under section 402(p)(5) would provide EPA additional flexibility to evaluate procedures and methods to control these storm water discharges to the extent necessary to mitigate impacts on water quality and to determine whether the municipalities responsible for discharges from municipal separate storm sewer systems serving a population of less than 100,000 or the industrial facility generating the discharge to the municipal system should be responsible for obtaining a NPDES permit. Alternatively, operators of storm water discharges associated with industrial activity to municipal systems serving less than 100,000 would be required to submit permit applications (or participate in group applications) in accordance with the deadlines established for other storm water discharges associated with industrial activity that would be required to obtain a permit under today's proposal.

D. Storm Water Discharge Sampling

Storm water discharges are intermittent by their nature. Pollutant concentrations in storm water discharges will be highly variable. Not only will variability arise between given events, but the flow rate and pollutant concentrations of such discharges will vary with time during an event. This variability raises two technical problems: what is the best way to

characterize the discharge associated with a single storm event; and what is the best way to characterize the variabilty beween discharges of different events that may be caused by seasonal changes, changes in material management practices, and other factors.

The current regulations at 40 CFR 122.21(g)(7) require that applicants for storm water discharges submit quantitative data based on one grab sample taken every hour of the discharge for the first four hours of discharge. In today's notice, EPA is proposing to modify this requirement such that instead of collecting and analyzing four grab samples individually, applicants provide data as indicators of two sets of conditions: first flush pollutant concentrations and flow-weighted average storm event concentrations.

Data describing pollutants in the first flush (i.e., a grab sample taken during the first twenty minutes of the discharge) can often be used as a screen for illicit discharges and illegal dumping to the storm water because pollutants associated with such activities may be flushed out of the system during the initial portion of the discharge. In addition, first flush data is useful because much of the traditional structural technology used to control storm water discharges, including detention and retention devices, may only provide controls for the first flush of the discharge, with relatively little or no treatment for the remainder of the discharge. First flush data will give an indication of the potential usefulness of these techniques to reduce pollutants in storm water discharges. Also, first flush discharges may be primarily responsible for pollutant shocks to the ecosystem in receiving waters.

Studies such as NURP have shown that flow-weighted average concentrations of storm water discharges are useful for estimating pollutant loads and estimating pollutant loads and for evaluating certain concentration-based water quality impacts. The use of flow-weighted composite samples are also consistent with comments raised by various industry representatives during previous Agency rulemakings that continuous monitoring of discharges from storm events is necessary to adequately characterize such discharges.

In order to provide flexibility where it is not feasible to obtain a flow weighted composite sample, EPA is also proposing that applicants may, in lieu of submitting data based on a flow weighted composite, submit quantitive data from individual samples taken during a representative storm event.

EPA requests comment on the feasibility of the proposed modification of sampling procedures at § 122.21(g)(7) and the ability to characterize pollutants in storm water discharges with an average concentration and a first flush concentration compared to collecting and separately analyzing four grab samples. The Agency invites commenters to submit any data that can be used to compare the accuracy and the cost of the proposed changes relative to the existing regulations.

In the proposed regulation, the entire provision at 122.21(g)(7) has been presented to provide ease of review. Today's notice only requests comments on those portions of § 122.21(g)(7) that relate to sampling storm water discharges.

E. Storm Water Discharges Associated with Industrial Activity

1. Permit Applicability

a. Storm Water Discharges to Municipal Storm Sewers. As discussed in more detail in § VII.C of today's notice, EPA is proposing that, in general, the operator of a storm water discharge associated with industrial activity will not be required to individually obtain a permit if their discharge goes to a municipal separate storm sewer serving a population of 250,000 or more, or a population of 100,000 or more, but less than 250,000, but that the operators of these municipal separate storm sewer systems are primarily responsible for obtaining system-wide or area permits which cover storm water discharges associated with industrial activity which discharge into the municipal system. In addition, EPA is proposing that operators of storm discharges associated with industrial activity which discharge to municipal separate storm sewer systems serving a population of less than 100,000 are not required to obtain a permit prior to the completion of studies mandated under section 402(p)(5) of the CWA. In these cases, the Director may still designate such discharges for an individual permit or to be co-permittee.

b. Storm Water Discharges to Non-Municipal Conveyances. Today's notice proposes at § 122.26(a)(5) to require all operators of storm water discharges associated with industrial activity that discharge into a privately or Federally owned storm water conveyance (a storm water conveyance that is not a municipal separate storm sewer) to either be covered by an individual permit or a permit issued to the operator of the portion of the system that directly discharges to waters of the United States. This "either/or" approach, which is similar to the approach taken in the September 26, 1984 final rule, allows a non-municipal operator of a storm water conveyance to decline to assume responsibility for the non-municipal storm water discharges into the non-municipal conveyance.

EPA considers this approach to be appropriate because some of the permit applications requirements proposed in today's notice require the applicant to have access to information regarding the site where the storm water is generated. Operators of non-municipal systems will generally be in a poorer position to gain knowledge of pollutants in storm water discharges and to impose controls water discharges from other facilities than will municipal system operators. In addition, best management practices and other site-specific controls are often most appropriate for reducing pollutants in storm water discharges and operators of non-municipal separate storm sewers may not be able to institute such controls. Also, some non-municipal operators of storm water conveyances which receive storm water runoff from industrial facilities may not be industrial facilities themselves and therefore should generally be excluded from obtaining a permit prior to October 1, 1992, unless specifically designated.

EPA requests comments on the advantages and disadvantages of retaining the "either or" approach for non-municipal storm sewers. Alternatively, EPA could adopt an approach where the operator of the portion of the conveyance which discharges directly to waters of the United States is responsible for obtaining a permit which covers all discharges to the non-municipal storm sewer.

2. Scope of "Associated with Industrial Activitity"

The September 26, 1984 final regulation divided those discharges that met the regulatory definition of storm water point source into two groups. The term Group I storm water discharges was defined in an attempt to identify those storm water discharges which had a higher potential to contribute significantly to environmental impacts. Group I included those discharges that contained storm water from an industrial plant or plant associated areas. Other storm water discharges (such as those from parking lots and administrative buildings) located on lands used for industrial activity were classified as Group II discharges. The regulations defined the term "plant

associated areas" by listing several examples of areas that would be associated with industrial activities. However, the resulting definition led to confusion among the regulated community regarding the distinctions between the Group I and Group II classifications.

When enacting section 405 of the WQA, Congress did not explicitly adopt EPA's regulatory classification of Group I and Group II discharges. Rather, Congress required EPA to develop permit application requirements for storm water "discharges associated with industrial activity" by no later than February 1, 1989. In light of the adoption of the term "associated with industrial activity" in the WQA, and the ongoing confusion surrounding the previous regulatory definition, EPA has eliminated the regulatory terms "Group I storm water discharge" and "Group II storm water discharge" pursuant to the Court remand and does not propose to revive it. In addition, EPA is proposing to define the term "storm water discharge associated with industrial activity" at § 122.26(b)(13) and to clarify the scope of the term.

In describing the scope of the term "associated with industrial activity", several members of Congress explained in the legislative history that the term applied if a discharge was "directly related to manufacturing, processing or raw materials storage areas at an industrial plant." (Vol. 132 Cong. Rec. H10932, H10936 (daily ed. October 15, 1986); Vol. 133 Cong. Rec. H176 (daily ed. January 8, 1987). EPA is proposing to clarify the regulatory definition of "associated with industrial activity" by adopting the language used in the legislative history and supplementing it with a description of various types of areas that are directly related to an industrial process (e.g., industrial plant yard, immediate access roads and rail lines, drainage ponds, material handling sites, sites used for the application or disposal of process waters, sites used for the storage and maintenance of material handling equipment, and sites that are presently or have been used in the past for residual treatment, storage or disposal). Today's proposal would clarify that the term applies to plant areas that are no longer used for such activities as well as areas that are currently being used for industrial processes.

The same comments in the legislative history cited above were careful to state that the term "associated with industrial activity" does not include storm water "discharges associated with parking lots and administrative and employee buildings". To accommodate this legislative intent, EPA is proposing that generally, segregated storm water discharges from these areas will not be required to obtain a permit prior to October 1, 1992. However, if a storm water discharge from a parking lot at an industrial facility is mixed with a storm water discharge associated with industrial activity, the combined discharge is subject to permit application requirements for storm water discharges associated with industrial activity.

Storm water discharges from parking lots and administrative buildings along with other discharges from industrial lands that do not meet the regulatory definition of "associated with industrial activity" and that are segregated from such discharges may be required to obtain a NPDES permit prior to October 1, 1992 under certain conditions. For example, large parking facilities, due to their impervious nature may generate large amounts of runoff which may contain significant amounts of oil and grease and heavy metals which may have adverse impacts on receiving waters. The Administrator or NPDES State has the authority under section 402(p)(2)(e) of the amended CWA to require a permit prior to October 1, 1992 by designating storm water discharges such as those from parking lots that are significant contributors of pollutants or contribute to a water quality standard violation. EPA will address storm water discharges from lands used for industrial activity which do not meet the regulatory definition of "associated with industrial activity" in the section 402(p)(5) study to determine the appropriate manner to regulate such discharges.

EPA requests comments on clarifying the types of facilities that involve industrial activities and generate storm water. EPA prefers basing the clarification, in part, on the use of Standard Industrial Classification (SIC) codes, which have been suggested in comments to prior storm water rulemakings because they are commonly used and accepted and would provide definitions of facilities involved in industrial activity.

EPA requests comments on the scope of the definition (types of facilities addressed) as well as the clarity of regulation. EPA has identified the following types of facilities which it requests comments on with respect to suitability for inclusion in the regulatory definition as facilities which generate and discharge storm water associated with industrial activity:

(i) Facilities subject to effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards;

(ii) Facilities classified as Standard Industrial Classification 20 through 39 (manufacturing industry);

(iii) Facilities classified as Standard Industrial Classification 10 through 14 (mineral industry) including active or inactive mining operations and oil and gas exploration, production, processing, or treatment operations, or transmission facility that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations;

(iv) Hazardous waste treatment, storage, or disposal facilities that are operating under interim status or a permit under Subtitle C or RCRA;

(v) Landfills, land application sites, and open dumps that receive industrial wastes and that are subject to regulation under Subtitle D of RCRA;

(vi) Facilities involved in significant recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards;

(vii) Steam electric power generating facilities, including coal handling sites, and onsite and offsite ancillary transformer storage areas;

(viii) Transportation facilities classified as Standard Industrial Classification 40 through 45, and 47 which have vehicle maintenance shops, material handling facilities, equipment cleaning operations and airport deicing operations. Only those facilities or portions of facilities that are either involved in vehicle maintenance, loading, storage or unloading activities, or equipment cleaning operations or which are subject to another subparagraph under this paragraph are associated with industrial activity;

(ix) POTW lands used for land application treatment technologies, sludge disposal, handling or processing areas, and chemical handling and storage areas;

(x) Facilities classified as Standard Industrial Classification 15 and 16 (General building contractors and heavy construction contractors) including clearing, grading and excavation activities except operations that result in the disturbance of less than 1 acre total land area which are not part of a larger common plan of development or sale; or that are designed to serve single family residential projects, including duplexes, triplexes or quadruplexes, that result in the disturbance of less than 5

acre total land areas which are not part of a larger common plan of development or sale.

(xi) Automotive repair shops classified as Standard Industrial Classification 751 or 753 including general automotive repair shops, paint shops, and body repair shops, and miscellaneous repair shops classified as Standard Industrial Classification 769;

(xii) Gasoline service stations classified as Standard Industrial Code 5541;

(xiii) Lands other than POTW lands (offsite facilities) used for sludge management;

(xiv) Lumber and building materials retail facilities classified as Standard Industrial Classification 5211;

(xv) Landfills, land application sites, and open dumps that do not receive industrial wastes and that are subject to regulation under Subtitle D of RCRA.

(xvi) Facilities classified as Standard Industrial Classification 46 (pipelines, except natural gas), and 492 (gas production and distribution); and

(xvii) Major electrical powerline corridors.

Of the facilities listed above, EPA prefers that storm water discharges from facilities listed in paragraphs (xi) through (xvii) not be classified as storm water discharges associated with industrial activity, but rather be part of the class of discharges for which storm water permits are not required prior to October 1, 1992, unless designated under section 402(p)(2)(E) of the CWA. EPA prefers to study under section 402(p)(5) of the CWA storm water discharges from these and other facilities for appropriate regulation under section 402(p)(6). In addition, storm water discharges from certain facilities listed above that are not associated with industrial activity (such as storm water discharges from parking lots which are not used for material management), and which are segregated from storm water discharges will be studied under section 402(p)(5).

EPA is requesting comments on how the regulatory definition of "associated with industrial activity" can be further clarified and on clarifying the types of facilities that are engaged in industrial activities. Some activities at certain facilities will be listed in more than one category. For example, an inorganic chemical facility with an SIC code of 28 may have an on-site unit which is subject to Subtitle C of RCRA. Although the majority of Subtitle C facilities will be addressed by other classifications listed above, listing Subtitle C facilities separately provides additional clarification. EPA requests comments on further classifications that would serve to clarify the proposed definition of storm water discharge associated with industrial activity (for example, are distinct categories for treatment, storage or disposal facilities for source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. or sites listed on the National Priority List (other than sites that are Fund-financed pursuant to CERCLA section 106 which are exempt from permitting (see 40 CFR 300.65(f))) necessary to clarify that these are facilities covered by the definition?) Today's proposal is intended to address Department of Defense and Department of Energy facilities which are engaged in the industrial activities listed above, even though SIC codes do not apply to these facilities. EPA requests comments on whether the proposed regulatory language should be clarified with respect to these facilities.

EPA also requests comment on limiting the definition of storm water discharge associated with industrial activity to those discharges which do not discharge into municipal separate storm sewers. This limitation may be useful in clarifying which discharges are required to submit permit applications and obtain an NPDES permit.

If EPA promulgates a final regulatory definition of "storm water discharge associated with industrial activity" that does not include certain facilities that are listed in today's proposal, then those facilities would be studied under Section 402(p)(5) of the CWA for appropriate regulation after October 1, 1992 under Section 402(p)(6) of the Act. Comments which oppose inclusion of proposed facilities to the regulatory definition of "storm water discharge associated with industrial activity" should address the nature and extent of pollutants in the storm water discharge as well as the appropriate procedures and methods to control pollutants in storm water discharges from such facilities to the extent necessary to mitigate impacts on water quality. For facilities which EPA requests comments on in today's notice, but that the Agency does not include in the final definition of "storm water discharge associated with industrial activity", the information received during the rulemaking, along with other information, will constitute a portion of the Section 402(p)(5) study. In such a case, the Agency, where appropriate, will consider today's request for comments as a proposal for regulation under Section 402(p)(6) and establish appropriate regulations (such as delaying the date of permit application submittal) based on today's proposal.

Today's proposed permit application requirements for storm water discharges associated with industrial activity at §122.26(c)(1)(i) include special requirements for storm water discharges originating from mining operations, oil or gas operations (§ 122.26(c)(1)(ii), and from the construction operations listed above (§ 122.26(c)(1)(iii)). These requirements are discussed in more detail in § VII.E.7 and § VII.E.9 of today's notice.

3. Individual Application Requirements

Today's notice addresses whether the requirements for permit applications for discharges which contain storm water associated with industrial activity should be modified from the requirements associated with the Form 1 and Form 2C permit applications. The proposed modifications to the permit application requirements would apply to both storm water discharges associated with industrial activity that are required to submit a permit application (§ VII.E.1 of the preamble discusses permit applicability) and to other discharges from non-municipal separate storm sewers which have been designated by the Administrator or NPDES State as contributing to a violation of a water quality standard or as a significant contributor of pollutants to waters of the United States.

As discussed earlier in today's notice, the September 26, 1984 regulation required operators of Group I storm water discharges to submit the full NPDES Form 1 and Form 2C permit applications. In response to post-regulation comments received on that rule, EPA proposed new permit application requirements (March 7, 1985, (50 FR 9362) and August 12, 1985, (50 FR 32548)) which would have decreased the analytical sampling requirements of the Form 2C and provided procedures for group applications. The passage of the WQA has given the EPA additional time to consider the appropriate permit application requirements for storm water discharges.

Today's notice proposes to modify the permit application requirements found at 122.21 by providing special requirements for storm water discharges associated with industrial activity at § 122.26(c). In response to comments on earlier rulemakings addressing storm water discharges, EPA is proposing to shift the emphasis of the permit application requirements for storm water discharges associated with industrial activity from the existing requirements for collection of quantitative data (sampling data) in Form 2C towards collection of less

quantitative data supplemented by additional information needed for evaluation of the nature of the storm waters discharges. The permit application requirements proposed for storm waters discharges reduce the amount of quantitative data required in the permit application and exempt discharges which contain entirely storm water (and contain no other discharge that, without the storm water component, would require a NPDES permit), from certain reporting requirements of the Form 2C. The proposed modifications also would exempt applicants for discharges which contain entirely storm water from several non-quantitative information collection provisions currently required in the Form 2C. The proposed modifications would rely more on descriptive information for assessing impacts of the storm water discharge.

A proposed application form, Form 2F, for storm water discharges has been included with today's notice. A complete permit application for discharges composed entirely of storm water, will be comprised of Form 2F and Form 1. Operators of discharges which are composed of both storm water and non-storm water will submit a Form 1, an entire Form 2C (or Form 2D) and Form 2F when applying. In this case, the applicant will provide quantitative data describing the discharge during a storm event in Form 2F and quantitative data describing the discharge during non-storm events in Form 2C. Non-quantitative information reported in the Form 2C will not have to be reported again in the Form 2F.

Under today's proposal, Form 2F for storm water discharges associated with industrial activity would not require the submittal of all the quantitative information required in Form 2C, but would require that quantitative data be submitted for:

- Any pollutant limited in an effluent guideline for its subcategory;
- Any pollutant listed in the facility's NPDES permit for its process wastewater;
- Oil and grease, TOC, TSS, COD, pH, BOD_5, total phosphorus, total nitrogen; and
- Any information on the discharge required under 40 CFR 122.21(g)(7) (iii) and (iv).

In order to characterize the discharge(s) sampled, the applicant would be required to submit information regarding the storm event(s) that generated the sampled discharge, including the date(s) the sample was taken, flow measurements or estimates of the duration of the storm event(s) sampled, rainfall measurements or estimates from the storm event(s) which generated the sampled runoff, and the duration between the storm event sampled and the end of the previous storm event. Information regarding the storm event(s) sampled is necessary to evaluate if the discharge(s) sampled was generally representative of other discharges expected to occur during storm events, and to characterize the amount and nature of runoff discharges from the site.

Today's notice proposes that the applicant test for oil and grease, COD, pH, BOD_5, TSS, total nitrogen and total phosphorus. Oil and grease and TSS are a common component of storm water and can have serious impacts on receiving waters. Oxygen demand (COD and BOD_5) will help the permitting authority evaluate the oxygen depletion potential of the discharge. BOD_5 is the most commonly used indicator of oxygen demand. COD is considered a more inclusive indicator of oxygen demand, especially where metals interfere with the BOD_5 test. The pH will provide the permitting authority with important information on the potential availability of metals to the receiving flora, fauna and sediment. Total nitrogen and total phosphorus are measures of nutrients which can impact water quality.

The proposed Form 2F requirements regarding submission of quantitative data are intended to allow tailoring the sampling and reporting of pollutants to site-specific parameters that potentially have an impact on the quality of the storm water discharge. In addition to the conventional pollutants listed above, today's notice proposes to require applicants to, when appropriate, sample other pollutants based on a consideration of site-specific factors. These pollutants account for pollutants associated with materials used for production and maintenance, finished products, waste products and non-process materials such as fertilizers and pesticides associated with the facility. Today's notice proposes that the applicant sample for any pollutant limited in an effluent guideline applicable to the facility or limitation in the facility's NPDES permit. These pollutants will generally be associated with the facility's manufacturing process or wastes. Other process and non-process-related pollutants, will be addressed by complying with the requirements of 40 CFR 122.21(g)(7) (iii) and (iv).

Section 122.21(g)(7)(iii) requires an applicant to indicate whether the applicant knows or has reason to believe that any pollutant listed in Table IV (conventional and nonconventional pollutants) of Appendix D to 40 CFR Part 122 are discharged. If such pollutant is either directly limited or indirectly limited by the expressed terms of the permit through limitations on an indicator, the applicant must report quantitative data. For pollutants that are not limited in an effluent limitations guideline, the applicant must either report quantitative data or describe the reasons the pollutant is expected to be discharged. With regard to pollutants listed in Table II (organic pollutants) or Table III (metals, cyanide and total phenol) of Appendix D, the applicant must indicate whether he knows or has reason to believe such pollutants are discharged from each outfall and, if they are discharged in amounts greater than 10 parts per billion (ppbs), the applicant must report quantitative data. An applicant qualifying as a small business under 40 CFR 122.21(g)(8), (e.g., coal mines with a probable total annual production of less than 100,000 tons per year or, for all other applicants, gross total annual sales averaging less than $100,000 per year (in second quarter 1980 dollars)), is not required to analyze for pollutants listed in Table II of Appendix D (the organic toxic pollutants).

Section 122.21(g)(7)(iv) requires an applicant to indicate whether it knows or has reason to believe that any pollutant in Table V of Appendix D to 40 CFR Part 122 (certain hazardous substances) is discharged. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged, and report any existing quantitative data it has for the pollutant.

When collecting data for permit applications, applicants may make use of 40 CFR 122.21(g)(7), which provides that "when an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also apply to the substantially identical outfalls." Where the facility has availed itself of this provision, an explanation of why the untested outfalls are "substantially identical" to tested outfalls must be provided in the application. Where the amount of flow associated with the outfalls with substantially identical effluent differs, measurements or estimates of the total flow of each of the outfalls must be provided.

The outfalls are to be sampled in accordance with the requirements of 40 CFR 122.21(g)(7), which are discussed in this section and section VII.D of today's

notice. EPA is proposing that the facility must sample during "representative storm events." EPA request comments on the following definition of a representative storm event. A representative storm event is one that is typical for the area in terms of duration and severity. The event must be greater than 0.1 inch and must be at least 96 hours from previously measurable (greater than 0.1 inch rainfall) storm event. In general, variance of the parameters such as the duration of the event and the total rainfall of the event should not exceed 50 percent from the average rainfall event in that area. EPA also requests comments on addressing snow melt events under this definition.

Today's proposal would also modify the Form 2C requirements by exempting applicants from the requirements at § 122.21(g)(2) (line drawings), (g)(4) (intermittent flows), (g)(7) (i), (ii), and (v) (various sampling requirements to characterize discharges) if the discharge covered by the application is composed entirely of storm water. Permit applications for discharges containing storm water associated with industrial activity would require applicants to provide other non-quantitative information which will aid permit writers to identify which storm water discharges are associated with industrial activity and to characterize the nature of the discharge.

Under existing permit application regulations, 40 CFR 122.21(f)(7) requires all permit applicants to submit as part of Form 1 a topographic map extending one mile beyond the property boundaries of the source, depicting the facility and each intake and discharge structure; each hazardous waste treatment, storage, or disposal facility; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in the map area in public records or otherwise known to the applicant within one-quarter mile of the facility property boundary. (See 47 *FR* 15604, April 8, 1982). However, the information provided under § 122.21(f)(7) is generally not sufficient by itself for evaluating the nature of storm water discharges associated with industrial activity.

EPA is proposing that application requirements for storm water discharges associated with industrial activity include a drainage map of the site in addition to the topographic map required with the Form 1. A drainage map can provide important site specific information for evaluating the nature of the storm water discharge than the existing requirements, which require a larger map with only general information. The volume of a storm water discharge and the pollutants associated with it will depend on the configuration and activities occurring at the industrial site. The Agency requests comments under what conditions, if any, it would appropriate to submit a site drainage map in lieu of the Form 1 topographic map.

EPA is also proposing that a narrative description be submitted to accompany the drainage map. The proposed narrative will provide a description of on-site features, including existing structures (buildings which cover materials and other material covers, dikes, diversion ditches, etc.) and non-structural controls (employee training, visual inspections, preventive maintenance, and housekeeping measures) that are used to prevent or minimize the potential for release of toxic and hazardous pollutants; a description of significant materials that are currently or in the past have been treated, stored or disposed outside; and the method of treatment, storage or disposal used. The narrative will also include a description of activities at materials loading and unloading areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; a description of the soil; the impact of storm water runoff on production areas; and a description of the areas which are predominantly responsible for first flush runoff.

Today's notice is also proposing that permit applicants for storm water discharges associated with industrial activity certify that all of the outfalls covered in the permit application have been tested for non-storm water discharges which are not covered by a NPDES permit. Section 405 of the WQA added section 402(p)(3)(B)(ii) to the CWA to require that permits for municipal separate storm sewers effectively prohibit non-storm water discharges to the storm sewer system. As discussed in § VII.F.7.b of today's notice, untreated non-storm water discharges to storm sewers can crate severe, wide-spread contamination problems and removing such discharges presents opportunities for dramatic improvements in the quality of such discharges. Although section 402(p)(3)(B)(ii) specifically addresses municipal separate storm sewers, EPA believes that illicit non-storm water discharges are as likely to be mixed with storm water at a facility that discharges directly to the waters of the United States as it is at a facility that discharges to a municipal storm sewer. Accordingly, EPA feels that is appropriate to consider potential non-storm water discharges in permit applications for storm water discharges associated with industrial activity. The certification requirement would not apply to outfalls where storm water is intentionally mixed with process waste water streams which are already identified in and covered by a permit.

EPA is proposing to provide regulatory language that would provide that appropriate tests for non-storm water discharges include smoke tests, fluorometric dye tests and analysis of accurate schematics. EPA requests comment on whether analysis of storm water discharges associated with industrial activity for various parameters (such as fecal coliform, fecal streptococcus, volatile organic carbon (VOC), residual chlorine and detergents) would be an appropriate method for satisfying the certification requirement. EPA requests comments on other technologies and the use of visual observations of flow during dry weather conditions which may be appropriate for this certification requirement. The Agency also requests comments on when a variance from this provision may be appropriate.

Today's proposal would also require applicants to submit known information regarding the history of significant spills at the facility. Such information is necessary to aid in the determination of which drainage areas are likely to generate storm water discharges associated with industrial activity, evaluate pollutants of concern and to develop appropriate permit conditions. Significant spills at a facility would generally include releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (see 40 CFR 110.20 and 40 CFR 117.21) or section 102 of CERCLA (see 40 CFR 302.4).

Like the regular NPDES permit applications, individual applications are submitted to the State if it is approved to administer the NPDES program, otherwise to the appropriate EPA Regional Office.

In the August 12, 1985 notice, EPA requested comments on the appropriateness of allowing for a waiver from the requirement to submit quantitative data if the applicant can demonstrate that the information is unnecessary for permit issuance. Although overall the commenters supported such a waiver, EPA is not proposing this type of a waiver in this notice. A waiver is inappropriate since EPA is proposing to reduce the number of pollutants that must be sampled and

analyzed from previous regulations. The proposed requirements for quantitative data are limited to pollutants that are appropriate for given site-specific operations, thereby making a waiver unnecessary.

Although the concept of a waiver is attractive because of the perceived potential reduction in burdens for applicants, the Agency believes that because the storm water discharge testing reequirements have already been streamlined, a waiver would not in practice provide significant reductions in burden for either applicants or permitting authorities. Requirements to provide and verify data demonstrating that a waiver is appropriate for a storm water discharge may prove to be more of a burden to the applicant and the permitting authorities. Establishing such a waiver procedure would be administratively complex and time-consuming for both the Agency and the applicants, without any justifiable benefit. Therefore, today's proposal does not include a waiver provision.

4. Group Applications

For two major reasons, EPA continues to support the group application approach. First, group applications will reduce the burden on the regulated community associated with submitting permit applications by requiring the submission of quantitative data from only selected members of the group. Second, the group application process will reduce the burden on the permit issuing authority by forming an appropriate basis and providing adequate information for issuing general permits. Where general permits are not appropriate or cannot be issued, a group application can be used to develop model individual permits, which can significantly reduce the burden of issuing individual permits.

Today's notice refines and clarifies the proposal for the group application approach set forth in the August 12, 1985 Reopener Notice. The proposal would establish a regulatory procedure whereby a representative entity, such as a trade association, may submit a group application to the Office of Water Enforcement and Permits (OWEP) at EPA headquarters, in which quantitative data from certain representative members of a group of industrial facilities is supplied. Information received in the group application will be used by OWEP to develop models for individual permits or general permits. These model permits are not issued permits, but rather they will be used by EPA Regions and the NPDES States to issue individual or general permits for participating facilities in the State. In developing such permits, the Region or NPDES States will, where necessary, adapt the model permits to take into account the hydrological conditions and receiving water quality in their area.

a. Facilities Covered. Today's proposal differs from the August 12 proposal in that the group application is submitted for only the facilities specifically listed in the application, and not necessarily for an entire industry. This is quite different from the August 12 proposal, which proposed that the application was to be submitted for, and be representative of, the industry as a whole, and any facility fitting within the industry subcategory did not have to submit an individual application. Based on comments to the August 12, 1985 proposal, the Agency agrees that submitting an application for an entire industry is simply unworkable. Under the August 12 proposal, it was likely that there would have been only one application for an entire industry, and the one submission would have had to be representative of the industry as a whole. Under today's proposal, a group application will only cover facilities listed in the application, and not the industry as a whole. The facilities in the group application selected to do sampling must be representative of the group, not of the industry. This approach eliminates the problem expressed by some trade associations that because they represented only a portion of the industry, they would be unable to assure representativeness.

Facilities that would be sufficiently similar to members of a group application, but that are not identified in the group application must, if they are required to obtain a permit, submit individual NPDES permit applications in accordance with the deadlines that will be established in the final rule. Storm water discharges that are sufficiently similar to those covered in a general permit that commence discharging after an applicable general permit has been issued must refer to the provisions of that general permit to determine if they are eligible for coverage and the procedures established in the general permit for obtaining coverage. Facilities that have already been issued an individual permit for their storm water discharge would generally not be eligible for participation in a group application.

b. Scope of Group Applications. In the August 12, 1985 notice, EPA proposed that the groups would be based on EPA subcategories for process waste water (as defined by 40 CFR Subchapter N). Over half of the comments which addressed this issue supported the use of subcategories over categories. However, several commenters to the August 12, 1985 proposal noted that this was too restrictive, and would deny the group application option to those industries not defined by one of the Agency's subcategories or to facilities with integrated operations, where processes could fall within several subcategories.

EPA subcategories are functional classifications, breaking down facilities into groups, for purposes of setting effluent limitations guidelines. Thus, they are tighter than the EPA categorical designations and narrow the wide differences among processes within a broad category. The use of EPA subcategories will save time for both applicants and permitting authorities in determining whether a particular group is appropriate for a group application.

EPA recognizes that the subcategory designations may not always be available. Also, there are situations where processes that are subject to different subcategories are combined. The Agency agrees that the group application option should be flexible enough to allow groups to be created where facilities are integrated or overlap into other subcategories. For these reasons, today's proposal does not limit the submission to EPA subcategories alone, but rather allows groups to be formed where facilities are similar enough to be appropriate for general permit coverage.

In determining whether a group is appropriate for general permit coverage, EPA intends that the group applicant use the factors set forth in 40 CFR 122.28(a)(2)(ii), the current general permit regulation, as a guide. If facilities all involve the same or similar types of operations, discharge the same types of wastes, have the same effluent limitation and same or similar monitoring requirements, where applicable, they would probably be appropriate for a group application. The criteria currently used for defining group application coverage are reasonable for defining the scope of a group application in view of the logical assumption that similar types of industrial facilities are likely to have some similar pollutants in their storm water runoff.

C. Group Application Requirements. The group application requirements proposed today will consist of a Part 1 and a Part 2 application which are to be submitted on different dates. In Part 1 of the application, applicants are to provide information to demonstrate that participants in the group application are sufficiently similar to be included in one group and preliminarily identify

representative facilities which will be responsible for collecting and submitting quantitative data on behalf of the entire group. In Part 2 of the application, representative facilities approved by EPA will be responsible for collecting and submitting quantitative data on behalf of the entire group.

Part 1 of the group application will consist of two components, Part 1A and Part 1B. Part 1A of the application will be used to provide an overview of the group. The second component of Part 1, Part 1B, will provide site-specific information which will be used to evaluate whether individual facilities are appropriate for the group application and whether the representative facilities selected in Part 1A will indeed provide representative quantitative data.

Part 1A of the Group Application. Part 1A will consist of four elements: (1) The name and location of all facilities participating in the group application; (2) a narrative description summarizing the major industrial activities of the participants in the group application and why the participants are appropriate for a group application; (3) a list of the significant materials stored outside by members of the group, and a description of the primary materials management practices, if any; and (4) a commitment to provide quantitative sampling data from representative facilities in Part 2 of the permit application, and a list of the facilities which will provide quantitative information.

EPA is proposing that in Part 1A of the group application, the names of facilities participating in the group application be divided into nine subdivisions based on the facility location relative to nine precipitation zones [see attached map, Appendix E]. These nine divisions will enable the data in the permit application to be more easily analyzed and patterns observed on the basis of hydrology and other regional factors. The need to identify precipitation zones arises because the amount of rainfall is likely to have a significant impact on the quality of the receiving water. According to a recent EPA study (Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality; Office of Water, Nonpoint Source Branch, Sept. 1986) the United States can be divided into nine general precipitation zones. These zones are characterized by differences in precipitation volume, precipitation intensity, precipitation duration, and precipitation intervals. Industrial facilities that seek general permits via the group application option may show significantly different loading rates as a result of these regional precipitation differences. As an example, precipitation in Seattle, Washington, located in Zone 7, approaches the mean annual storm intensity of .024 inches/hour with a mean annual storm duration of 20 hours for that Zone. In contrast, precipitation in Atlanta, Georgia, located in Zone 3 approaches the mean annual storm intensity of .102 inches/hour and a mean storm duration 6.2 hours for that Zone. Atlanta, receives on the average four times more precipitation per hour with storms lasting one-third as long. As a result of these differences, if identical facilities within a group application were situated in each of these areas, their storm water discharges would likely exhibit different pollutant characteristics.

As mentioned above, the group application must provide a list of significant materials stored outside by members of the group. Such a list shall include, for example, raw materials (fuels, storage piles); intermediate materials, such as solvents and detergents; finished materials such as metallic products; and waste products such as ashes, slag and sludge. EPA is proposing that materials are significant, for the purpose of preparing a group application, if they are periodically used or stored in quantities that, if released and mixed with storm water, could result in impacts to receiving waters. As an example, materials in quantities sufficient to be stored in a 55-gallon drum generally would be regarded as significant. However, some materials are sufficiently toxic that smaller quantities would be considered significant, such as certain pesticides and solvents. Therefore, any materials consistently used that are known to be highly toxic in small quantities would also be regarded as significant materials.

With regard to the materials identified, the applicant is to discuss the materials management practices employed by members of the group. For example, the applicant should identify whether such materials are commonly covered, contained, or enclosed, whether storm water runoff from materials storage areas is collected in settling ponds prior to discharge, or diverted away from such areas to minimize the likelihood of contamination. Also, the approximate percentage of facilities in the group with no practices in place to minimize materials stored outside is to be identified.

The Agency considers that the processes and materials used at a particular facility may have a bearing on the quality of the storm water. Thus, if there are different processes and materials used by members of the group, the application is to contain data from facilities utilizing the different processes and materials. Accordingly, if the group members are all very similar in their processes and materials, then such distinctions would not be necessary.

The fourth element of Part 1A of the group application is a commitment to submit quantitative data from ten percent of the facilities listed. EPA is proposing that there must be a minimum of ten and a maximum of one hundred facilities within a group that submit data. There must be a sufficient number of facilities submitting data for any patterns and trends to be detectable. However, it is felt that one hundred facilities would in most cases be sufficient to characterize the nature of the runoff. If not, EPA has the authority to request more sampling under section 308 of the CWA.

Because storm water loading rates may differ significantly as a result of regional precipitation differences, it is necessary that each precipitation zone containing representatives of a group application have some of those representatives take samples. Thus, today's proposal would require that Part 2 of the group application contain sampling data from at least two facilities within each precipitation zone in which two or more members of group are located (the application need contain sampling data for only one facility in a precipitation zone if that facility is the only member of the group located in that zone). Several commenters to the August 12, 1985 proposal suggested, and the Agency agrees, that the amount of rainfall will affect the degree of impact a storm water discharge may have on the receiving stream. In addition, facilities selected to do the sampling should be representative of the group as a whole in terms of those characteristics identifying the group which were described in the narrative, i.e., number and range of facilities, types of processes used, and any other relevant factors. If there is some variation in the processes used by the group (40 percent of the group of food processors are canners and 60 percent are canners and freezers, for example), the different processes are to be represented. Also, samples are to be provided from facilities utilizing the materials management practices identified, including those facilities which use no materials management practices. The representation of these different factors, to the extent feasible, is to be roughly equivalent to their proportion in the group.

Part 1B of the Group Application. Under today's proposal, Part 1B of the group application is intended to provide sufficient site specific information to allow EPA to evaluate whether all members of a group are sufficiently similar as to be appropriate for coverage in a group application or general permit, and to ensure that the facilities selected to collect quantitative data are representative of the group.

Each facility in the group application would be required to submit the non-quantitative information that is required in an individual application for storm water discharges associated with industrial activity: a drainage map, a narrative description of material management practices and control measures to control the discharge of pollutants in storm water discharges, and the history of significant spills at the facility.

EPA is requiring this information because the Agency is persuaded by comments on previous proposals suggesting that site-specific practices are likely to have a significant impact on the quality of the runoff. In addition, comparing the results of different control practices will assist in selecting management practices for inclusion in NPDES permits.

In addition, individual members of the group application will be required to certify that their facility has tested all outfalls that should contain entirely storm water discharges and which drain storm water associated with industrial activity for the presence of nonstorm water discharges which are not covered with a NPDES permit. Illicit discharges are by nature site-specific, and hence a representative analysis involving testing of a fraction of the facilities in the group is not appropriate for a group application.

Submittal of Part 1 of the Group Application. Each facility in the group can submit the information required in Part 1B on Form 1 and Form 2F. The entire Form 2F does not need to be completed—only that nonquantitative information for individual applicants described in today's proposal is required. Facilities participating in a group application will not be required to submit quantitative data describing their storm water discharges with Part 1 of the group application.

The Form 1 and Form 2F must be signed by an authorized corporate official of the facility submitting data, in accordance with the requirements of 40 CFR 122.22. This official will make the required certifications that the document was prepared under his supervision, and based on inquiry of the persons responsible for gathering the information, the information is, to the best of their knowledge and belief, true, accurate and complete.

These forms should be collected prior to submission to EPA and submitted at one time along with the information required under Part 1A to the EPA Office of Water Enforcement and Permits (OWEP) in Washington, DC. OWEP will review the Part 1 application for completeness (40 CFR 122.21(e), completeness of NPDES permit applications) and for compliance with the permit application requirements. Factors likely to contribute pollutants to storm water discharges, such as specific material management practices, will be considered in approving the facilities chosen for representative sampling of the group. Then a judgment will be made as to whether the described group, as a whole, is appropriate for a single group application. If a submission is deficient, EPA will either: reject the group application, limit the facilities participating in the group application, or request that corrections be made to the group application prior to a final decision on acceptability. If the application is rejected or if EPA determines that some facilities must be excluded from the group application, facilities no longer covered by the group application would be required to submit additional information such that complete individual applications can be evaluated.

Part 2 of the Group Application. Under today's proposal, groups for which the Part 1 permit application have been accepted will submit Part 2 of the group application within 18 months of the promulgation of a final rule. Part 2 of the application will consist of quantitative data from the representative facilities in the group that were selected in Part 1 of the application. Each facility submitting representative data in Part 2 will submit quantitative sampling data on Form 2F. The individual facilities themselves, in filing out permit applications for their facilities, certify that the data provided are true, accurate, and complete. Individual applications submitted in Part 2 of the group application will contain sampling from each outfall, except that individual applicants may avail themselves of 40 CFR 122.21(g)(7) for multiple outfalls at the same site with substantially identical effluents, as discussed under the proposed requirements for individual applications. These forms are to be submitted to the entity representing the group, which will compile them.

As with Part 1, Part 2 of the Group Application would be submitted to the Permits Division, Office of Water Enforcement and Permits, in Washington, DC. Submission of a Part 2 application which meets Part 1 commitments and the other standard NPDES regulatory requirements satisfies the application requirements for the facilities listed on Part 1. If the information is incomplete, or simply is found to be an inadequate basis for establishing general permit limits, EPA has the authority under section 308 of the Clean Water Act to require that more information be submitted, which may include sampling from facilities that were part of the group application but did not provide data with the initial submission. If the group application is used by a Region or NPDES State to issue a general permit, the general permit should specify procedures for additional coverage under the permit.

If a Part 2 is unacceptable or insufficient, EPA has the option to request additional information or to require that the facilities that participated in the group application submit complete individual applications (e.g., facilities that have submitted Form 1 with the group application would be required to submit Form 2F, and facilities which have submitted complete Form 1 and Form 2F information in the group application would generally not have to submit additional information).

Once the group applications are reviewed and accepted, EPA will use the information to establish draft permit terms and conditions for models for individual and general permits. The information will also allow States and EPA regional offices to estimate the pollutant loads from storm water dischargers associated with the group to assist in identifying groups for which individual permits may be more appropriate. NPDES-approved States and EPA regional offices will continue to be the permit-issuing authority for storm water discharges. The NPDES-approved States accepting the group application approach and the EPA Regions may then take the model permits and adapt them for their particular area, making adjustments for local water quality standards and other localized characteristics, and making determinations as to the need for an individual storm water permit where general permit coverage is felt to be inappropriate. Permits would be proposed by the Region or NPDES-approved State in accordance with current regulations for public comment before becoming final. In NPDES States without general permit authority, or where an individual permit is deemed appropriate, the model permit can serve

as the basis for issuing individual permits.

The group application is an NPDES permit application just like any other, and as such would be handled through normal permitting procedures, subject to the regulatory provisions applicable to permit issuance. Incomplete or otherwise inadequate submissions would be handled in the same manner as any other permit application. The permitting authority would retain the right to require submission of Form 1, Form 2C and Form 2F from any individual discharger it designates.

5. Group Application: Applicability in NPDES States

The relationship between EPA and the States that are authorized to administer the NPDES program (there are 39 such States, called "approved States") that will implement the storm water program is one of the most complicated aspects of today's proposal. Approved States must have requirements that are at least as stringent as the federal program; they may be more stringent if they choose. Authority to issue general permits is opptional with NPDES States. If they choose to issue general permits they may include such authority in their NPDES program and, upon approval of the program by EPA, may then issue general permits. There are currently thirteen approved States that have authority to issue general permits: Arkansas, Colorado, Illinois, Kentucky, Minnesota, Missouri, Montana, New Jersey, Oregon, Rhode Island, Utah, West Virginia and Wisconsin.

Because today's group application option is a relaxation of existing NPDES permit application requirements, the State is free to adopt this option, but is not required to. If the State chooses to adopt the group application and it does not have general permit authority, the group application can be used to issue individual permits. However, EPA recommends that such States consider obtaining general permit authority as a means to efficiently issue permits for storm water discharges. These States should contact the Office of Water Enforcement and Permits at EPA Headquarters (see the **FOR FURTHER INFORMATION** section at the beginning of this notice), as soon as possible.

If an approved State chooses not to adopt the group application, facilities that discharge storm water associated with industrial activity that are located in that State must submit individual applications to the respective State permitting authority. For facilities that discharge storm water associated with industrial activity which are named in a group application, the Director may require an individual facility to submit an individual application where it determines that general permit coverage would be inappropriate for the particular facility.

6. Group Application: Procedural Concerns

Comments received on the August 12, 1985 group application proposal included comments from an environmental group that the proposed group application process and procedures violated federal law. This commenter claimed that EPA was abrogating its responsibility by allowing a trade association to design a data collection plan in lieu of completing an NPDES application form designed by the Agency, thus violating the Federal Advisory Committee Act. The commenter stated that EPA would be improperly influenced by special interests if trade associations were able to design their own storm water data gathering plans. The commenter further asserted that any decisions by EPA on the content of specific group applications would be rulemakings and thus subject to the provisions of the Administrative Procedure Act.

EPA disagrees with the comment that the group application violates the Federal Advisory Committee Act (FACA). FACA governs only those groups that are established or "utilized" by an agency for the purpose of obtaining "advice" or "recommendations". The group application option does not solicit or involve any "advice" or "recommendations". It simply allows submission of data by certain members of a group in accordance with specific regulatory criteria for determining which facilities are "representative" of a group. As such, the group application is merely a submission in accordance and in compliance with specific regulatory requirements and does not contain discretionary uncircumscribed "advice" or "recommendations" as to which facilities are representative of a group.

Thus, the determination of which facilities should submit testing data in accordance with regulatory criteria is little different from many other regulatory requirements where an applicant must submit information in accordance with certain criteria. For example, under 40 CFR 122.21 all outfalls must be tested except where two or more have "substantially identical" effluents. Similarly, quantitative data for certain pollutants is to be provided where the applicant knows or "has reason to believe" such pollutants are discharged. Both of these provisions allow the applicant to exercise discretion in making certain judgments but such action is circumscribed by regulatory standards. EPA further has authority to require these facilities to submit individual applications. In none of these instances are "recommendations" or "advice" involved. EPA also notes that it is questionable whether, in providing for group applications, it is "soliciting" advice or recommendations from groups of that such groups are being "utilized" by the Agency as a "preferred source" of advice. See 48 FR 19328 (April 28, 1983). Furthermore, this data collection effort may be supplemented by EPA if, after review of the data, EPA determines additional data is necessary for permit issuance. Other information gathering may act as a check on the group applications received.

EPA also does not agree with commenters' claims that the group application scheme represents an impermissible delegation of the Administrator's function in violation of the CWA regarding data gathering. The Administrator has the broadest discretion in determining what information is needed for permit development as well as the manner in which such information will be collected. The CWA does not require every discharger required to obtain a permit to file an application. Nor does the CWA require that the Administrator obtain data on which a permit is to be based through a formal application process (see 40 CFR 122.21). For years "applications" have not been required from dischargers covered by general permits. EPA currently obtains much information beyond that provided in applications pursuant to section 308 of the CWA. This is especially true with respect to general permit and effluent limitations guidelines development. The group application option is simply another means of data gathering. The Administrator may always collect more data should he determine it necessary upon review of a groups' data submission. And, he may obtain such additional data by whatever means permissible under the Statue that he deems appropriate. Thus, it can hardly be said that by this initial data gathering effort the Administrator has delegated his data gathering responsibilities. In addition, since groups are required to select "representative" facilities, etc., in accordance with specific regulatory requirements established by the Administrator and because EPA will scrutinize Part 1 of the group applications and either accept or reject the group as appropriate for a group application, no impermissible delegation

has occurred. EPA will make an independent determination of the acceptability of a group application in view of the information required to be submitted by the group applicant, other information available to EPA (such as information on industrial subcategories obtained in developing effluent limitations guidelines as well as individual storm water applications received as a result of today's rule) and any further information EPA may request to supplement Part 1 pursuant to section 308 of the CWA. Moreover, any concerns that a general permit may be based upon biased data can be dealt with in the public permit issuance process.

Finally, EPA also does not agree that the group application option violates the Administrative Procedures Act. Again, the group application scheme is simply a data gathering device. EPA could very well have determined to gather data informally via specific requests pursuant to section 308 of the CWA. In fact, general permit and effluent limitations guideline development proceed along these lines. It would make little sense if the latter informal data gathering process were somehow illegal simply because it is set forth in a rule that allows applicants some relief upon certain showings. In this respect, several of EPA's existing regulations similarly allow an applicant to be relieved from certain data submission requirements upon appropriate demonstrations. For example, testing for certain pollutants and or certain outfalls may be waived under certain circumstances. Most importantly, the operative action of concern that impacts on the public is actual general permit issuance based upon data obtained. As previously stated, ample opportunity for public participation is provided in the permit issuance proceeding.

7. Permit Applicability and Applications for Oil, Gas and Mining Operations

Section 401 of the WQA amended section 402(1)(2) of the CWA to prohibit the Director of the NPDES program from requiring permits for uncontaminated storm water discharges from oil and gas operations and from mining operations. In the near future, EPA intends to issue a notice that will codify this provision into 40 CFR 122.26(a)(2). Today's notice proposes to modify 40 CFR 122.26(a)(2) to clarify the scope of the provision.

As discussed in more detail earlier in today's notice, on March 18, 1976 (41 FR 11307), EPA promulgated permit application requirements for storm water discharges that were located in an urbanized area or that were from lands used for industrial or commercial activities that were contaminated by contact with materials or contaminated soils. The approach to regulating storm water discharges was modified on September 24, 1984 (49 *FR* 37998) which deleted the term "contaminated" and relied instead on geographic criteria which resulted in the same coverage (e.g., discharges meeting the geographic criteria were expected to meet the contaminated criteria).

Congress adopted a similar geographic criterion to generally define the scope of the first phases of the storm water program when enacting Section 405 of the WQA by requiring EPA to develop permit applications for storm water discharges associated with industrial activity and for discharges from municipal separate storm sewer systems serving populations of 250,000 or more or serving populations of 100,000 or more, but less than 250,000.

However, Section 401 of the WQA, amended Section 402(1)(2) of the CWA to provide that the Director shall not require a NPDES permit for storm water runoff from mining or oil and gas operations if the runoff is not contaminated by contact with, or does not come into contact with any overburden, raw material, intermediate product, finished product, byproduct or waste product located on the site. This provision relies on both a geographic criterion and a contamination criterion to define permit applicability.

The legislative history accompanying Section 402(1)(2) clarified that Congress intended that the factors considered in determining if storm water discharges from oil and gas operations are contaminated are different from the factors considered for storm water discharges from mining operations. Congress intended that for these discharges, if the storm water is "not contaminated by contact with such materials, as determined by the Administrator, permits are also not required. With respect to oil or grease or hazardous substances, the determination of whether stormwater is 'contaminated by contact with' such materials, as established by the Administrator, shall take into consideration whether these materials are present in such stormwater runoff in excess of reportable quantities under section 311 of the Clean Water Act or Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or in the case of mining operations, above natural background levels." (Vol. 132 Cong. Rec. H10574 (daily ed. October 15, 1986) Conference Report).

a. Gas and Oil Operations. EPA is proposing that contaminated storm water from oil and gas operations includes, but is not limited to, runoff that contains a hazardous substance in excess of reporting quantities (RQs) established at 40 CFR 117.3 or 40 CFR 302.4; or contains oil in excess of the reporting quantity established at 40 CFR 110.3.

In order to implement the storm water permit requirements for oil and gas operations, the Agency is proposing to rely primarily on notification requirements for releases in excess of RQs established under the CWA and CERCLA to trigger the submittal of permit applications for storm water discharges from oil and gas operations. EPA is proposing that oil and gas operations which do not or have not in the past discharged storm water which contains an RQ of a hazardous substance or oil are not required to submit a permit application for such storm water discharges unless the Director requests a permit application on a case-by-base basis.

Oil and gas operations that have been required to notify the release of a RQ of either oil or a hazardous substance via a storm water route will be required to submit a permit application, including quantitative sampling data, in accordance with proposed § 122.26(c)(1)(iii). Oil and gas operations which have had a release via a storm water route in excess of an RQ will be required to obtain a NPDES permit even if the quantitative data submitted in the application does not indicate that the storm water discharge sampled contained a hazardous substance or oil in excess of a reportable quantity.

The proposal also provides the Director authority to require, on a case-by-case basis, operators of oil and gas operations which have certified that its discharge is not contaminated to submit a permit application. In addition, the Director may require an operator of an oil and gas operation to submit information regarding the storm water discharge under Section 308 of the CWA.

Based on a consideration of pollutants in a storm water discharge from an oil or gas facility, the Director may determine that the discharge is contaminated even though the discharge does not contain oil or a hazardous substance in amounts which exceeds an RQ. Also, RQs only serve as one guide in allowing the Director to determine if the discharge is contaminated. RQs have not been developed for some pollutants, such as suspended solids and other various indicator parameters (BOD, COD, pH,

etc.), which are not classified as oil or a hazardous substance.

b. Use of Reportable Quantities to Determine if a Storm Water Discharge from an Oil or Gas Operation Is Contaminated. Section 311(b)(5) of the CWA requires reporting of certain discharges of oil or a hazardous substance into navigable waters (see 44 FR 50766 (August 29, 1979)). Section 304(b)(4) of the Act requires that quantities of oil and hazardous substances that require notification be determined at quantities which may be harmful to the public health or welfare of the United States, including but not limited to fish, shellfish, wildlife, and public or private property, shorelines and beaches. Facilities which discharge oil or a hazardous substance in quantities equal to or in excess of an RQ, with certain exceptions, are required to notify the National Response Center (NRC).

Section 102 of CERCLA extended the reporting requirement for releases equal to or exceeding an RQ of a hazardous substance by adding chemicals to the list of hazardous substances, and by extending the reporting requirement (with certain exceptions) to any releases to the environment, not just those to navigable waters. Releases of oil are not addressed by the reporting requirements under CERCLA.

Pursuant to Section 311 of the CWA, EPA determined reportable quantities for discharges by correlating aquatic animal toxicity ranges with 5 reporting quantities, i.e. 1-, 10-, 100-, 1000-, and 5000-pounds per 24 hour period levels. Reportable quantity adjustments made under CERCLA relied on a different methodology. The strategy for adjusting reportable quantities begins with an evaluation of the intrinsic physical, chemical, and toxicological properties of each designated hazardous substance. The intrinsic properties examined, called "primary criteria", are aquatic toxicity, mammalian toxicity (oral, dermal, and inhalation), ignitability, reactivity, and chronic toxicity. In addition, substances that were identified as potential carcinogens have been evaluated for their relative activity as potential carcinogens. Each intrinsic property is ranked on a five-tier scale, associating a specific range of values on each scale with a particular reportable quantity value. After the primary criteria reportable quantities are assigned, the hazardous substances are further evaluated for their susceptibility to certain extrinsic degradation processes called secondary criteria. Secondary criteria consider whether a substance degrades relatively rapidly to a less harmful compound, and can be used to raise the primary criteria reportable quantity one level.

Also pursuant to § 311, EPA has developed a reportable quantity for oil, and associated reporting requirements at 40 CFR 110. These requirements, known as the oil sheen regulation, defines the RQ for oil to be the amount of oil that violates applicable water quality standards or causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited.

Reportable quantities developed under the CWA and CERCLA were not developed as effluent guideline limitations which establish allowable limits for pollutant discharges to surface waters. Rather, a major purpose of the notification requirements is to alert government officials to releases of hazardous substances that may require rapid response to protect public health and welfare and the environment. Notification based on reportable quantities serves as a trigger for informing the government of a release so that the need for response can be evaluated and any necessary response undertaken in a timely fashion. The reportable quantities do not themselves represent any determination that releases of a particular quantity are actually harmful to public health or welfare or the environment.

In relying in today's proposal on the reporting requirements associated with releases in excess of RQs for oil or hazardous substances to trigger the submittal of permit applications for oil and gas operations, the Agency believes that the use of the reporting requirements for oil will be particularly useful. The Agency believes that the release of oil to a storm water discharge in amounts that cause an oil sheen is a good indicator of the potential for water quality impacts from storm water releases from oil and gas operations. In addition, given the extremely high number of such operations (the Agency estimates that there are over 750,000 oil wells alone in the United States), relying on the oil sheen test to determine if storm water discharges from such sites are "contammated" is more appropriate than sampling. The detection of a sheen does not require sophisticated instrumentation since a sheen is easily perceived by visual observation.

EPA requests comments on the use of reportable quantities for determining whether storm water from mining operations or oil and gas operations is contaminated. EPA is particularly concerned with the use of RQs to define contamination for storm water discharges from oil and gas operations.

c. Mining Operations. Today's notice proposes to clarify that contaminated storm water runoff from mining operations includes runoff which contains pollutants above natural background levels. When evaluating whether a storm water discharge from a mining operation contains contaminates above background levels, EPA will consider both contaminate concentrations and flowrates to estimate total pollutant loads. Concentration values alone are not sufficient to indicate whether a discharge contains contaminates above background levels. Development of land generally causes increased runoff volumes. Thus, even where concentrations of pollutants remain the same as during predevelopment, an increase in runoff volumes will result in increases in pollutant loadings.

EPA is proposing that operators of mining operations will be required to submit permit applications for storm water discharges from active and inactive mining areas (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11[1]) and haul roads where storm water comes into contact with any overburden, raw material, intermediate products, finished product, byproduct or waste products. EPA is proposing at § 122.26(b)(12)(iii) to define storm water discharges from these areas of a mining operation as storm water discharges associated with industrial activity. Accordingly, the permit application requirements proposed at § 122.26(c)(1) will apply to these dischargers. Data in the permit application, and if necessary, other data required by the Director under Section 308 of the CWA, will be used to determine if the discharge contains contaminants above background levels, and therefore a permit is necessary. Mining operations with storm water discharges that are known to be contaminated may participate in appropriate group applications which comply with proposed § 122.26(c)(2).

8. Application Requirements for Construction Activities

As discussed above, EPA is proposing that storm water discharges from facilities classified as Standard Industrial Codes 15 and 16 (General building contractors and heavy construction contractors) (except construction operations that result in the disturbance of less than one acre total land area which are not part of a larger common plan of development or sale; or

operations that are for single family residential projects, including duplexes, triplexes, or quadruplexes, that result in the disturbance of less than five acre total land areas which are not part of a larger common plan of development or sale), be included in the regulatory definition of storm water discharges associated with industrial activity.

The Agency believes that storm water permits are appropriate for the construction industry for two reasons. First, runoff generated while construction activities are occurring have potential for serious water quality impacts. Where construction activities are intensive, the localized impacts of water quality may be severe because of high unit loads of pollutants, primarily sediments. Construction sites can also generate other pollutants such as phosphorus, nitrogen and nutrients from fertilizer, pesticides, petroleum products, construction chemicals and solid wastes. These materials can be toxic to aquatic organisms and degrade water for drinking and water-contact recreation. Sediment runoff rates from construction sites are typically 10 to 20 times that of agricultural lands, with runoff rates as high as 100 times that of agricultural lands, and 1,000 to 2,000 times that of forest lands. Even small construction sites may have a significant negative impact on water quality in localized areas. Over a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades.

Techniques to control pollutants in storm water discharges from construction are well developed and understood. A primary control technique is good site planning. A combination of nonstructural and structural best management practices are typically used on construction sites. Relatively inexpensive nonstructural vegetative controls, such as seeding and mulching, are effective control techniques. In some cases, more expensive structural controls may be necessary, such as detention basins or diversions. The most efficient controls result when a comprehensive storm water management system is in place.

The second major reason for addressing storm water discharges from the construction industry at this time is that studies such as NURP indicate that it is much more cost effective to develop measures to reduce pollutants during new development. Many of these controls, which can take the form of grading patterns as well as other controls, generally remain in place after the construction activities are completed.

a. Permit Application Requirements. In today's notice, EPA is proposing distinct permit application requirements for these construction activities, at 122.26(c)(1)(ii). Under the proposal, such facilities will be required to provide a narrative description of:

- The nature of the construction activity;
- The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;
- Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a description of applicable Federal requirements and State or local erosion and sediment control requirements;
- Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a description of applicable State or local requirements;
- An estimate of the runoff coefficient (fraction of total rainfall that will appear as runoff) of the site and the increase in impervious area after the construction addressed in the permit application is completed, a description of the nature of fill material and existing data describing the soil or the quality of the discharge; and
- The name of the receiving water.

EPA is proposing that permit application requirements for the covered construction activities will not include the submission of quantitative data. EPA believes that the changing nature of construction activities at the site to be covered by the permit application requirements generally would not be adequately described by quantitative data.

The Agency specifically requests comments on today's proposed permit application requirements for construction facilities which discharge storm water associated with industrial activity, on appropriate measures to reduce pollutants in construction site runoff, and on appropriate application deadlines.

The application requirements proposed in today's notice are designed to provide flexibility in developing controls to reduce pollutants in storm water discharges from construction sites. The proposed application requirements recognize that many State and local governments have implemented erosion and sediment control programs. The permit application requirements requiring a description of these programs are intended to ensure consistency between NPDES permit requirements and other State and local controls.

b. Administrative Burdens. Ideally, model individual permits and general permits will be issued for storm water discharges for construction activities subject to NPDES requirements to minimize administrative delays associated with permit issuance. EPA requests comment on administrative burdens and delays associated with issuing NPDES permits for storm water discharges from certain construction activities. In addressing the administrative burdens of regulation, commenters should consider the proposed limitation on the definition of storm water discharge associated with industrial activity and the proposed regulatory scheme for storm water discharges associated with industrial activity which discharge to municipal separate storm sewer systems.

Proposed § 122.26(b)(12)(x) limits the definition of "storm water discharge associated with industrial activity" by exempting from the definition construction operations that result in the disturbance of less than one acre total land area which are not part of the larger common plan of development or sale; or operations that are for single family residential projects, including duplexes, triplexes, or quadruplexes, that result in the disturbance of less than five acre total land areas which are not part of a larger common plan of development or sale. In considering the appropriate scope of the definition of storm water discharge associated with industrial activity as it relates to construction activities, EPA recognizes that a wide variety of factors can affect the water quality impacts associated with construction site runoff, including receiving waters, the size of the area disturbed, soil conditions, seasonal rainfall patterns, the slope of area disturbed, and the intensity of construction activities.

EPA favors the one acre/five acre limit primarily because of administrative concerns. EPA recognizes that State and local sediment and erosion controls may address construction activities disturbing less than one acre or five acres for residential development. The one acre/five acre limit proposed in today's notice is not intended to supersede more stringent State or local sediment and erosion controls. For construction facilities that are not included in the definition of storm water discharge associated with industrial activity, EPA will consider the appropriate procedures and methods to

reduce pollutants in construction site runoff under the studies authorized by section 402(p)(5) of the CWA. EPA will also consider under section 402(p)(5) appropriate procedures and methods during post-construction for maintaining structural controls developed pursuant to NPDES permits issued for storm water discharges associated with industrial activity from construction sites.

EPA favors distinguishing between single family residential development and other commercial development because other commercial development is more likely to occur in more densely developed areas. Also, other commercial development provides a more complete opportunity to develop controls that remain in place after the construction activity is completed, as continued maintenance, after the permit has expired, is more feasible.

EPA requests comments on the use of no limit or other limits such as 2, 10 or 20 acres. In addition, limitations could be based on or modified by other factors. Time limitations which consider the length of the construction activity or the season during which the activity occurs may provide a more workable administrative system while still addressing the major water quality impacts associated with construction activities. Other factors, such as steep slopes at the site, which affect the nature of the runoff, may be appropriate for defining special cases which would be addressed in this rulemaking. EPA also requests comments on other factors, such as the intensity of the development within the watershed, which affect the water quality impacts in receiving waters. Such site specific factors may be difficult to define in federal regulations. For example, a definition based on relatively easily interpreted criteria such as Census designated urban areas may not provide adequate protection for rapidly developing areas which are located outside the urban area. EPA requests comments on other factors which can be used to develop a limit on storm water discharges from construction sites which are classified as storm water discharges associated with industrial activity.

Proposed 122.26(a) would specify that storm water discharges, including construction site runoff, that discharge to municipal storm sewers are not required to obtain individual or group permits unless specifically designated by the Director. Under today's proposal, municipal permittees will be responsible for developing a proposed management plan to control pollutants in runoff from construction sites which discharge to large and medium municipal separate storm sewer systems (see § VII.G.8.d of the preamble). The Agency believes that the majority of construction sites do not discharge storm water directly to waters of the United States, but rather discharge to a municipal storm sewer or manage storm water on-site. For example, construction site runoff from a new subdivision which discharges to the drainage system of an existing road or a road that is being built by a developer for a municipality is, under this proposal, discharging to a municipal storm sewer.

9. Application Requirements for New Sources and New Discharges

Today's proposed permit application requirements provide that new sources and new discharges which discharge storm water include estimates of pollutants or parameters for which other storm water discharges are required to submit data. Under the proposal, operators of such discharges are required to provide the quantitative data which is required for other similar existing storm water discharges within two years after the commencement of the discharge, unless the data has already been reported under the monitoring requirements of the NPDES permit for the discharge.

F. Municipal Separate Storm Sewer Systems

1. Municipal Separate Storm Sewers

Today's notice proposes to define "municipal separate storm sewer" at § 122.26(b)(8) as any conveyance or system of conveyances that is owned or operated by a State or local government entity and is used for collecting and conveying storm water which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

It is important to note that the proposed permit application requirements for discharges from municipal reparate storm sewers do not apply to discharges from combined sewers that are designed as both a sanitary sewer and a storm sewer. Discharges from combined sewer systems are not regulated under this proposed rule.

The Agency also wants to clarify that streams, wetlands and other water bodies that are waters of the United States are not storm sewers for the purpose of this rule. This use of the term "storm sewer" differs from the way that the term has often been used in the context of flood control, where natural streams and other water bodies are sometimes considered storm sewers. Activities such as stream channelization, and stream bed stabilization, which occur in waters of the United States would generally not be subject to permits issued under § 402 of the CWA. However, such activities occurring within waters of the United States may be subject to dredge and fill permits required under section 404 of the CWA by the Corps of Engineers. Applicants should consult the regulatory definition of "waters of the United States" at 40 CFR 122.2 to distinguish between storm sewers and waters of the United States.

Some municipalities have maintained in previous comments that difficulties may arise with determining owners or operators of municipal storm sewers as clear title to the storm sewer may not exist. Often, where the ownership of such conveyances is in question, the storm sewer is not maintained and hence an "operator" criteria is not particularly useful. EPA requests comments on different wording for the definition of municipal separate storm sewer to clarify responsibility under the NPDES permit system. Do legal classifications such as storm sewers that are not private (e.g., public, district or joint district sewers) provide a clearer definition than an owner or operator criteria? Does the definition need to be clarified by explicitly stating that municipal streets and roads with drainage systems (curb and gutter, ditches, etc.) are part of the municipal storm sewer system, and the owners or operators of such roads are responsible for such discharges? To what extent should the owner or opesator concept apply to municipal governments with land-use authority over lands which contribute storm water runoff to the municipal storm sewer system, and how should this responsibility be clarified?

2. Effective Prohibition on Non-Storm Water Discharges

Section 402(p)(3)(B)(ii) of the amended CWA requires that permits for discharges from municipal storm sewers shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers.

EPA does not interpret the effective prohibition on non-storm water discharges to municipal separate storm sewers to apply to discharges that are not composed entirely of storm water, as long as such discharge has been issued a separate NPDES permit. Rather, an "effective prohibition" would require separate NPDES permits for non-storm water discharges to municipal storm sewers. In many cases in the past, applicants for NPDES permits for process wastewaters and other non-

storm water discharges have been granted approval to discharge into municipal separate storm sewers, provided that the permit conditions for the discharge are met at the point where the discharge enters into the separate storm sewer. Permits for such discharges must meet applicable technology-based and water-quality based requirements of Sections 402 and 301 of the CWA. If the permit for a non-storm water discharge to a municipal separate storm sewer contains water-quality based limitations, then such limitations should generally be based on meeting applicable water quality standards at the boundary of a State mixing zone (for States with mixing zones) located in a water of the United States. Water-quality based limitations would also generally be established during dry weather conditions, when the discharge would not be mixed with storm water in the municipal separate storm sewer (unless receiving water conditions during wet weather dictate more stringent water-quality based limitations).

The legislative history to Section 405 of the WQA supports EPA's interpretation of the non-storm water prohibition. Senator Durenberger stated that the prohibition on non-storm water discharges into municipal separate storm sewers provision applies to non-storm water discharges to municipal separate storm sewers that are currently illegal under the Act (Vol. 133 Cong. Rec. S752 (daily ed. January 14, 1987)). By stating that the provision applies to discharges that are currently illegal, it is clear that Senator Durenberger intended that the effective prohibition apply to non-storm water discharges without NPDES permits, which have been illegal under the CWA since 1972.

The Agency believes that the effective prohibition does not apply to discharges with separate NPDES permits because there would be no additional treatment or environmental benefit from constructing a new sewer line discharging into the same receiving water. If the discharge was not directed into a new discharge line, it might be forced into a Publicly Owned Treatment Works (POTW). However, certain discharges, such as high volumes of non-contact cooling water, may decrease the overall treatment efficiency of the POTW without notable treatment benefits for the cooling water. Overall, the quality of the receiving water is not likely to be improved by installing new discharge lines.

All options will be considered when an applicant applies for a NPDES permit for a non-storm water discharge to a municipal separate storm sewer. In some cases, permits will be denied for discharges to storm sewers that are causing water quality problems in receiving waters. However, not all discharges present such problems, and in these cases EPA or State permit writers may allow such discharges to municipal separate storm sewers within appropriate permit limits.

Today's notice proposes two permit application requirements that are designed to begin to implement the effective prohibition. The first proposed requirement, discussed in § VII.G.6.a, addresses a screening analysis which is intended to provide sufficient information to develop priorities for a program to detect and remove illicit discharges. The second provision, discussed in § VII.G.7.b, requires municipal applicants to develop a recommended site-specific management plan to detect and remove illicit discharges (or ensure they are covered by an NPDES permit) and to control improper disposal to municipal separate storm sewer systems.

Conveyances which continue to accept other "non-storm water" discharges (e.g., discharges without an NPDES permit) do not meet the definition of municipal separate storm sewer, and are not subject to section 402(p)(3)(B) of the CWA unless the non-storm water discharges are issued separate NPDES permits. Instead, conveyances which continue to accept non-storm water discharges which have not been issued separate NPDES permits are subject to section 301 and 402 of the CWA. For example, combined sewers which convey storm water and sanitary sewage are not separate storm sewers and must comply with permit application requirements at 40 CFR 122.21 as well as other regulatory criteria for combined sewers.

3. Site-Specific Storm Water Quality Management Programs for Municipal Systems

Today's notice proposes fundamental changes to EPA's approach to control the discharge of pollutants from municipal separate storm sewers. Prior to the enactment of the WQA, NPDES permits for such discharges were required to meet all applicable provisions of section 402 and section 301 of the CWA. The WQA amended this requirement by adding section 402(p)(3)(iii) to the CWA which mandates that permits for discharges from municipal separate storm sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Director determines appropriate for the control of such pollutants.

When enacting this provision, Congress was aware of the difficulties in regulating discharges from municipal separate storm sewers solely through traditional end-of-pipe treatment and intended for EPA and NPDES States to develop permit requirements that were much broader in nature than requirements which are traditionally found in NPDES permits for industrial process discharges or POTWs. As Senator Stafford explained, municipal storm sewer system "permits will not necessarily be like industrial discharge permits. Often, an end-of-the-pipe treatment technology is not appropriate for this type of discharge. As an EPA official explained in a meeting of the conferees:

> These are not permits in the normal sense we expect them to be. These are actual programs. These are permits that go far beyond the normal permits we would issue for an industry because they in effect are programs for stormwater management that we would be writing into these permits." (Vol. 132 Cong. Rec. S16425 (daily ed. Oct. 16, 1986))

A shift towards comprehensive storm water quality management programs to reduce the discharge of pollutants from municipal separate storm sewer systems is appropriate for a number of reasons. First, discharges from municipal storm sewers are highly intermittent, and are usually characterized by very high flow rates occurring over relatively short time intervals. For this reason, municipal storm sewers are usually designed with an extremely high number of outfalls within a given municipality, to reduce potential flooding. Traditional end-of-pipe controls are limited by material management problems that arise with high volume, intermittent flows occurring at a large number of outfalls.

Second, the nature and extent of pollutants in discharges from municipal systems will depend on the activities occurring on the lands which contribute runoff to the system. Municipal separate storm sewers tend to discharge runoff drained from lands used for a wide variety of activities. Given the material management problems associated with end-of-pipe controls, management programs that are directed at pollutant sources are often more practicable than relying solely on end-of-pipe controls.

In past rulemakings, much of the criticism of the concept of subjecting discharges from municipal separate storm sewers to the NPDES permit

program focused on the perception that the rigid regulatory program applied to industrial process waters and effluents from public sewage treatment plants was not appropriate for the site-specific nature of the sources which are responsible for the discharge of pollutants from municipal storm sewers.

The water quality impacts of discharges from municipal separate storm sewer systems depends on a wide range of factors including: the magnitude and duration of rainfall events, the time period between events, soil conditions, the fraction of land that is impervious to rainfall, land use activities, the presence of illicit connections, and the ratio of the storm water discharge to receiving water flow. In enacting Section 405 of the WQA, Congress recognized that permit requirements for municipal separate storm sewer systems should be developed in a flexible manner to allow site-specific permit conditions to reflect the wide range of impacts that can be associated with these discharges. The legislative history accompanying the provision explained that "[p]ermits for discharges from municipal separate stormwater systems * * * must include a requirement to effectively prohibit non-stormwater discharges into storm sewers and controls to reduce the discharge of pollutants to the maximum extent practicable. * * * These controls may be different in different permits. All types of controls listed in subsection [(p)(3)(C)] are not required to be incorporated into each permit" (Vol. 132 Cong. Rec. H10576 (daily ed. October 15, 1986) Conference Report). Consistent with the intent of Congress, EPA intends to develop permit application requirements that are sufficiently flexible to allow the development of site-specific permit conditions.

4. Large and Medium Municipal Storm Sewer Systems

Earlier regulatory efforts addressing NPDES permit requirements for storm water discharges required permits for discharges from municipal separate storm sewers located in urbanized areas that were designated by the Census Bureau. The Census Bureau defines urbanized areas to provide a description of the separation of urbanized and rural population and housing in the vicinity of large cities. A designated urbanized area consists of a central city or cities and surrounding closely settled territory or "urban fringe". Urbanized areas comprise an incorporated place and adjacent densely settled surrounding area that together have a minimum population of 50,000. However, for a number of reasons, the NPDES permit program for municipal separate storm sewers was not successfully implemented.

During the reauthorization of the CWA, Congress intervened by reaffirming its intent to establish a permit program for municipal separate storm sewers and establishing phased deadlines for its implementation. The amended CWA establishes priorities for EPA to develop permit application requirements and issue permits for discharges from three classes of municipal separate storm sewer systems. The WQA requires that NPDES permits be issued for discharges from large municipal separate storm sewer systems (systems serving a population of more than 250,000) by no later than February 4, 1991. Permits for discharges from medium municipal separate storm sewer systems (systems serving a population of more than 100,000, but less than 250,000) must be issued by February 4, 1993. After October 1, 1992, the permit requirements of the CWA are restored for all other discharges from municipal separate storm sewers.

The priorities established in the Act are based on the size of the population served by the system because, in general, discharges from municipal separate storm sewers located in municipalities with higher populations are thought to present a higher potential for contributing to adverse water quality impacts. NURP and other studies have verified that the event mean concentration of pollutants in urban runoff from residential and commercial areas remains relatively constant from one area to another, indicating that pollutant loads from urban runoff strongly depend on the total area of developed land, which in turn is related to population.

The term "municipal separate storm sewer system" is not defined by the Act. By not defining the term, Congress intended to provide EPA discretion to define the scope of municipal systems consistent with the objectives of developing site-specific management programs in permits to reduce pollutants in discharges from municipal separate storm sewer systems.

In evaluating options for defining large and medium municipal separate storm sewer systems, EPA will consider:

- The inter-jurisdiction complexities associated with municipal governments;
- The fact that many municipal storm water management programs have traditionally focused on water quantity concerns, and have not evaluated water quality impacts of system discharges or developed measures to reduce pollutants in such discharges;
- The advantages of developing system-wide storm water management programs for municipal systems;
- The geographic basis necessary for planning of comprehensive management programs to reduce pollutants in discharges from municipal separate storm sewers to the maximum extent practicable;
- The geographic basis necessary to provide flexibility to target controls on areas where water quality impacts associated with discharges from municipal systems are the greatest and to provide an opportunity to develop cost-effective controls;
- Need to establish a reasonable number of permits for municipal systems during the initial phases of program development that will provide an adequate basis for a storm water quality management program for over 13,000 municipalities after the October 1, 1992 general prohibition on storm water permits expires; and
- Congressional intent to allow the development of jurisdiction-wide, comprehensive storm water management programs with priorities given to the most heavily populated areas of the country.

a. Geographic Basis for Developing Storm Water Quality Management Programs for Developed Areas. Municipal storm sewer systems are installed to provide drainage for developed lands. In larger urbanized areas, extensive development continues beyond the boundaries of individual incorporated cities and towns. The concentration of many pollutants in discharges from municipal separate storm sewers are often low relative to many industrial process and POTW discharges. However, where a widespread area supports a high population, the cumulative impact of pollution loads associated with discharges from many municipal separate storm sewers can have significant water quality impacts. Where water quality impacts are associated with discharges from municipal storm sewer systems, the opportunity to develop appropriate controls must be related to the pollution source.

Most larger urbanized areas in the country are comprised of one or more core cities surrounded by urbanized areas outside of the city boundaries. Often, the population which resides outside of the core cities greatly exceeds the population which resides within the core cities' boundaries. Generally, the core areas have experienced development earlier than surrounding areas, with most new development occurring outside of the boundaries of

the core cities. For urbanized areas which follow this model, it may often be practicable to emphasize different aspects of a comprehensive storm water quality management program to reduce pollutants in discharges from separate storm sewers in different parts of the urbanized area.

Problems associated with illicit discharges of non-storm water to municipal separate storm sewers are generally expected to be more severe in areas which have undergone extensive development prior to the enactment and implementation of ordinances and other controls which prohibit illicit discharges to separate storm sewers. In these areas, identification and removal of illicit discharges provides opportunities for dramatic improvements in the quality of discharges from separate storm sewers.

In heavily developed areas, the opportunities for municipalities to implement some types of controls to reduce pollutants in municipal separate storm sewer discharges may be limited by the scarcity of land for controls, the high cost of retrofitting and institutional constraints. Areas of new development offer municipalities a more practicable opportunity to reduce pollutants in storm water discharges for a number of reasons. First, land is more readily available for structural controls such as detention and retention devices, which when incorporated into the design of a developing area can often offer multipurpose amenities to the development and may raise the value of the development. Second, other controls such as grass swales and grading patterns can be more easily implemented during the initial phases of development. Also, programs such as those in Florida and Maryland have focused on controls on new development because the storm water program can be administratively coordinated with other administrative procedures associated with new development such as subdivision, grading or building approvals.

Ideally, storm water quality management controls should be planned, developed, and coordinated on a watershed basis. This is true because pollutants in discharges from municipal storm sewer systems can come from diffuse sources over a wide area and a comprehensive pollutant control program is often needed to adequately protect receiving water quality. This geographical approach to water quality management has been identified as a key element to success in reducing pollutant discharges associated with urban runoff. Also, watershed planning allows priorities to be evaluated as part of a comprehensive assessment of all pollutant sources (all point and non-point sources) to the receiving water and the physical nature of the receiving water. Finally, many storm water pollution controls also control peak flow rates. These measures to control water quality should be coordinated with water quantity control measures. For example, retention basins which discharge into the lower portions of a watershed may create larger peak flows in small or medium-sized rivers and streams by delaying discharges in the lower portion of the watershed to coincide with increased flows caused by runoff in the upper portions of the watershed. The increased peak flows may cause flooding problems or accelerate flow velocities which can accelerate stream-bank and stream-bed erosion. In this manner, situations where controls which affect the rate of flow have adverse impacts on downstream water quality can be avoided.

Unfortunately, several administrative burdens are associated with defining, for the purpose of implementing the WQA, municipal storm sewer systems on a watershed basis. First, it is difficult to accurately estimate the population served by a given watershed. Second, watersheds do not follow political boundaries, thereby creating administrative difficulties in developing basin-wide control programs. Finally, it is difficult to establish an objective definition for the appropriate size of watershed basins, as smaller streams combine to form larger ones. The EPA requests comments on the use of watershed boundaries to define large and medium municipal separate storm sewer systems. Although the Agency does not prefer this option for large and medium systems, the Agency does favor incorporating watershed planning concepts and controls into the permit application requirements proposed in today's notice, and ultimately into permits for municipal separate storm sewer systems. As discussed in more detail later in today's notice, the permit application requirements proposed in today's notice encourage that, where practicable, management plans be developed which are consistent with the nature of the watershed. EPA requests comments on adapting the permit application requirements discussed in today's notice to accommodate the development of management programs based on a watershed basis.

b. Municipal Governments. A wide range of municipal entities may have primary responsibility for municipal storm sewers, including cities, towns, counties, flood control districts, and State Departments of Transportation. These municipalities perform a wide variety of other functions and are delegated a wide variety of legal authority by the State in which they are located. The potential role of various municipalities in reducing pollutants in discharges from municipal separate storm sewers will vary greatly as reflected by the nature of the pollution problem and the legal authority, functions, and administrative and financial capabilities of the municipality.

As discussed above, in larger urbanized areas, water quality impacts associated with diffuse sources contributing pollutants to discharges from municipal separate storm sewers will extend beyond the boundaries of core cities. In these areas, it is possible that a significant number of municipalities may own or operate municipal separate storm sewers.

Section VII.G.2 of this preamble provides a proposed strategy for developing storm water quality management programs for reducing pollutants in discharges from municipal separate storm sewers through NPDES permits. The components of the storm water quality management programs discussed in today's notice can be divided into two general categories. The first category is comprised of measures that do not require the use of police powers to implement. These components include source identification measures associated with mapping, characterizing discharges by estimating flow rates, pollutant concentrations, pollutant loadings, sampling discharges and identifying illicit connections, and implementing certain controls to reduce pollutants such as public education measures to encourage proper oil disposal or recycling or proper pesticide use. This category also includes activities such as maintaining the separate sewers, and design and engineering methods such as designs for new roads to minimize curb and gutter storm water collection systems. Municipal dischargers generally will not lack legal authority to implement these components of the storm water quality management program.

The second category is comprised of measures that generally may require municipal police powers to implement. Examples of these types of controls include reducing pollutants in construction site or industrial site runoff which discharges to municipal separate storm sewers. The police power required to implement these provisions can take a variety of forms including the power to

develop and enforce ordinances, contracts, orders or similar means.

The municipal entity with primary control over a storm sewer may not have sufficient police powers to implement all aspects of a comprehensive storm water quality management plan. In such cases, a combination of municipal entities may be required in order to guarantee sufficient legal authority, financial capability and administrative capability to implement all components of a storm water quality management program. The degree to which municipalities without sufficient police powers are addressed is a major difference between the options presented below for defining large and medium municipal separate storm sewer systems.

C. Options Considered. EPA requests comments on a number of options for defining large and medium municipal separate storm sewer systems. Generally, the options on which EPA is requesting comments can be classified into two categories. The first category of options, listed below as Options 1, 2, 3, and 4 would define municipal systems in terms of the municipal entity which owns or operates storm sewers. The second category of options would define municipal systems on a geographic basis. With Options 5, 6, and 7, all municipal separate storm sewers within the specified geographic area would be part of the municipal system, regardless of which municipal entity owns or operates the storm sewer.

EPA favors those options for defining municipal separate storm sewer systems that rely primarily on the municipal entity which owns or operates or otherwise has jurisdiction over storm sewers. These options are preferred because they will lessen the administrative complexities of initially developing the permit program for discharges from municipal separate storm sewers by decreasing the number of municipal entities which will initially be subject to the permit program.

EPA requests comments on a wide range of options. The Agency will use the comments received on the various options when developing a final regulation defining large and medium municipal separate storm sewer systems. In addition, the Agency believes that in certain circumstances, comments received on the various options will be beneficial when developing strategies for designating municipal separate storm sewers on a system-wide basis under section 402(p)(2)(E) of the CWA for a permit prior to promulgation of final permit application regulations or prior to development of additional regulations under section 402(p)(6) of the CWA.

Also, EPA intends to consider those municipal separate storm sewers which are ultimately not included in the definition of large and medium separate storm sewer systems, along with other municipal storm sewers, in the studies mandated under section 402(p)(5) of the CWA for appropriate regulation after October 1, 1992 under section 402(p)(6) of the Act. Comments received during this rulemaking, along with other information, will constitute a portion of the section 402(p)(5) study. Therefore, EPA requests comments on the appropriateness of all options for study under section 402(p)(5), and on corresponding procedures and methods to reduce pollutant in discharges from municipal separate storm sewer systems described in each option that would be appropriate as regulations under section 402(p)(6). EPA will, where appropriate, consider today's request for comments on the discharges from those municipal separate storm sewers identified in the various options for defining municipal systems as a proposal for regulation under section 402(p)(6) and establish appropriate regulations (for example, the final regulation may define large and medium municipal separate storm sewer system as proposed in Option 1, and also promulgate permit application requirements for counties with a population of 100,000 or more in unincorporated areas (see Option 3) under section 402(p)(6) with a later date for permit application submittal).

It should be noted that discharges from municipal separate storm sewer systems that are not included in the final regulatory definition of large or medium municipal separate storm sewer system may still be required to obtain an NPDES permit if they are determined, under section 402(p)(2)(E) of the CWA, to be a significant contributor of pollutants or to be contributing to a violation of a water quality standard (see § 122.26(a)(1)(v) of the proposed regulation). The Agency is considering the use of the section 402(p)(2)(E) authority to determine the appropriate scope of large or medium municipal separate storm sewer systems on a case-by-case basis (see Option 2 below).

The Agency prefers to use different criteria to determine the appropriate scope of large or medium municipal separate storm sewer systems on a case-by-case basis (see Option 1 below).

The Agency also requests comments on whether non-municipal, non-industrial storm water discharges (e.g., storm water discharges from Federal facilities without industrial activities) that have been determined to be significant under section 402(p)(2)(E) should be addressed as part of a large or medium municipal separate storm sewer system.

In addition, the Agency requests comments on providing municipalities with an opportunity (see proposed § 122.26(f)(3)), to submit a petition to adjust the Census estimates of the population of the municipality to account for storm water discharges to combined sewers. The Agency prefers that storm water discharges to combined sewers be addressed in permits issued for discharges from combined sewer overflows (CSOs) and from publicly owned treatment works (POTWs).

Option 1: Systems Owned or Operated by Incorporated Places Augmented by Potential Inclusion of Interrelated Discharges. EPA proposes that the definition of large and medium municipal separate storm sewer system include those municipal separate storm sewers owned or operated by "incorporated places" with a population which exceeds the appropriate limit. (EPA is proposing to define the term "incorporated place" at 40 CFR 122.26(b)(3) to include the District of Columbia, or a city, town or village that is incorporated under the laws of the State in which it is located. The proposed term "incorporated place" does not include county governments, and certain other municipal entities such as flood control districts, and sewer districts.)

The Agency believes that this approach would provide for the initial development of core storm water management programs in the largest cities in the Nation. The Census Bureau estimates for 1986 indicate that 60 incorporated places have populations of more than 250,000 and that 122 places have populations of more than 100,000 but less than 250,000. The Agency recognizes that many of these cities currently do not have comprehensive programs to address storm water quality. In addition, most of the NPDES States and EPA Regions have limited experience in addressing storm water quality management in the comprehensive manner that is envisioned in this rulemaking. Because of the relative newness of the storm water NPDES program for discharges from municipal systems, the Agency anticipates that, generally, more resources will be needed to begin to implement the initial phases of the program, and therefore, Option 1 provides a reasonable and realistic basis for the initial phases of

development of this program. In addition, this option provides the maximum flexibility for EPA to continue to study the appropriate manner to expand the NPDES program after October 1, 1992 for discharges from municipal separate storm sewers. In this manner, additional flexibility to develop requirements which are tailored to the legal nature and capabilities of various municipalities will be provided.

Option 1 focusses primarily on discharges from municipal separate storm sewer systems that are owned or operated by one municipality, an "incorporated place" with a population of 250,000 or more, or of 100,000 or more. However, in many cases, discharges from municipal separate storm sewers owned or operated by "incorporated places" with a population of 250,00 or more, or of 100,000 or more, will have interrelated impacts and be otherwise interrelated (but not necessarily physically interconnected) to discharges from municipal separate storm sewers owned or operated by municipal entities *other than* an "incorporated place" with a population of 250,000 or more, or 100,000 or more. Wide differences in the physical nature and in water-quality impacts can be expected between drainage systems of various developed areas, as well as differences in the legal authorities and jurisdictions associated with municipalities responsible for storm water discharges.

EPA prefers the Director of the NPDES program make case-by-case decisions on the total scope of each large and medium municipal separate storm sewer system. The Agency is proposing that the definitions of large and medium municipal separate storm sewer system provide for case-by-case designation of interrelated discharges from municipal separate storm sewers that are owned or operated by municipal entities *other than* an "incorporated place" with a population of 250,000 or more, or 100,000 or more based on a discretionary consideration of: the physical interconnections between the municipal separate storm sewers; the location of discharges; the quantity and nature of pollutants discharged; the nature of the receiving waters; or other relevant factors (see proposed § 122.26(b)(4)(ii) and (7)(ii)). For example, discharges from separate storm sewers associated with a State highway running through an "incorporated place" with a population of over 100,000 along with discharges from separate storm sewers owned by the "incorporated place" may adversely impact a stream. In such a case, the Director may consider designating the discharge from the State highway as *part* of the municipal separate storm sewer system serving that "incorporated place".

Accordingly, the proposed definitions of the terms large and medium municipal separate storm sewer system are intended to provide, within the definitions themselves, a flexible and administratively simple way for the Director to decide, on a case-by-case basis, whether and how to include other relevant "interrelated" municipal discharges (for example, discharges from one or more other adjacent smaller municipalities' separate storm sewers systems) into each large or medium municipal separate storm sewer system for NPDES permitting purposes. The approach in the proposed definitions would not require the Director to first determine that the smaller municipality's discharge meets the standard of section 402(p)(2)(E).

Thus, under Option 1, a consideration of location-specific factors would provide flexibility to establish the appropriate total scope of each "municipal separate storm sewer system". In addition, this approach may reduce the burden on some municipalities designated into the "system" when they participate, with the "incorporated place" whose storm sewers are the core of the same system in the development of a single system-wide permit application.

The municipality to be designated into the NPDES-regulated "system" on this basis would not have to meet any criteria for size of population.

EPA requests comments on the appropriate criteria and procedures for designating other municipalities into the large and medium municipal separate storm sewer systems on a case-by-case basis.

Option 2: Systems Owned or Operated by Incorporated Places Augmented by Including Other Municipal Discharges Determined to be Significant Under Section 402(p)(2)(E) Authority. This Option is similar to Option 1, in that it would focus primarily on discharges from municipal separate storm sewer systems that are owned or operated by one municipality, an "incorporated place" with a population of 250,000 or more, or of 100,000 or more. However, this option would differ in the approach to addressing interrelated municipal separate storm sewer discharges from multiple municipalities.

Under Option 2, a discharge from a municipal separate storm sewer that is owned or operated by a municipal entity *other than* an incorporated place with a population of 250,000 or more or a population of 100,000 or more, but less than 250,000, could be designated as *part* of the large or medium municipal separate storm sewer system if the Director of the NPDES program determines that the discharge is contributing to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. Such a determination could be based on the consideration of: the location of the discharge with respect to waters of the United States; the size of the discharge; the quantity and nature of the pollutants discharged to waters of the United States; and other relevant factors (see § 122.26(a)(1)(v)(A)–(D) of the proposed regulation).

This option provides different designation criteria and standards and less administrative flexibility than the designation process described in Option 1. Option 2 would still allow consideration of location specific factors, but would establish a more stringent threshold which must be met before expanding the scope of a large or medium municipal separate storm sewer system on a case-by-case basis.

Municipalities included in the NPDES-regulated "system" on the basis of section 402(p)(2)(E) would not have to meet any specific criteria based on size of population.

As in Option 1, Option 2 may reduce the burden on some municipalities deemed to be part of the large or medium municipal separate storm sewer system when they participate, with the "incorporated place" whose storm sewers are the core of the same "system", in the development of a single system-wide permit application.

EPA request comments on the appropriate criteria and procedures for making case-by-case determinations of the scope of large and medium municipal separate storm sewer systems using the § 402(p)(2)(E) authority.

Option 3: Systems Owned or Operated by Counties. In most States, the primary divisions of the State are counties. In Louisiana, the primary divisions are parishes. In Alaska, the State is divided into organized or unorganized boroughs.

The importance of a county in the government structure of a State varies greatly from State to State. In some western and southern States, counties are divided into townships for limited administrative purposes. In these States, the county is the basic unit of government. In a group of States extending from New York and New Jersey into the Mid-West, the entire county may be divided into townships. In other States, the county is divided

into incorporated and unincorporated areas, with the importance of the county government varying throughout the county. Generally, counties have an important role in highway construction and maintenance (the Census Bureau estimates that, nation-wide, counties are responsible for 32 percent of the expenditures of local governments made for highways), and may assume other responsibilities for drainage.

EPA requests comments on extending the definition of large and medium municipal separate storm sewers to include, in addition to municipal separate storm sewer systems owned or operated by an incorporated place with a population equal to, or exceeding the appropriate limit, storm sewers that are owned or operated by a county government entity in counties with the appropriate population. Under this approach, municipal separate storm sewers owned or operated by cities, towns, townships, boroughs and other municipal entities with a population of less than 100,000 within the county would not be defined as part of the county system.

As discussed above, the legal authority of county governments will vary from State to State, and in many counties may vary throughout the county. To successfully implement this approach with respect to county owned or operated separate storm sewers, permits will have to incorporate storm water quality management programs which would reflect and be compatible with the variations in the county government's legal authority. Thus, the requirements in the management program may vary to reflect the legal authority of the county in a given location. For example, in unincorporated areas of the county, where the county is the primary municipal entity, the storm water quality management program may have all of the appropriate components that are discussed in today's notice. However, in certain areas of the county with incorporated places with a population of less than 100,000, the permit may only address control measures which do not require legal authority to implement (see above).

Census estimates for 1986 indicate that 185 counties have populations of 250,000 or more, while 225 counties have populations of 100,000 or more, but less than 250,000. After considering the number of permits that would be initially required under this option, along with the extensive surface area covered by the combined counties, the Agency believes that this option is not practicable for the initial phases of program development. Rather than addressing all counties with a population of 250,000 or more or between 100,000 and 250,000, many of which encompass extensive rural areas, in the initial phases of program development the Agency will consider various alternatives for establishing the size of the population which is served by the county.

EPA also requests comment on basing the definition of the population served by the municipal storm sewer system on the population of a county which resides within urbanized areas that have been defined by the Census Bureau. This system of measuring populations would provide a means to establish priorities for counties based on the amount of urban developed land in the county. Although all municipal storm sewers owned or operated by an applicable county would be part of the municipal separate storm sewer system, and would be subject to permit requirements, measures to reduce pollutants to the maximum extent practicable would be focused on where water quality improvements are needed, i.e., on the most heavily populated areas of the county and on industrial lands, which are generally expected to cause more water quality impacts.

EPA also requests comment on defining the population served by the county owned or operated municipal storm sewer system as that population of the county which resides outside of incorporated areas of the county. This approach would focus on counties with high populations in unincorporated areas, because these counties would be assumed to generally have greater legal authority, and financial capability for developing and implementing a storm water quality management program. This approach assumes that, in unincorporated areas of a county with a high population, the county government is the functional equivalent of an incorporated government.

Option 4: Systems Owned and Operated by States. Each State has an extensive separate storm sewer system that drains State highways. EPA requests comments on, in addition to other systems of municipal storm sewers, all separate storm sewers associated with State highways should constitute a single system. This approach may simplify the permit application and issuance process for State Departments of Transportation and for the permit issuing agency by consolidating all State highways into one system. In addition, this approach provides a basis for consistent regulation of municipal separate storm sewers associated with State highways which would allow priorities to be established on a consideration of the entire State system. EPA is considering this option in conjunction with other options (for example, EPA could define large municipal separate sewer systems to include municipal storm sewers described in Option 1 and Option 4).

Option 5: Incorporated Place Boundaries. Within the boundaries of an incorporated place, in addition to the storm sewer owned or operated by the incorporated place, some municipal separate storm sewers may be operated by county agencies, State agencies, flood control districts or sewer districts.

Option 5 differs from Option 1 in that all municipal separate storm sewers within an incorporated place with an appropriate population would always be part of the municipal system, instead of beginning with only those municipal storm sewers owned or operated by the incorporated place. Where multiple agencies within a single jurisdiction have storm water management responsibilities, the Agency would consider appropriate interagency agreements to ensure the development of comprehensive control programs and the development of permit conditions which may, for a given discharge, require one municipal entity to implement one set of controls which require police power to implement and another municipal entity to implement a different set of controls which pertain to the operation of the storm sewer.

This approach would create some additional complexity to the initial phases of development of the NPDES storm water program by increasing the scope of the program to include additional municipal permittees. Option 5 would also provide for case-by-case designations as discussed under Option 1 for interrelated discharges from municipal separate storm sewers outside of the incorporated place with a population of 250,000 or more, or of 100,000 or more.

However, the basis of the Option 5 approach would ensure that all discharges from municipal separate storm sewers within the incorporated place were initially addressed under the NPDES program and would provide a mechanism for developing intergovernmental agreements where necessary.

Option 6: County Boundaries. EPA requests comments on defining large and medium municipal separate storm sewer systems to include all municipal separate storm sewers that are located in a county with a population that exceeds the appropriate statutory population limit. Under this approach,

all municipal separate storm sewers that are located within a county with the appropriate population would constitute a large or medium municipal system.

The Agency does not favor defining large and medium municipal systems based on county boundaries at this time because of the extremely large number of municipal entities which would be affected during the initial phases of the storm water program. In addition to the 410 counties with populations of 100,000 or more, several thousand other municipal entities would be affected under this approach. The Agency prefers to develop core programs within the central cities before addressing these municipalities. For this reason, EPA prefers, at this time, to continue to consider this option under the studies mandated under Section 402(p)(5).

In comparing this option to option 1, it should be noted that addressing discharges from separate storm sewers within counties would, in larger urbanized areas, provide a geographic basis necessary for the planning of comprehensive programs to reduce pollutants in discharges from municipal separate storm sewer systems to the maximum extent practicable.

The EPA believes that basing the definition of large and medium municipal storm sewer systems on counties would offer additional flexibility in developing pollution control strategies and targeting controls where water quality improvements are needed and can be achieved in a practicable manner. For example, the NURP study indicated that it is much more feasible and cost-effective to develop controls for areas that are in the process of being developed than it is to develop controls for areas that are more fully developed. This option would allow municipalities flexibility to address storm water concerns associated with many areas of rapid development, rather than relying more heavily on retrofitting controls in older urban core areas defined by city limits.

The water quality impacts of urban runoff are generally more significant for smaller rivers and streams where the ratio of the portion of the drainage basin that is developed to the portion that is undeveloped is relatively high. The county option provides an adequate basis to address existing and future water quality impacts associated with municipal separate storm sewers for many of these water bodies.

Option 7: Unbanized Areas. The storm water permit application regulations that were promulgated in September 26, 1984 established the scope of the requirement to obtain a permit by limiting the definition of storm water point source as it related to municipal separate storm sewers to areas that were located on urbanized areas designated by the Bureau of Census. Prior to the enactment of the WQA, the use of the urbanized area designation to limit the scope of NPDES permit program served as an important tool to establish manageable limits on the large administrative burden associated with preparing and processing permit applications for individual discharges from municipal separate storm sewers. However, the WQA provides several mechanisms which ease this burden, including authorizing the Director to issue permits for municipal storm sewers on a system- or jurisdiction-wide basis, thereby greatly reducing the administrative burden associated with permitting municipal storm sewers. Under this new authority, the advantages of retaining the use of urban area designations to determine initial permit applicability are outweighed by the difficulties associated with defining which discharges are within the urban area and with using urban area boundaries which often do not follow political boundaries. Because the boundaries of urban areas do not follow political boundaries, this option may create additional administrative complexity where some discharges from in a given municipality are addressed initially, and other discharges in other parts of the municipality must be addressed later under regulations developed under section 402(p)(6). Further, the urban areas designated in 1980 do not include many other areas that are undergoing rapid development today. Using more recent estimates of urban areas may create uncertainty in the regulatory definition. Also, areas of new development would not be addressed until after the development had progressed significantly, and therefore, opportunities to limit pollutants from the areas of new development would be limited. Nationwide, urban areas increased by approximately 4% in area annually.

5. System-Wide Permit Applications

Section 402(p)(3)(B)(i) of the amended CWA provides that permits for municipal discharges from municipal storm sewers may be issued on a system-wide or jurisdiction-wide basis. This provision is an important tool towards reaching the goal of developing the comprehensive storm water management programs envisioned by the Act.

The system-wide permit approach represents a drastic change from the regulatory approach taken in the 1984 regulations, which required individual permit applications for each outfall located in a Census designated urban area. The 1984 permit applications were to serve as the basis for developing conditions for individual permits for each discharge. EPA proposes to abandon the individual permit approach for municipal storm sewer outfalls in favor of a program approach that will allow system-wide planning and implementation and appropriate targeting of controls based on an evaluation of priorities.

Under the permit application requirements proposed in today's rule, if the appropriate co-applicants are identified, one permit application may be submitted for a large or medium municipal separate storm sewer system (see § VII.E.4 above). System-wide permit applications can in turn be used to issue system-wide permits which could cover all discharges in the system.

Where several municipal entities are responsible for obtaining a permit for various discharges within a single systems, the Agency will encourage system-wide permit applications involving the several municipal entities for a number of reasons. The system-wide approach not only provides an appropriate basis for planning activities and coordinating development, but also provides municipal entities participating in a system-wide application the means to spread the resource burden of monitoring, evaluating water quality impacts, and developing and implementing controls. The system-wide approach provided in today's notice recognizes differences between individual municipalities with responsibilities for discharges from the municipal system by allowing for different permit conditions to apply to different municipalities. To encourage this flexibility, the permit application requirements proposed in today's notice allow individual municipalities participating in system-wide applications to submit information regarding municipality specific storm water quality management programs to reduce pollutants in system discharges.

In some cases, it may be undesirable for all municipal entities with storm water responsibility within a municipal system to be co-permittees under one system-wide permit. The permit application requirements proposed in today's notice allow individual municipal entities within the system to submit permit applications and obtain a permit for that portion of the storm sewer system for which they are responsible. Thus, several permits may be issued to cover various subdivisions of a single municipal system.

6. Co-Permittees to System-wide Permits

Although several of the proposed options for defining large and medium separate storm sewer systems focus primarily on municipal separate storm sewers that are owned or operated by incorporated cities, towns or villages with the appropriate population (e.g., options 1, 2, or 5), the definition of the "system" could be modified by the Director of the NPDES program on a case-by-case basis to include municipal separate storm sewers owned or operated by other municipal entities.

To accommodate the issuance of permits in which several municipalities are co-permittees, the permit applications for municipal storm sewers described in today's proposal have been designed to facilitate multiple municipal agencies (i.e. flood control districts, local governments, State Departments of Transportation) submitting a joint permit application appropriate for issuing system-wide permits with multiple co-permittees. EPA is requesting comments on this approach, and when it would be appropriate to tailor the permit application requirements to meet the needs of different types of municipal agencies (for example, should distinct permit application requirements be developed for State Departments of Transportation).

G. Permit Application Requirements for Large and Medium Municipal Systems

The August 12, 1985 notice had proposed to clarify that storm water discharges from municipal separate storm sewers would be classified as Group I storm water discharges. The Group I classification, indicating a higher potential for contributing to an adverse environmental impact, was justified on the basis of data from the NURP study of urban runoff which indicate that in many instances BOD loadings in urban runoff were estimated as comparable to that from secondary treatment facilities, while TSS loadings were estimated to be a factor of ten times higher than loadings from secondary treatment plants. The NURP study also found high levels of heavy metals and several organic chemicals in urban runoff.

The Group I classification triggered permit application requirements which included quantitative data sampling for each Group I outfall. In the August 12, 1985 notice, EPA proposed to require that quantitative sampling data for all outfalls from municipal separate storm systems be submitted in permit applications. Eight comments were received on this issue. Six of the commenters objected to the proposal because they felt that such a requirement would create an undue burden on municipalities which have many outfalls. Some municipalities suggested identifying the area drained by the system and then selecting points for representative sampling. Another commenter argued that if three or four outfalls are receiving similar runoff, the participant should only be required to sample one outfall. Other commenters suggested that only outfalls that are suspected of having pollution problems should be tested, although no basis for determining such "problem" outfalls were offered. Two of the eight commenters, both State agencies, felt that all outfalls should be tested.

Today's notice proposes to abandon the Group I classification system and requests comments on replacing the prior permit application system for discharges from municipal systems, based primarily on sampling all outfalls, with a system that involves comprehensive system-wide evaluation of pollutant sources. The permit application requirements for discharges from large and medium municipal separate storm sewer systems proposed in today's notice do not focus on the collection of data at each outfall of the municipal system, but rather require a screening analysis to identify areas of the system affected by illicit non-storm water discharges and some representative sampling.

The permit applications for municipal storm sewer systems proposed in today's notice are applicable to large municipal storm sewer systems (systems serving a population of more than 250,000); medium municipal storm sewer systems (systems serving a population of more than 100,000 but less than 250,000) and any other municipal separate storm sewer system that is required to obtain a permit that the Administrator or NPDES State designates under section 402(p)(2)(E).

1. Strategy for Implementing the Permit Program

Given the differing nature of discharges from municipal separate storm sewer systems in different parts of the country, and the varying water quality impact of municipal storm sewer discharges on receiving waters, EPA intends to develop permit application requirements designed to lead to the development of site-specific storm water management programs. In order to effectively implement this goal, EPA is currently rethinking the appropriate structure and purpose of the NPDES permit program as it applies to municipal separate storm sewers systems. EPA believes that the appropriate permitting strategy (including both the permit application and the permit) for controlling pollutants from municipal separate storm sewers should involve the following components:

- Identifying significant sources of pollutants;
- Characterizing pollutants associated with discharges from the municipal separate storm sewer system;
- Estimating expected changes in the characteristics of pollutants in discharges from the municipal separate storm sewer system associated with population growth and changes in land use activities;
- Initially assessing impacts on the water quality of receiving water bodies;
- Proposing controls to reduce pollutants to the maximum extent practicable;
- Estimating the changes in the characteristics of pollutants in discharges from municipal separate storm sewer systems associated with proposed controls;
- Modifying the proposal of controls to reduce pollutants to reach desired objective (control pollutants to the maximum extent practicable);
- Implementing controls; and
- Evaluating changes in water quality associated with implementing controls.

EPA is proposing to structure the permit application requirements for large- and medium-sized municipal systems to address:

- The development of a municipal storm water management program to control pollutants in municipal storm water discharges. Viable management programs must have adequate legal authority and financial capabilities to ensure compliance with permit conditions;
- A process to identify sources which contribute pollutants to municipal storm water discharges;
- Initial characterization of the discharges from the municipal storm sewer system; and
- Proposed management plans to reduce the discharge of pollutants from municipal storm sewers to the maximum extent practicable.

This information is necessary to allow permits to be based on site-specific best professional judgement evaluations of appropriate pollution control measures. EPA requests comment on the overall strategy for developing a permit program for discharges from municipal separate storm sewers and on which aspects of the strategy should be incorporated into permit applications.

2. Structure of the Permit Application

EPA is proposing a two part permit application that is consistent with the goal of developing site-specific water quality management programs for storm water in NPDES permits

a. Part 1 Application. Part 1 of the permit application is intended to provide an adequate basis for identifying sources of pollutants to the municipal storm sewer system; to preliminarily identify discharges of storm water that are appropriate for individual permits; and to formulate a strategy for characterizing the discharges from municipal separate storm sewer systems.

The components of Part 1 of the permit application include a description of:

- General information regarding the permit applicant or co-applicants (§ 122.26(d)(1)(i));
- A description of the existing legal authority of the applicant(s) to control pollutants in storm water discharges and a plan to augment legal authority where necessary (§ 122.26(d)(1)(ii));
- Source identification information including a description of the historic use of ordinances or other controls which limited the discharge of non-storm water discharges to municipal separate storm sewer systems and the location of known municipal separate storm sewer outfalls (§ 122.26(d)(1)(iii));
- Information characterizing the nature of system discharges including existing quantitative data, the results of a field screening analysis to detect illicit discharges and illegal dumping to the municipal system; an identification of receiving waters with known water quality impacts associated with storm water discharges; a proposed plan to characterize discharges from the municipal storm sewer system by estimating pollutant loads and the concentration of representative discharges, and a plan to obtain representative data (§ 122.26(d)(1)(iv)); and
- A description of existing structural and non-structural controls to reduce the discharge of pollutants from the municipal storm sewer (§ 122.26(d)(1)(v)).
- The submittal of Part 1 of the permit application will allow EPA, or approved NPDES States, to adjust the Part 2 permit application requirements to assure flexibility in developing permit application requirements that are appropriate for the permit applicant given the site specific characteristics of the municipal storm sewer system.

b. Part 2 Application. Part 2 of the proposed permit application is designed to supplement information provided in the Part 1 permit application and to provide municipalities with the opportunity of proposing a comprehensive program of structural and non-structural control measures that will control the discharge of pollutants, to the maximum extent practicable, from municipal storm sewers. The components of the proposed Part 2 permit application include:

- A demonstration that the legal authority of the permit applicant satisfies regulatory criteria (§ 122.26(d)(2)(i));
- Supplementation of the source identification information submitted in the Part 1 application to assure that all major outfalls are identified (§ 122.26(d)(2)(ii));
- Information to characterize discharges from the municipal system including quantitative data from a screening analysis for detecting illicit discharges and illegal dumping, representative data and estimates of pollutant loadings and concentrations of pollutants in discharges (§ 122.26(d)(2)(iii));
- A proposed management program to control the discharge of pollutants to the maximum extent practicable, from municipal storm sewers (§ 122.26(d)(2)(iv));
- Assessment of the performance of proposed controls (§ 122.26(d)(2)(v));
- A financial analysis estimating the cost of implementing the proposed management programs along with identifying sources of revenue (§ 122.26(d)(2)(vi)); and
- A description of the roles and responsibilities of co-applicants (§ 122.26(d)(2)(vii)).

In addition to providing site-specific information, the permit application requirements proposed in today's notice have been designed to allow municipalities an opportunity to propose the set of controls that, in the applicant's opinion, representing the most appropriate means of controlling the discharge of pollutants from municipal storm sewer systems. These proposed plans will be used by the permitting authority to develop permit conditions to control pollutants in the discharges from municipal separate storm sewer systems to the maximum extent practicable. This overall scheme recognizes that local government entities have a critical responsibility for evaluating the nature and sources of pollutant discharges from municipal separate storm sewer systems and for devising appropriate methods of control. Proper development of proposed municipal storm water management programs affords municipalities the opportunity to propose model conditions for their own permits.

3. Major outfalls

In past rulemakings, a controversial issue has been the appropriate sampling requirements for municipal separate storm sewer systems. Earlier storm water rulemakings have been based primarily on the principle that all discharges to waters of the United States from municipal separate storm sewers located in urban areas must be covered by an individual permit. This approach required that individual permit applications contain quantitative data to be submitted for all such discharges. This approach was criticized because of the extremely large number of outfalls in some municipal separate storm sewer systems. Most incorporated cities with a population of 100,000 or more do not know the exact number of outfalls from their municipal systems, but estimates range from 50 to 1,000 or more.

Under the approach taken in earlier rulemakings, the impacts of pollutant loads and impacts on ambient water concentration from municipal storm sewer systems would be analyzed by evaluating samples from all of the discharges from the system. This approach would involve evaluating water quality impacts through the use of models to estimate pollutant loads and to estimate ambient water concentrations during and immediately after storm events, and to calibrate the models using the quantitative data from each outfall. Under this earlier approach, limited information regarding pollutant sources would be available in the permit application to select appropriate models for estimating pollutant loads. Rather, relatively general models would be used which relied on limited quantitative data to assure that the model was calibrated.

In light of the increased flexibility provided by the WQA for regulating municipal separate storm sewer discharges, the approach proposed in today's notice will not require submittal of individual permit applications with quantitative data for each outfall of a municipal system, but rather will encourage systemwide permit applications to provide information suitable for developing effective storm water management programs. Under this approach, not all outfalls of the municipal system will be sampled, but rather more specific and accurate models for estimating pollutant loads and discharge concentrations will be used. The use of these models will require the identification of sources which are responsible for discharging

pollutants into municipal separate storm sewers and will not require as much data to calibrate due to the source-specific nature of the model. A number of standard and localized models have been developed for estimating pollutant loads from storm water discharges. For example, the United States Geological Survey (USGS) has developed four sets of regression equations for 10 pollutants in urban runoff (see "Estimation of the Urban Storm-Runoff Quality and Quantity Data in Metropolitan Areas throughout the United States", 1988). The NURP study provides event mean concentration estimates for 10 pollutants. EPA requests comments on the use of these and other standard and localized models.

By adopting an approach that incorporates source identification measures, the amount of quantitative data required to characterize discharges from the municipal systems will be reduced because of the increased accuracy of site-specific models which can be used. Consistent with a system-wide permit application approach, EPA is proposing to focus source identification measures on "major outfalls". The proposed definition of major outfalls includes any municipal separate storm sewer outfall that discharges from a pipe with a diameter of more than 36 inches or its equivalent (discharges from a drainage area of more than 50 acres); or municipal separate storm sewers that receive storm water from lands zoned for industrial activities, an outfall that discharges from a pipe with a diameter of more than 12 inches or its equivalent (discharges from a drainage area of 2 acres or more). EPA views that it is appropriate to focus source identification and characterization measures conducted as permit application requirements on these outfalls to provide initial screening information that will allow priorities to be set for the system. However, it should be clarified that *all* outfalls from medium and large municipal separate storm sewer systems need to be covered by the permit applications proposed in today's notice and that *all* outfalls from such systems will need to be covered by a permit.

EPA requests comments on the proposed definition of major outfall, and whether outfalls with a diameter of more than 36 inches or its equivalent, or for municipal separate storm sewers that receive storm water from lands zoned for industrial activities, an outfall that discharges from a pipe with a diameter of more than 12 inches or its equivalent provides an appropriate number of outfalls for focusing source identification requirements. Where practicable, comments should include data indicating the distribution of outfall sizes within municipal systems.

4. Viable Program

Perhaps the most important function of the NPDES permit program for municipal separate storm sewers is to ensure that local governments establish viable programs to control pollutants in discharges from municipal separate storm sewers. The proposed permit application requirements address three components of a viable local program for controlling pollutants in discharges from municipal separate storm sewers: legal authority, financial and administrative capability. The ability of a permit applicant or a set of permit applicants to satisfy these criteria will be evaluated in light of the site-specific proposed management plans proposed at 122.26(d)(2)(iv) (discussed in § VII.E.7 of the preamble).

Although pollutants in discharges from municipal separate storm sewers can be controlled by providing end-of-pipe treatment, many representatives from municipalities have expressed concerns that providing treatment for all outfalls from large and medium municipal separate storm systems is technically and economically infeasible. These representatives have expressed a willingness to explore alternative methods, such as developing a variety of preventive source control measures, to control pollutants in such discharges.

However, if source controls are to function in lieu of end-of-pipe treatment, then the permittee, or a set of co-permittees, must have adequate legal authority to ensure that controls on discharges to a municipal storm sewer are implemented and that permit conditions based on source control measures do not become ineffective "paper" requirements.

EPA is proposing that municipal separate storm sewer system permit applicants demonstrate legal authority established by statute, ordinance, or series of contracts which authorizes or enables the applicant at a minimum to:

- Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by each storm water discharge associated with industrial activity;
- Prohibit through ordinance, order or similar means, the discharge of illicit discharges to the municipal separate storm sewer;
- Control through ordinance, order or similar means, the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;
- Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;
- Require compliance with conditions in ordinances, permits, contracts or orders; and
- Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

EPA requests comments on the process by which municipal applicants should demonstrate legal authority and how EPA should evaluate the legal authority of municipal applicants.

In order to ensure that all permit conditions, including both structural and source control measures, are implemented, EPA is proposing to require that permittees demonstrate that they have the fiscal resources and administrative capabilities to carry out the objectives of the permit.

EPA is proposing to require municipal permit applicants to submit a fiscal analysis of expenditures that will be required in order to implement the proposed management plans required in Part 2 of the application. The description of fiscal resources should include a description of the source of the funds.

EPA is requesting comments as to the appropriateness of these criteria for permit applicants for municipal separate storm sewer systems and on what additional criteria should be defined to ensure a viable program to control pollutants in discharges from municipal storm sewers.

5. Source Identification

The identification of sources which contribute pollutants to municipal separate storm sewers is a critical step in characterizing the nature and extent of pollutants in discharges and in developing appropriate control measures. Source identification can be useful for providing an analysis of pollutant source contribution and for identifying the relationship between pollutant sources and receiving water quality problems. In cases where end-of-pipe controls alone are not practicable, it is essential to identify the source of pollutants into the municipal storm sewer systems to support a targeted approach to control pollutant sources.

The relative contribution of pollutants from various sources will be highly site-specific. The first step in developing a

targeted approach for controlling pollutants in discharges from municipal storm sewer systems is identifying the various sources in each drainage basin that will contribute pollutants to the municipal storm sewer system.

Source identification information can serve as the basis for loading estimates (see § VII.E.6.C) and the identification of those discharges to the municipal system with a higher potential to create adverse environmental impacts.

EPA is proposing to phase in the source identification requirements of the permit program by establishing minimum objectives in Part 1 of the application and by requiring applicants to submit a source identification plan in Part 2 of the application to provide additional information during the term of the permit. The minimum source identification requirements of Part 1 have been designed to provide sufficient information to provide an initial characterization of pollutants in the discharges from the municipal storm sewer system. EPA realizes that with many large, complex municipal storm sewer systems, it may be difficult to identify all outfalls during the permit application process. EPA is proposing that known outfalls be reported in Part 1 of the application. Part 1 of the application will also include a description of procedures and a proposed program to identify additional major outfalls. The information required in the proposed Part 1 application also includes identification of the drainage area associated with known outfalls, a description of major land use classifications in each drainage area, descriptions of soils, the location of industrial facilities, open dumps, landfills or RCRA hazardous waste facilities which discharge storm water to the municipal storm sewer system.

Although many municipalities have extensive information regarding the network of conveyances in their municipal separate storm sewer systems, others do not. Municipalities without existing maps would face extreme difficulties in attempting to identify during the permit application process the network of conveyances in their municipal systems. Therefore, applicants are *not* required to identify the conveyance network of the municipal system, but rather need to provide the location of major outfalls (certain points where the municipal system discharges to waters of the United States) and estimates of the area drained by the portion of the system associated with the outfall.

In addition to identifying outfalls from municipal storm sewer systems for the development of a management program to reduce pollutants in storm water discharges, it is also important to identify the location of such outfalls to clarify where the storm sewer system ends and where waters of the United States begin. In many situations, waters of the United States that receive discharges from municipal storm sewers can be mistakenly considered to be part of the storm sewer system. Permit applicants should refer to the regulatory definition of waters of the United States at 40 CFR 122.2 for appropriate guidance. The Director of the NPDES program will be able to make any necessary clarifications during the application process.

The proposed Part 1 application requires applicants to submit ten year projections of population growth and development activities. Population data and development projections will be useful for future predictions of loadings to receiving waters from municipal storm sewer systems, and capacities required for treatment systems. In general, population projections should reflect various scenarios of development (high, medium, low relative to recent trends).

Part 2 of the application will supplement the information reported in the Part 1 application so that, at a minimum, all major outfalls are identified.

Some municipalities, in recognition of the importance of mapping and source identification, have already developed extensive maps of their municipal storm sewer system. In addition, much of the information required in today's proposal will usually have been compiled by other planning agencies in a variety of forms such as land use plans and soil survey maps. Population data are readily available from the Census Bureau, municipal planning departments or public utility records.

Although municipalities or public entities may not keep records identifying dischargers into the storm water collection system, methods usually exist from which such information can be gathered (e.g., water and sewer bills, tax records, zoning permits, etc.). EPA is also proposing that facilities that discharge storm water associated with industrial activity to large or medium municipal separate storm sewer systems submit notifications of the discharge to the municipality (see proposed § 122.26(a)(3)(vii)). Under today's proposal, municipal or public entities responsible for applying for and obtaining an NPDES permit will be required to identify the location of an open dump, sanitary landfill, municipal incinerator or hazardous waste treatment, storage, and disposal facility under RCRA which may discharge storm water to the system as well as all facilities which discharge storm water associated with industrial activity into a large or medium municipal separate storm sewer system.

Requiring these source identification measures is supported by the legislative history of section 405 of the WQA, which instructs that "[i]n writing any permit for a municipal separate storm sewer, EPA or the State should pay particular attention to the nature and uses of the drainage area and the location of *any* industrial facility, open dump, landfill, or hazardous waste treatment, storage, or disposal facility which may contribute pollutants to the discharge." (emphasis added) (Vol 133 Cong. Rec. S752 (daily ed. Jan. 14, 1987)).

EPA is requesting comment on the appropriate elements and level of detail of the source identification process. Comments should address the adequacy of the proposed requirements for preparing initial estimates of pollutant loads and for estimating the concentration of pollutants in discharges from the municipal system based on the minimum source identification requirement in Part 1 of the application and for developing appropriate background information or developing storm water management plans.

8. Characterization of Discharges

The characterization plan proposed in today's notice is comprised of several major components:

- A screening analysis to provide information to develop a program for detecting and controlling illicit connections and illegal dumping to the municipal separate storm sewer system;
- Initial quantitative data to allow the development of a representative sampling program to be incorporated as permit conditions;
- System-wide estimates of annual pollutant loadings and the mean concentration of pollutants in discharges resulting from a representative storm and a program to, during the life of the permit, provide estimates for each major outfall of the seasonal pollutant loadings and the event mean concentration of pollutants in discharges resulting from a representative storm; and
- An identification of receiving waters with known water quality impacts associated with storm water discharges.

a. Screening Analysis for Illicit Discharges. Illicit discharges (non-storm water discharges without a NPDES permit) and illegal dumping to municipal separate storm sewer systems occur in a

relatively haphazard manner. Due to the unpredictability of such discharges, a field analysis is necessary for the developing priorities for detecting and controlling such discharges. As discussed in greater detail in § VII.C.7.b of today's notice, EPA is proposing to require that municipal applicants submit a comprehensive plan to develop a program to detect and control illicit connections and illegal dumping. In order to develop appropriate priorities for these programs, EPA is proposing that applicants submit the results of a two-phased screening analysis to be performed on known major outfalls in the systems to detect the presence of illicit hookups and illegal dumping.

The results of the first phase of the screening analysis, referred to as the field screen, would be reported in Part 1 of the permit application. The information received from the field screen would be used to develop requirements for the second phase of the screening analysis, the results of which would be reported in Part 2 of the application.

Under the proposed requirements for a field screen, the applicant or co-applicants would submit a description of observations of dry weather discharges for all known major outfalls in Part 1 of the application. At a minimum, the field screen would include a description of visual observations made during a dry weather period. If any flow is observed during a dry weather period, two grab samples would be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observation regarding the potential presence of non-storm water discharges or illegal dumping would be provided. In addition, the results of a field screen using on-site methods to estimate pH, total chlorine, total copper, total phenol, total and hexavalant chromium, detergents (or surfactants) and free cyanide would be provided along with an estimate of the flow rate. EPA does not intend to require that analytical methods approved under 40 CFR Part 136 be used exclusively in the field screen. Rather, the use of inexpensive field sampling techniques such as the use of colormetric detection methods is anticipated. Where the field screen does not involve analytical methods approved under 40 CFR Part 136, the applicant would be required to provide a description of the method used which includes the name of the manufacturer of the test method, including the range and accuracy of the test. EPA is requesting comments on appropriate field techniques for a field screen of dry weather discharges. EPA also requests comments on requiring the field screen for all major outfalls, whether the proposed definition of major outfalls is appropriate for this purpose, or whether the number of major outfalls subject to the field screen in the Part 1 application should be limited.

It should be clarified that data from the field screen would generally not be appropriate for comprehensive evaluation of water quality impacts, or estimating pollutant loadings. Rather the Director will use the information from the field screen in Part 1 of the application, along with other information, such as the age of development and degree of industrial activity in the drainage basin, to identify major outfalls which are appropriate for study during the second phase of the screening analysis.

The Second phase of the screening analysis requires that wet-weather and dry-weather samples be collected and analyzed in accordance with analytical methods approved under 40 CFR 136 from designated major outfalls for the following pollutants:

TABLE M-1

pH	lead
fecal coliform	copper
fecal streptococcus	chromium
volatile organic carbon (VOC)	cadmium
surfactants (MBAS)	silver
oil and grease	nickel
TSS	zinc
total organic carbon (TOC)	cyanides
biological oxygen demand (BOD_5)	total phenol
chemical oxygen demand (COD)	total chlorine

These pollutants have been selected as indicators of illegal dumping and illicit connections of process and nonprocess waste waters as well as sanitary wastewaters. Fecal coliform, fecal streptococcus and chlorine were selected as indicators of municipal sanitary wastewater discharges. Oil and grease, surfactants (MBAS), pH, TSS COD BOD_5, and TOC were selected as indicators of illicit connections from commercial and industrial operations. VOC, TOC and total phenol were selected as indicators of illicit connections from facilities that discharge wastewaters contaminated by solvents and other organic materials. The metals selected are metals for which EPA has developed effluent guidelines for industires which are generally expected to be located in an urban setting.

EPA requests comments on the use of these parameters for performing a field screen to detect discharges containing illicit connections, particularly the use of fecal coliform and fecal streptococcus (see 41*FR* 8013 (March 7, 1986)). The Agency also requests comment on the usefulness of additional parameters for use in a field screen. In addition, the Agency requests comment on alternative procedures, such as inspections of separate storm sewers that are suspected to contain illicit connections, that can be relied on in lieu of the field screen procedures proposed as Part 2 application requirements. Also, the Agency requests comments on incorporating a maximum limit on the number of major outfalls that would be subject to field screen procedures of the Part 2 application requirements and what an appropriate limit may be. Under this approach, where information in the Part 1 field screen indicated a high potential for extensive illicit connections within the system, the field sceen requirements of the Part 2 application would be limited to a specified number of major outfalls (for example, 50 major outfalls for large systems, and 25 major outfalls for medium systems). In this case, permit conditions would be developed for studying, during the term of the permit, other major outfall with a high potential for illicit connections.

b. Representative data. The NURP study showed that pollutant concentrations in urban runoff can exhibit significant variation. Pollutant concentrations in such discharges vary during storm events and from storm event to storm event. Given the complex, variable nature of storm water discharges from municipal systems, EPA favors a permit scheme where the

collection of representative data is primarily a task that will be accomplished through monitoring programs during the term of the permit. Permit writers have the necessary flexibility to develop monitoring requirements that more accurately reflect the true nature of highly variable, complex discharges.

In today's notice, EPA is proposing a strategy for performing an initial assessment of water quality impacts of discharges from municipal separate storm sewers based primarily on source identification measures and existing information received in the permit application. This information will be used to characterize system discharges. The analysis developed under this approach will incorporate existing data bases such as the one developed under the NURP study. Under today's proposal, some quantitative data will be collected to ensure the system discharges can be appropriately represented by the various existing data bases and to provide a basis for developing a monitoring plan to be implemented as a permit condition.

EPA is proposing that quantitative data be submitted for representative storm events for between five and ten outfalls. The municipality will recommend and the Director will then designate the outfalls as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system, on the basis of information received in Part 1 of the application. The applicant will be required to collect samples of a storm discharge from a representative storm event for each outfall designated. In addition, for at least one outfall designated by the Director, the applicant will be required to collect samples of storm water discharges from three representative storm events that occur at least one month apart. This requirement will be modified by the Director if the type and frequency of storm events require different sampling. For example, the Director may require samples of discharges be collected during snow melts, or during specified seasons. The Director may also require additional testing during a single event if it is unlikely that there will be three storm events suitable for sampling during the year.

All samples collected will be analyzed for all pollutants listed in Table II (organic pollutants except bis (chlormethyl) ether, dichlorofluoromethane and trichlorofluoromethane) and Table III (toxic metals, cyanide and total phenol) of Appendix D of 40 CFR Part 122, and for:

TABLE M-2

total suspended solids (TSS)	dissolved solids
COD	BOD$_5$
oil and grease	fecal coliform
fecal streptococcus	pH
total nitrogen	dissolved phosphorus
total ammonia plus organic nitrogen	total phosphorus

Table M-2

A portion of the NURP program involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. The NURP program excluded testing for asbestos and dioxin. Results for seven other organic priority pollutants were not considered valid due to changes in, or constraints on test methods. Seventy-seven priority pollutants were detected in samples of storm water discharges from lands used for residential, commercial and light industries taken during the NURP study, including 14 inorganic and 63 organic pollutants. Table M-3 shows the priority pollutants which were detected in at least ten percent of the discharge samples which were sampled for priority pollutants.

TABLE M-3.—PRIORITY POLLUTANTS DETECTED IN AT LEAST 10% OF NURP SAMPLES

	Frequency of detection (percent)
Metals and Inorganics:	
Antimony	13
Arsenic	52
Beryllium	12
Cadmium	48
Chromium	58
Copper	91
Cyanides	23
Lead	94
Nickel	43
Selenium	11
Zinc	84
Pesticides:	
Alpha-hexachlorocyclohexane	20
Alpha-endosulfan	19
Chlordane	17
Lindane	15
Halogenated Aliphatics:	
Methane, dichloro-	11
Phenols and Cresols:	
Phenol	14
Phenol, pentachloro-	19
Phenol, 4-nitro	10
Phthalate Esters:	
Phthalate, bis(2-ethylhexyl)	22

TABLE M-3.—PRIORITY POLLUTANTS DETECTED IN AT LEAST 10% OF NURP SAMPLES—Continued

	Frequency of detection (percent)
Polycyclic Aromatic Hydrocarbons:	
Chrysene	10
Fluoranthene	16
Phenanthrene	12
Pyrene	15

The NURP data also showed a significant number of these samples exceeded various freshwater water quality criteria. The exceedence of water quality criteria does not necessarily imply that an actual violation of standards will exist in the receiving water body in question. Rather, the enumeration of exceedences serves as a screening function to identify those constituents whose presence in urban storm water runoff may warrant high priority for further evaluation.

Members of this group represented all of the major organic chemical fractions found in Table II of Appendix D of Part 122 (volatiles, acid compounds, base/neutrals, pesticides). EPA favors requiring testing for all organic constituents in Table II (except bis (chlormethyl) ether, dichlorofluoromethane and trichlorofluoromethane which have been suspended from the list of organic toxic pollutants in the NPDES regulations (see 46 FR 2266, (January 8, 1981), and 46 FR 10723, (February 4, 1981)] rather than limiting the sampling requirements to the 24 toxic constituents found in the NURP study because they will provide a better description of the discharge at essentially the same cost. The NURP study focused on characterizing storm water discharges from lands used for residential, commercial and light industrial activities, and in general, did not focus on other sources of pollutants to municipal separate storm sewer systems, and therefore, does not reflect all potential pollutants that may be present in discharges from municipal separate storm sewer systems.

EPA is requesting comment on appropriate sampling requirements for discharges from large and medium municipal separate storm sewer systems and to what extent such requirements should be included in permit applications or developed as site-specific permit conditions. The option favored in today's proposal includes

sampling requirements to provide screening data for developing a more intensive program to detect illicit connections and illegal dumping. The sampling requirements proposed for the permit application address a limited number of outfalls and storm events, but require analysis of a wide range of pollutants. Sampling for a wide range of pollutants as a permit application requirement may provide permit writers with appropriate data to target more specific pollutants when developing requirements for a monitoring program established as a permit condition. In addition, the favored option requires limited sampling of representative outfalls. The favored option does not require applicants to submit quantitative data for storm water discharges associated with industrial activity as part of the permit application but instead requires applicants to submit a proposed program to monitor and control such discharges to the municipal system (see § VII.E.7.C).

EPA is working with the United States Geological Survey (USGS) to evaluate the availability of USGS technical assistance to municipalities through cooperative funding programs to aid in collecting representative quantitative data of storm water discharges from municipal systems.

USGS data collection programs with municipalities typically include storm water discharge samples obtained at various times during a storm hydrograph event. Various USGS filed procedures can be used to obtain discharge data for pipes, culverts, etc. typically found in urban areas. Pollutant models can be calibrated with data and long-term rainfall records to simulate the quality of system discharges and compared to other storm water models.

In addition, the Agency recognizes that many municipalities have participated in studies, such as NURP, that involve sampling of urban runoff as well as other components of discharges from municipal separate storm sewer systems. All existing storm water sampling data along with relevant water quality data, sediment data, fish tissue data or biosurvey data, taken over the last ten years is considered relevant and under today's proposal must be submitted with Part 1 of the application. Sampling data that is submitted must be accompanied with a narrative description of the drainage area served by the outfall monitored, a description of the sampling and quality control program, and the location of receiving water monitoring.

EPA requests comment on the use of existing data, such as that generated under the NURP study, to satisfy the requirement of providing representative sampling data. The Agency is concerned with establishing criteria that can be used to verify the validity of existing data.

c. Loading and Concentration Estimates. The assessment of the water quality impacts of discharges from municipal separate storm sewer systems on receiving waters requires the analysis of both pollutant loadings and concentrations of pollutants in discharges.

The loading and concentration estimates proposed in today's notice will be used to evaluate two types of water quality impacts: (1) Short-term impacts; and (2) long-term impacts.

Short term impacts from discharges from municipal separate storm sewers involve changes in water quality that occur during and shortly after storm events. Examples of short term impacts that can lead to impairments include periodic dissolved oxygen depression due to the oxidation of contaminants, high bacteria levels, fish kills, acute effects of toxic pollutants, contact recreation impairments and loss of submerged macrophytes. Characterization of instream pollutant concentrations based on estimated pollutant concentration in system discharges are important for evaluating these types of impacts.

Long-term water quality impacts from discharges from municipal separate storm sewers may be caused by contaminants associated with suspended solids that settle in receiving water sediments and by nutrients which enter receiving water systems with long retention times. Pollutant loading data are important for evaluation of impairments such as loss of storage capacity in streams, estuaries, reservoirs, lakes and bays, lake eutrophication caused by high nutrient loading, and destruction of benthic habitat. Other examples of the long-term water quality impacts include depressed dissolved oxygen caused by the oxidation of organics in bottom sediments and biological accumulation of toxics as a result of up-take by organisms in the food chain. An estimate of annual pollutant loading associated with discharges from municipal storm water sewer systems is necessary to evaluate the magnitude and severity of the environmental impacts of such discharges and to evaluate the effectiveness of controls which are imposed at a later time.

Municipal storm water sewer systems generally handle runoff from large drainage areas and the sources of pollution are usually very diffuse. The concentrations of many pollutants in discharges from these systems are often low relative to many industrial process and Publicly Owned Treatment Works discharges. The water quality impacts of low concentration pollution discharges tend to be cumulative and need to be evaluated in terms of aggregate loadings as well as pollutant concentrations. A site-specific loading analysis can be used to evaluate the relative contribution of various pollutant sources.

Physical impacts, such as streambed scour, streambank erosion and low stream flow during dry weather can be caused by urban runoff. Today's proposed regulations do not specifically require that the physical impacts of urban runoff be addressed in the permit application. Although NPDES permits in many jurisdictions may contain controls designed to limit these physical impacts, EPA believes that the most appropriate Federal policy is to encourage jurisdiction-specific decisions regarding the appropriateness of controls designed to lessen the physical impacts of urban runoff.

7. Proposed Storm Water Quality Management Programs

Traditionally, NPDES permits for industrial process waste discharges and for municipal sanitary sewers have relied primarily on end-of-pipe treatment technology. The basic approach for these discharges under the CWA, the application of uniform technology-based controls to classes of discharges, is often not appropriate for municipal separate storm sewer discharges. Instead, flexible site-specific and source-specific decisions on management controls are often appropriate.

A wide variety of control measures to reduce the discharge of pollutants from municipal storm sewer systems are currently available The performance of appropriate control measures is highly dependent on site-specific factors. It is therefore not practicable to define one standard set of controls which will control all pollutants in all municipalities.

In today's notice, EPA is proposing to facilitate the development of site-specific permit conditions by requiring permit applicants to submit, along with other information, a description of existing structural and non-structural control measures on discharges of pollutants from municipal storm sewers in Part 1 of the permit application. Proposed § 122.26(d)(2)(iv) requires the applicant to identify in Part 2 of the application, to the degree necessary to meet the MEP standard, additional

control measures which will be implemented during the life of the permit. Although, in many cases, it will not be possible to identify all control measures that are appropriate as permit conditions, EPA believes that the process of identifying components of a comprehensive control program should begin early and that applicants should be given the opportunity to identify and propose the components of the program that they believe are appropriate for controlling discharges of pollutants.

The permit application requirements in today's notice require the applicant or co-applicant to develop management programs for four types of pollutant sources which discharge to large and medium municipal storm sewer systems. Discharges from large and medium municipal storm sewer systems are usually expected to be composed primarily of (1) runoff from commercial and residential areas, (2) storm water runoff from industrial areas, (3) runoff from construction sites, and (4) non-storm water discharges. Part 2 of the proposed permit application has been designed to allow the applicant the opportunity to propose MEP control measures for each of these components of the discharge. Discharges from some municipal systems may also contain pollutants from other sources, such as runoff from land disposal activities (leaking septic tanks, landfills and land application of sewage sludge). Where other sources, such as land disposal, contribute significant amounts of pollutants to a municipal storm sewer system, appropriate control measures should be included on a site specific basis. Proposed management programs will then be evaluated in the development of permit conditions.

There is some overlap in the manner in which these pollutant sources are classified. Also, some control measures will reduce pollutant loads for multiple components of the municipal storm sewer discharge. These measures should be identified under all appropriate places in the application; as discussed below however, double counting of pollutant removal must be avoided when the total assessment of control measures is performed.

Although many land use programs involve multiple purposes which include measures to reduce pollutants in discharges from municipal separate storm sewer systems, the proposed management program in today's notice is intended to address only those controls which can be implemented by the permit applicant or co-applicants. The Agency cannot abrogate its responsibilities under the CWA to implement the NPDES permit program by relying on pollution control programs that are outside the NPDES program.

The Agency anticipates that storm water management programs will evolve and mature over time. The permits for discharges from municipal separate storm sewer systems will be written to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality. The proposed permit applications will require applicants to provide a description of the range of control measures considered for implementation during the term of the permit. Flexibility in developing permit conditions will be encouraged by providing applicants an opportunity to identify in the permit application priority controls appropriate for the initial implementation of management programs. Applicants will propose priorities based on a consideration of appropriate controls including, but not limited to, consideration of controls that address reducing pollutants to municipal separate storm sewer system discharges that are associated with storm water from commercial and residential areas (§ 122.26(d)(2)(iv)(A)), illicit discharges and illegal disposal (§ 122.26(d)(2)(iv)(B)), storm water from industrial areas (§ 122.26(d)(2)(iv)(C)), and runoff from construction sites (§ 122.26(d)(2)(iv)(D)). Permits for different municipalities will place different emphasis on controlling various components of discharges from municipal storm sewers. For example, the potential for cross-connections (such as municipal sewage or industrial process wastewater discharges to a municipal separate storm sewer) is generally expected to be greater in municipalities with older developed areas. On the other hand, municipalities with larger areas of new development will have a greater opportunity to focus controls to reduce pollutants in storm water generated by the area after it is developed, discharges from construction sites, and other planning activities. EPA requests comments on the process and methods for developing appropriate priorities in management programs proposed in applications and how the development of these priorities can be coordinated with controls on other discharges to ensure the achievement of water quality standards and the goals of the Clean Water Act. In addition, the Agency requests comments on the costs of implementing various components of management programs.

The Agency requests comments on the appropriateness of the individual components of the proposed management programs and whether additional provisions should be added. Comments on various components of the management programs should address the cost of program development and implementation as well as the potential for pollutant removal and water quality benefits.

In addition, the Agency will continue to evaluate procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality in the studies required under Section 402(p)(5) of the CWA (see section IV of today's notice). One purpose of these studies will be to evaluate the costs and water quality benefits associated with implementing these procedures and methods. This evaluation will address a number of factors which impact the implementation costs associated with these programs, such as the extent to which similar municipal ordinances are currently being implemented, the degree to which existing municipal programs (such as flood management programs or construction site inspections) can be expanded to address water quality concerns, the resource intensiveness of the control, and whether the control program will involve public or private expenditures. This information, along with information gained during permit implementation will aid in the dynamic long-term development of municipal storm water management programs. EPA invites the public to submit information that can be used in the development of these studies.

a. Measures to Reduce Pollutants in Runoff from Commercial and Residential Areas. The NURP program evaluated runoff from lands primarily dedicated to residential and commercial activities. The areas evaluated in the study reflect some other activities, such as light industry, which are commonly dispersed among residential and commercial areas. The NURP study selected sampling locations that were thought to be relatively free of illicit discharges and storm water from heavy industrial sites including storm water runoff from heavy construction sites. Of course, in a study such as NURP, it was impossible to totally isolate various contributions to the runoff. In developing the proposed permit application requirements in today's notice, EPA has, in general, relied on the NURP definition of urban runoff, that is, runoff from lands used for residential, commercial and light industrial activities.

NURP and numerous other studies have shown the runoff from residential

and commercial areas washes a number of pollutants into receiving waters. Of equal importance is the volume of storm water runoff leaving urban areas during storm events. Large intermittent volumes of runoff can destroy aquatic habitat.

As the percentage of paved surfaces increases, the volume and rate of runoff and the corresponding pollutant loads also increase. Thus, the amount of storm water from commercial and residential areas and the pollutant loadings associated with storm water runoff increases as development progresses and remains at an elevated level for the lifetime of the development.

Proposed § 122.26(d)(2)(iv)(A) requires municipal storm sewer system applicants to provide in Part 2 of the application a description of a proposed management program that will describe priorities for implementing management programs based on a consideration of appropriate controls including:

- A description of maintenance activities and a maintenance schedule for structural controls;
- A description of planning procedures including a comprehensive master plan to control after construction is completed, the discharge of pollutants from municipal separate storm sewers which receive discharges from new development and significant redevelopment after construction is completed;
- A description of practices for operating and maintaining public highways and procedures for reducing the impact on receiving waters of such discharges from municipal storm sewer system;
- A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies; and
- A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

Water quality problems caused by municipal storm sewer discharges will generally be most acute in heavily developed areas. Usually, the most effective control measures are structural, and opportunities for implementing these measures may be limited in previously developed areas. Commonly used structural technologies include a wide variety of treatment techniques, including first flush diversion systems, detention/infiltration basins, retention basins, extended detention basins, infiltration trenches, porous pavement, oil/grit separators, grass swales, and swirl concentrators. A major problem associated with sound storm water management is the need for operating and maintaining the systems for their expected life.

The unavailability of land in highly developed areas often makes the use of structural controls infeasible for modifying many existing systems. Non-structural practices can play a more important role. Non-structural practices can include erosion control, streambank management techniques, street cleaning operations, vegetation/lawn maintenance controls, debris removal, road salt application management and public awareness programs.

The second component of the proposed program to reduce pollutants in storm water from commercial and residential areas which discharge to municipal storm sewer systems provides that applicants describe the planning procedures and a comprehensive master plan that will assure that increases of pollutant loading associated with newly developed areas are, to the maximum extent practicable, limited. These measures should address storm water from commercial and residential areas which discharge to the municipal storm sewer that occur after the construction phase of development is completed. Controls for construction activities are addressed later in today's notice.

As urban development occurs, the volume of storm water and its rate of discharge increases. These increases are caused when pavement and structures cover soils and destroy vegetation which otherwise would slow and absorb runoff. Development also accelerates erosion through alteration of the land surface. Areas that are in the process of development offer the greatest potential for utilizing the full range of structural and non-structural best management practices. If these measures are to provide controls to reduce pollutant discharges after the area has been developed, comprehensive planning must be used to incorporate these measures as the area is in the process of developing. These measures offer an important opportunity to limit increases in pollutant loads.

The third component of § 122.26(d)(2)(iv)(A) provides a description of practices for operating and maintaining public roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems. General guidelines recommended for managing highway storm water runoff include litter control, pesticide/herbicide use management, reducing direct discharges, reducing runoff velocity, grassed channels, curb elimination, catchbasin maintenance, appropriate streetcleaning, establishing and maintaining vegetation, development of management controls for salt storage facilities, education and calibration practices for deicing application, infiltration practices, and detention/retention practices.

The fourth component of § 122.26(d)(2)(iv)(A) provides that applicants identify procedures that enable flood management agencies to consider the impact of flood management projects on the water quality of receiving streams. A well-developed storm water management program can reduce the amount of pollutants in storm water discharges as well as benefit flood control objectives. As discussed above, increased development can increase both the quantity of runoff from commercial and residential areas and the pollutant load associated with such discharges. Disturbing the land cover, altering natural drainage patterns, and increasing impervious area all increase the quantity and rate of runoff, thereby increasing both erosion and flooding potential. Increases in the quantity of runoff can result in increasing the area of a flood plain. An integrated planning approach helps planners make the best decisions to benefit both flood control and water quality objectives.

The fifth component of § 122.26(d)(2)(iv)(A) would provide that municipal applicants submit a description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer. Such a program may include, as appropriate, controls such as educational activities and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities. Discharges of these materials to municipal storm sewer systems can be controlled by proper application of these materials.

b. Measures for Illicit Discharges and Improper Disposal. The WQA requires that NPDES permits for discharges from municipal storm sewers "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers." In today's proposal, EPA will begin to implement this statutory mandate by focusing on two types of discharges to large and medium

municipal separate storm sewer systems. One type of non-storm water discharges are illicit discharges which are plumbed into the system or that result from leakage of sanitary sewage system. The other class of non-storm water discharges result from the improper disposal of materials such as used oil and other toxic materials.

Illicit Discharges

In some municipalities, illicit connections of sanitary, commercial and industrial discharges to storm sewer systems have had a significant impact on the water quality of receiving waters. Although the NURP study did not emphasize identifying illicit connections to storm sewers other than to assure that monitoring sites used in the study were free from sanitary sewage contamination, the study concluded that illicit connections can result in high bacterial counts and dangers to public health. The study also noted that removing such discharges presented opportunities for dramatic improvements in the quality of urban storm water discharges.

Other studies have shown that illicit connections to storm sewers can create severe, wide-spread contamination problems. For example, the Huron River Pollution Abatement Program inspected 660 businesses, homes and other buildings located in Washtenaw County, Michigan and identified 14% of the buildings as having improper storm drain connections. Illicit discharges were detected at a higher rate of 60% for automobile related businesses, including service stations, automobile dealerships, car washes, body shops and light industrial facilities. While some of the problems discovered in this study were the result of improper plumbing or illegal connections, a majority were approved connections at the time they were built.

A wide variety of technologies exist for detecting illicit discharges. The effectiveness of these measures largely depends upon the site-specific design of the system. Under today's proposal, permit applicants would develop a description of a proposed management program, including priorities for implementing the program and a schedule to implement a program to identify illicit discharges to the municipal storm sewer system. The proposed program will identify initial priorities for analyzing various portions of the system and the appropriate detection techniques to be used.

Improper disposal

The permit application requirements proposed today for municipal storm sewer systems include a requirement that the municipal permit applicant describe a program to assist and facilitate in the proper management of used oil and toxic materials.

Improper management of used oil can lead to discharges to municipal storm sewers that in turn may have a significant impact on receiving water bodies. EPA estimates that annually, 267 million gallons of used oil, including 135 million gallons of used oil from do-it-yourself (DIY) automobile oil changes, are disposed improperly. An additional 70 million gallons of used oil, most coming from service stations and repair shops, are used for road oiling. Most of this oil contains metals, such as lead and chromium, at such high levels that the Agency proposed to list used oil as a hazardous waste (November 29, 1985, (50 *FR* 49258)). This proposal was not made final because the Agency thought that a hazardous waste listing of all used oil may discourage recycling. The Agency is presently considering listing used oil that is not recycled as a hazardous waste (March 10, 1986, (51 *FR* 8206), and November 19, 1986 (51 *FR* 41900). However, even if these rules are promulgated, due to various exclusions many individuals and facilities that generate or handle used oil are not regulated under RCRA.

Although EPA is developing a regulatory program under RCRA for the management of recycled oil, the RCRA regulations will likely only apply to certain facilities that will be classified as used oil marketers and used oil recyclers. DIY oil changers and certain other facilities are generally not subject to regulation under the RCRA program. A recent EPA report, "Revised Baseline Flow Data for Used Oil Modelling" (March 13, 1987) suggests that a large fraction of service stations no longer accept DIY used oil and that as a result DIYs are having increasing difficulty recycling oil, thereby leading to increases in uncontrolled disposal.

EPA is proposing that permit applicants for large and medium municipal storm sewer systems describe a program to facilitate the proper management of used oil. EPA requests comments on when various components of this program may be appropriate, including providing information to handlers of used oil and DIY generators and household toxic waste generators, adopting appropriate controls on road oiling, and establishing and operating oil and household waste recycling/disposal programs.

c. Measures to Reduce Pollutants in Storm Water Discharges Associated with Industrial Activities Into Municipal Systems. As discussed in § VII.B of today's notice, industrial facilities that discharge storm water to a large or medium municipal separate storm sewer system are not required to obtain an individual permit for such discharges unless the Director requires the facility to obtain a permit or to become a co-permittee. EPA is proposing to require the municipal storm sewer permittee to describe control programs for such discharges that are covered under the municipal storm sewer permit. At a minimum, the program would require the municipal applicant to identify such discharges (see source identification requirements at § 122.26(d)(1)(vi)(C)), provide for monitoring certain discharges and where necessary, implement control measures. Should a municipality suspect that an individual discharger into the system is causing a problem, and the municipality or management agency has no authority over the discharge, the municipality should contact the NPDES permitting authority and request that an individual permit be issued, or at a minimum, request that such a discharge be designated a co-permittee.

Although the Agency has not proposed specific regulatory language, EPA is requesting comment on two groups of options for programs to characterize storm water discharges associated with industrial activity that go to municipal separate storm sewers. Under the first group of options, municipal applicants would describe the development of a program to characterize discharges from certain outfalls from the municipal storm sewer system that contain runoff from industrial facilities. Under these options, the municipal applicant would submit a proposed characterization program as part of the permit application. Quantitative data collected under an approved monitoring program would be submitted during the life of the permit and would be used to develop a comprehensive control program. Under the second group of options, certain industrial facilities would be responsible for characterizing storm water discharges into large or medium municipal separate storm sewer systems.

Under the first group of options, several issues arise in the development of an appropriate characterization program for municipal systems. The first issue is identifying which storm water discharges from industrial facilities into municipal systems should be monitored. One approach would be to require data on portions of the municipal system which receives storm water from facilities which are listed in the proposed regulatory definition at § 122.26(b)(13) of "storm water discharge

associated with industrial activity" (with the exception of construction activities and uncontaminated storm water from oil and gas operations) which discharge into the municipal system. However, given the potentially large number of facilities that meet this definition and would discharge into municipal systems, a monitoring program that requires the submission of quantitative data regarding portions of the municipal systems receiving storm water from such facilities may not be practicable. Such a requirement could, for some systems, potentially become the most resource intensive requirements in the municipal permit. Therefore, EPA is considering various ways to develop appropriate targeting for monitoring programs.

EPA requests comments on a requirement that, at a minimum, monitoring programs address discharges from municipal separate storm sewer outfalls that contain storm water discharges from municipal landfills, hazardous waste treatment, disposal and recovery facilities, and runoff from industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Section 313 of Title III requires that operators or certain facilities that manufacture, import, process, or otherwise use certain toxic chemicals report annually their releases of those chemicals to any environmental media. Section 313(b) of Title III specifies that a facility is covered for purposes of reporting if it meets all of the following criteria:

- The facility has ten or more full-time employees;
- The facility is in Standard Industrial Classification (SIC) codes 20 through 39;
- The facility manufactured (including quantities imported), processed, or otherwise used a listed chemical in amounts that exceed certain threshold quantities during the calendar year for which reporting is required.

Listed chemicals include 329 toxic chemicals listed at 40 CFR 372.45. After 1989, the threshold quantities of listed chemicals that the facility must manufacture, import or process in order to be required to submit a release report is 25,000 pounds per year. The threshold for a use other than manufacturing, importing or processing of listed toxic chemicals is 10,000 pounds per year. EPA promulgated a final regulation clarifying these reporting requirements on February 16, 1988 (53 FR 4500).

EPA requests comments on whether Section 313 of SARA identifies facilities which provide an appropriate basis for establishing priorities for municipal permittees to develop monitoring and control programs for storm water associated with industrial activity. Several advantages are associated with this approach. First, the potential for toxic materials in discharges from these facilities is relatively high due to the large volume of hazardous substances located at these facilities. Second, some information regarding storm water discharges and material management at these facilities will be available through the Section 313 of SARA reporting process.

The Agency requests comments on monitoring programs for municipal discharges, including the submission of quantitative data on the following constituents:

- Any pollutant limited in an effluent guideline for the industry subcategory, where applicable;
- Any pollutant listed in the facility's NPDES permit for its process wastewater, if it has one;
- Oil and grease, COD, pH, BOD_5, TOC, TSS, total phosphorus, total nitrogen, and
- Any information on the discharge required under 40 CFR 122.21(g)(7) (iii) and (iv).

These are the same constituents that EPA is proposing to require individual permit applicants for storm water discharges associated with industrial activity to provide quantitative data.

A third issue concerning appropriate monitoring programs for runoff from industrial facilities discharging to municipal systems involves the sampling location. Several commenters on earlier storm water proposals asserted that all pollutants discharged to waters of the United States via storm water runoff may not be of concern due to the dilution factor at a specific location. The Agency initially favors establishing monitoring requirements to be applied to those outfalls that directly discharge to waters of the United States. Monitoring of outfalls close to the point of discharge to waters of the United States is generally preferable when attempting to identify priorities for developing pollutant control programs. However, under certain circumstances, it may be preferable to monitor at the point where the runoff from the industrial facility discharges to the municipal system. For example, if many facilities discharge substantially similar storm water to a municipal system (e.g., storm water discharges from general automotive repair shops) it may be more practicable to monitor discharges from representative facilities in order to characterize pollutants in the discharge.

Under the second group of options considered under today's notice, all industrial facilities which discharge storm water into a large or medium municipal storm sewer system would submit information to either the Director of the NPDES program (the EPA or States with approved NPDES programs) or the municipal permit applicant for the municipal storm sewer that receives the discharge. The information that the facility would submit to the permit applicant would be the same information that would be required in an individual permit application for a facility that discharges storm water associated with industrial activity directly to waters of the United States. For example, of facilities that discharge storm water to municipal storm sewer systems, only municipal landfills, hazardous waste treatment, storage and disposal facilities and those facilities subject to Section 313 of Title III of SARA would be required to submit a permit application. Facilities that discharge storm water to a municipal storm sewer would have the option of participating in a group application in lieu of submitting information directly to the municipal applicant. These members of the group application would be required to indicate in the group application the municipal storm sewer to which they are discharging. EPA would forward a summary of the information in the group application to the appropriate municipal applicants for use in developing appropriate controls for the member of the group application.

EPA is also requesting comment on whether facilities that discharge to large and medium municipal storm sewer systems and that are not participating in a group application should submit individual permit applications to EPA regions or NPDES States. Under this option, the permit applications would be used to determine if an individual permit or a co-permittee arrangement is appropriate. Where it is not appropriate to require an individual permit or a co-permittee arrangement, the application would be sent to the appropriate municipal permit applicant (under the authority of Section 402(j) of the CWA), who would use the information to develop appropriate controls for the facility.

This option recognizes that the operator of the facility is in the best position to know which pollutants may be in the storm water discharge and to provide the non-quantitative information that is required in individual permit applications. Further, as with facilities discharging storm water associated with industrial activity directly to waters of the United States, the facility would be responsible for

certifying that it has tested its storm water outfalls for illicit connections. By shifting this burden to the facility discharging storm water associated with industrial activity, the applicant for the municipal storm sewer would be able to concentrate effort on detecting illicit connections from other types of facilities with a high potential for illicit connections.

EPA is requesting comment on these approaches to control pollutants in storm water from industrial facilities which discharge to a large or medium municipal separate storm sewer system. In particular, should municipalities or individual industrial facilities be required to collect sampling data? If high levels of pollutants are detected in samples from a municipal storm water outfall, and storm water from industrial facilities is a suspected contributor, how will municipalities determine which facilities are responsible? Is end-of-pipe treatment generally more appropriate than source controls for storm water from industrial facilities which discharge to municipal systems? If municipalities are responsible for sampling these discharges, are indicator parameters such as VOC more appropriate than the specific constituents that individuals industrial facilities with storm water discharges which do not discharge to municipal systems are required to sample under individual storm water permit application requirements?

d. Measures to Reduce Pollutants in Runoff from Construction Sites Into Municipal Systems. Section VII.D.2 of today's notice discusses EPA's proposal to define the term "storm water discharge associated with industrial activity" to include runoff from construction facilities classified as Standard Industrial Codes 15 and 16 (general building contractors and heavy construction contractors) including preconstruction activities, *except*: (a) operations that result in the disturbance of less than 1 acre total land area which are not part of a larger common plan of development or sale; or (b) that are designed to serve single family residential projects, including duplexes, triplexes, or quadruplexes, that result in the disturbance of less than 5 acre total land areas which are not part of a larger common plan of development or sale. Under today's proposal, facilities that discharge runoff from construction sites that meet this definition will be required to submit permit applications under today's rulemaking unless they are to be covered by another NPDES permit or discharge to a municipal separate storm sewer (see § VII.C.1). Permit application requirements for such discharges are proposed at 40 CFR 122.26(c)(1)(ii).

Section 122.26(d)(2)(iv)(D) of the proposed regulations would require applicants for a permit for large or medium municipal separate storm sewer systems to submit a description of a proposed management program to control pollutants in all construction site runoff that discharges to municipal systems. Under the proposed provision, municipal applicants will submit a proposed program for implementing and maintaining structural and non-structural best management practices for controlling storm water runoff at construction sites. The program will address procedures for site planning; enforceable requirements for nonstructural and structural best management practices; procedures for inspecting sites and enforcing control measures; and educational and training measures.

Generally, construction site ordinances are effective when they are implemented. However, in many areas, even though ordinances exist, they have limited effectiveness because they are not adequately implemented. Maintaining best management practices also presents problems. Retention and infiltration basins fill up and silt fences may break or be overtopped. Weak inspection and enforcement point to the need for more emphasis on training and education to complement regulatory programs.

8. Assessment of Controls

EPA is proposing that municipal applicants provide an initial assessment of the effectiveness of the control method for structural or non-structural controls which have been proposed in the management program. Such an assessment is needed because the performance of appropriate management controls is highly dependent on site-specific factors. The assessment will be used in the development of pollutant loading and concentration estimates (see VII.E.8.C) and the evaluation of water quality benefits associated with implementing controls. Such assessments do not have to be verified with quantitative data, but can be based on accepted engineering design practices.

H. Annual reports

As discussed earlier in today's notice, EPA is proposing flexible permit application requirements to facilitate the development of site-specific programs to control the discharge of pollutants from large and medium municipal separate storm sewer systems. Many municipalities are in early stages of the complex task of developing a program suitable for controlling pollutants in discharges under a NPDES permit, while other municipalities have relatively sophisticated programs in place. In order to ensure that such site-specific programs are developed at the maximum extent practicable rate, EPA is proposing to require permittees of municipal separate storm sewer systems to submit annual status reports which reflect the development of their control programs.

The reports will be used by the permitting authority to aid in evaluating compliance with permit conditions and where necessary, modify permit conditions to address changed conditions. EPA requests comments on the appropriate content of the annual reports.

I. Application Deadlines

The WQA provided a statutory time frame for implementing the storm water permit application requirements. The Act establishes deadlines for EPA to establish permit applications, permit application submittal and permit compliance.

The WQA requires EPA to promulgate permit application requirements for storm water discharges associated with industrial activity and large municipal separate storm sewer systems by "no later than two years" after the date of enactment (i.e., no later than February 4, 1989). In conjunction with this requirement, the Act requires that permit applications for these classes of discharges be submitted within one year after the statutory date by which EPA is to promulgate permit application requirements by providing that such applications "shall be filed no later than three years" after the date of enactment of the WQA (i.e., no later than February 4, 1990).

The WQA also requires EPA to promulgate final regulations governing storm water permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more but less than 250,000 by "no later than four years" after enactment (i.e. no later than February 4, 1991). Permit applications for medium municipal separate storm sewer systems "shall be filed no later than five years" after the date of enactment of the WQA (i.e., no later than February 4, 1992). The WQA did not establish the time period between designation and permit application submittal for case-by-case designations under section 402(p)(2)(E).

Comments on earlier rulemakings involving storm water application

deadlines have indicated that applicants need adequate time to obtain "representative" storm water samples, at least one full rain year. This is because many discharges are located in areas where testing during dry seasons or winter would not be feasible. The intermittent and unpredictable nature of storm water discharges can result in difficult and time-consuming data gathering. Moreover, some operators have many storm water discharges associated within industrial activity which can require considerable time to identify, analyze, and submit applications. This creates a tremendous practical problem for the extremely high number of unpermitted storm water discharges. The Agency's and the public's interest in a sound storm water program and the development of a useful data base on these sources is best served by establishing an application deadline which will allow sufficient time to gather, analyze, and submit meaningful applications. Based on a consideration of these factors, EPA favors proposing that individual permit applications for storm water discharges associated with industrial activity which currently are not covered by a permit and that are required to obtain a permit be submitted not later than one year after the final rule is promulgated.

Operators of storm water discharges which are currently covered by a permit, will, of course, not be required to submit a permit application until their existing permit expires. Facilities which must reapply for a permit for a storm water discharge prior to the promulgation of a final rule based on today's proposal are required to submit complete Form 1 and Form 2C applications. In recognition of the time required to collect storm water discharge data, EPA will consider allowing facilities that currently have a NPDES permit for a discharge and which must reapply for permit renewal the option of applying in accordance with existing Form 1 and Form 2C requirements in lieu of applying in accordance with the revised application requirements during the first year following promulgation of the revised permit application requirements.

As discussed in § VII.E.4 and § VII.G.2 of today's notice, EPA favors a two part permit applications for both group applications for sufficiently similar facilities that discharge storm water associated with industrial activity and for operators of large or medium municipal separate storm sewer systems. The deadlines for submitting permit applications that are proposed in today's notice are based on providing adequate time for: applicants to prepare Part 1 of the application, adequate review of Part 1 of the application by EPA or, in the case of permit applications for large and medium municipal storm sewer systems, approved NPDES States, and preparation of the contents of the Part 2 application.

For permit applications for storm water discharges associated with industrial activity, EPA is proposing that Part 1 of the group application be submitted within 120 days from the publication of final permit application regulations. This time is necessary to form groups and for individual members of the group to prepare the non-quantitative information required in Part 1 of the application. Part 1 of the group application will be submitted to EPA Headquarters in Washington, DC and approved or disapproved within 60 days after being received. Part 2 of the application would then be submitted within one year after the Part 1 application is approved.

For large municipal separate storm sewer systems (systems serving a population of more than 250,000), EPA is proposing that Part 1 of the permit applications be submitted within one year of the date of the final rule. The Director will approve or disapprove the provisions of the Part 1 permit application within 90 days after receiving the Part 1 application. The Part 2 portion of the application shall then be submitted within two years of the date of the final rule.

For medium municipal separate storm sewer systems (systems serving a population of more than 100,000, but less than 250,000), EPA is proposing that permit applications will be required on November 4, 1990. The Director will approve or disapprove the provisions of the Part 1 permit application within 90 days after receiving the Part 1 application. The Part 2 portion of the application shall then be submitted no later than February 4, 1992, one year after the Part 1 application has been approved.

Operators of storm water discharges that are not normally required to obtain a permit, may be required to obtain a permit for their discharge on the basis of a case-by-case designation by the Administrator or the NPDES State. EPA is proposing that operators of storm water discharges associated with industrial activity which discharge to municipal separate storm sewers are generally not required to obtain a NPDES permit for their discharge, unless required by the Director on a case-by-case basis. The Administrator or NPDES State may also designate storm water discharges (except agricultural storm water discharges) that contribute to a violation of a water quality standard or that are significant contributors of pollutants to waters of the United States for a permit. Prior to a case-by-case determination that an individual permit is required for a storm water discharge, the Administrator or NPDES State may require the operator of the discharge to submit a permit application. EPA is proposing at § 124.52(c) to require the operator of designated discharges to submit a permit application within 60 days of notice, unless permission for a later date is granted. The 60-day deadline is consistent with the procedures for designating other discharges for a NPDES permit on a case-by-case basis found at § 124.52. The 60-day deadline recognizes that case-by-case designations often require an expedited response, but at the same time, is flexible to allow for case-by-case adjustments.

In recognition of the time required to promulgate rational final regulations which address the complex issues associated with storm water permit application requirements, the Agency realizes that given the date of this proposal, the agency may not be able to promulgate permit application requirements by the statutory deadline of February 4, 1989 for storm water discharges associated with industrial activities and discharges from large municipal separate storm sewer systems. Based on an analysis of the comments received on today's proposal, the Agency will consider promulgating a final rule specifying permit application requirements for storm water discharges associated with industrial activity prior to the date of promulgation of permit application requirements for large and medium municipal storm sewer systems.

EPA requests comments on the relationship between the proposed deadlines and the proposal for a two part permit application for discharges from a large or medium municipal separate storm sewer system. Specifically, EPA requests comments on an alternative approach to a two part permit application where only some of the requirements discussed in today's notice (primarily the Part 1 application requirements) would be established as application requirements and other requirements (primarily the Part 2 application requirements) would be established as permit conditions. Under this approach, applicants would be required to include plans to submit information with the Part 1 application. These plans would be used to develop compliance schedules which would be

incorporated as permit conditions. This option is not favored in today's notice because of the Agency's concerns about the additional complexities associated with the scheme and the additional time that may be required to develop and implement municipal storm water management programs.

J. State Storm Water Management Programs

Today's notice proposes permit application requirements which apply to only the following storm water discharges:

- A discharge with respect to which a permit has been issued prior to February 4, 1987;
- A discharge associated with industrial activity;
- A discharge from a municipal separate storm sewer system serving a population of 250,000 or more;
- A discharge from a municipal separate storm sewer system serving a population of 100,000 or more, but less than 250,000; or
- A discharge for which the Administrator or NPDES State determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.

The EPA, or NPDES approved States cannot require NPDES permits for other discharges composed entirely of storm water prior to October 1, 1992. EPA is required to submit to Congress a report on a study, conducted in consultation with the States, for the purpose of:

- Identifying those storm water discharges or classes of storm water discharges for which permits are not required prior to October 1, 1992; and
- Determining, to the maximum extent practicable, the nature and extent of pollutants in such discharges.

Not later than October 1, 1989, EPA, in consultation with the States, is required to conduct a study for the purpose of establishing procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality.

These studies are to be used by EPA, in consultation with State and local officials, to issue regulations which designate additional storm water discharges to be regulated to protect water quality and to establish a comprehensive storm water quality regulatory program. Section 402(p)(6) of the CWA requires that the comprehensive regulatory program shall, at a minimum, establish priorities, establish requirements for State storm water management programs, and establish expeditious deadlines. The provision provides EPA with broad authority and discretion to fashion the comprehensive regulatory program, which may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

As stated earlier in today's notice, one goal in evaluating public comments received in response to today's notice is to gather information for these studies. To facilitate information gathering for the studies, the Agency is proposing an initial framework for State storm water management programs. This initial framework is intended to encourage States to participate in the development of the Section 402(p)(5) studies, and the subsequent development of regulations. EPA will use information collected in this manner, along with other information, such as section 305(b) reports, as guidance in developing storm water programs with the flexibility to target priorities of individual States to the extent necessary to mitigate impacts on water quality associated with storm water discharges.

VIII. Economic Impact

EPA has prepared an Information Collection Request for the purpose of estimating the information collection burden imposed on Federal, State and local governments and industry by proposed revisions to NPDES permit application requirements for storm water discharges codified in 40 CFR Part 122. The Agency is proposing these revisions in response to Section 402(p)(4) of the Clean Water Act, as amended by the Water Quality Act of 1987 (WQA). The proposed revisions would apply to: storm water discharges associated with industrial activity; discharges from municipal separate storm sewer systems serving a population of 250,000 or more and discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000.

The annual cost for applying for NPDES permits for discharges from municipal separate storm sewer systems was estimated to be $5.7 million. EPA estimates that an average application for a permit for all discharges from a municipal separate storm sewer system serving a population of 250,000 or more would cost $131,300 to prepare, or 8,534 hours, while an average application for a permit for all discharges from a municipal separate storm sewer system serving a population of 100,000 or more, but less than 250,000 would cost $83,600 to prepare, or 5,438 hours, annually. The annual respondent cost for NPDES permit applications for storm water discharges for industrial activities was estimated to be $7.6 million or 238,644 hours. EPA estimates that an average application for a permit application for a storm water discharge associated with industrial activity (other than construction activities) would cost $1011.20, or 31.6 hours to prepare. The average cost to prepare a prepare a permit application for a storm water discharge associated with industrial activity from a construction activities would be $144.00 or 4.5 hours. The annual respondent cost for facilities which discharge storm water associated with industrial activity to a municipal separate storm sewer system serving a population of 100,000 or more to notify the operator of the municipal storm sewer is estimated to be $9.4 million. The average cost for facilities which discharge storm water associated with industrial activity to municipal separate storm sewer system serving a populaton of 100,000 or more to notify the operator of the municipal separate storm sewer system would be $185.20 or 6.1 hours. The annual cost to the Federal Government and approved states for administration of the program was estimated to be $0.46 million. In summary, the total burden for municipalities, industry, and state and federal authorities was estimated to equal $23.4 million.

In general, the cost estimates provided in the ICR focus primarily on the costs associated with developing, submitting and reviewing the permit applications associated with today's notice. The Agency will continue to evaluate procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality in the studies required under Section 402(p)(5) of the CWA (see section IV of today's notice). One purpose of these studies will be to evaluate the costs and water quality benefits associated with implementing these procedures and methods. This information, along with information gained during permit implementation will aid in the dynamic long-term development of storm water control efforts. EPA invites the public to submit information regarding the cost of implementing storm water controls to aid in the completion of these studies.

IX. Executive Order 12291

Executive Order 12291 requires EPA and other agencies to perform regulatory analyses of major regulations. Major rules are those which impose a cost on the economy of $100 million or more annually or have certain other economic impacts. Today's proposed amendments

would generally make the NPDES permit application regulations more flexible and less burdensome for the regulated community. These regulations would not, if promulgated satisfy any of the criteria specified in section 1(b) of the Executive Order and, as such, would not constitute a major rule. This regulation was submitted to the Office of Management and Budget (OMB) for review.

X. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 0226.04) and a copy may be obtained from: Florice Farmer, Information Policy Branch; EPA; 401 M St., SW. (PM-223); Washington, DC or by calling (202) 382-2740.

Public reporting burden for permit applications for storm water discharges associated with industrial activity (other than from construction facilities) is estimated to average 31.6 hours per response. The public reporting burden for permit applications for storm water discharges associated with industrial activity from a construction activities is estimated to average 4.5 hours per response. The public reporting burden for facilities which discharge storm water associated with industrial activity to municipal separate storm sewers serving a population of 100,000 to notify the operator of the municipal separate storm sewer system is estimated to average 6.1 hours per response.

The reporting burden for system-wide permit applications for discharges from municipal separate storm sewer systems serving a population of 250,000 or more is estimated to average 945.5 hours per response in the Part 1 application and 7589 hours per response in the Part 2 application. The reporting burden for system-wide permit applications for discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000 is estimated to average 515.5 hours per response in the Part 1 application and 4923 hours per response in the Part 2 application. Estimates of reporting burden include time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., SW., Washington, DC 20490; and to the Office of Information and Regulatory Affairs, Office of Management and Budget; Washington, DC 20503, marked "Attention: Desk Officer for EPA.". The final rule will respond to OMB or public comments on the information collection requirements contained in this proposal.

XI. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 USC 601 *et seq.*, EPA is required to prepare a Regulatory Flexibility Analysis to assess the impact of rules on small entities. No Regulatory Flexibility Analysis is required, however, where the head of the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.

Today's proposed amendments to the regulations would generally make the NPDES permit applications regulations more flexible and less burdensome for permittees. Accordingly, I hereby certify, pursuant to 5 U.S.C. 605(b), that these amendments would not, if promulgated, have a significant impact on a substantial number of small entities.

List of Subjects in 40 CFR Parts 122, 123, 124 and 504

Administrative practice and procedure, Environmental protection, Reporting and recordkeeping requirements, Water pollution control.

Authority: Clean Water Act, 33 USC 1251 *et seq.*

Lee M. Thomas,
Administrator.

Date: November 23, 1988.

For the reasons stated in the preamble, Parts 122, 123, 124 and 504 of Title 40 of the Code of Federal Regulations are proposed to be amended as follows:

PART 122—EPA ADMINISTERED PERMIT PROGRAMS; THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Subpart B—Permit Application and Special NPDES Program Requirements

1. The authority citation for Part 122 continues to read as follows:

Authority: Clean Water Act, 33 U.S.C. 1251 et seq.

2. Section 122.1 is amended by revising paragraph (b)(2)(iv) to read as follows:

§ 122.1 Purpose and scope.

* * * * *

(b) * * *

(2) * * *

(iv) Discharges composed entirely of storm water as set forth in § 122.26; and

* * * * *

3. Section 122.21 is amended by revising paragraph (c), removing paragraph (f)(9), amending paragraph (g)(3) by adding the sentence shown below, revising paragraph (g)(7), removing and reserving paragraph (g)(10) and revising the introductory text of paragraph (k) to read as follows:

§ 122.21 Application for a permit (applicable to State programs, see § 123.25).

* * * * *

(c) *Time to apply.* Any person proposing a new discharge, (including new discharges containing storm water associated with industrial activity), shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 180 day requirement to avoid delay. See also paragraph (k) of this section and paragraphs 122.26(c)(1)(i)(G) and 122.26(c)(1)(ii).

* * * * *

(f) * * *

(9) (removed)

* * * * *

(g) * * *

(3) * * * The average flow of point sources composed of storm water may be estimated and the rainfall event and the method of estimation that the estimate is based on must be indicated.

* * * * *

(7) *Effluent characteristics.* Information on the discharge of pollutants specified in this paragraph (except information on storm water discharges which is to be provided as specified in § 122.26). When "quantitative data" for a pollutant are required, the applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR Part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. When an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also apply to the substantially identical outfalls. The requirements in paragraphs (g)(7)(iii)

and (iv) of this section that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. Grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform and fecal streptococcus. For all other pollutants, 24-hour composite samples must be used. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period greater than 24 hours. In addition, for discharges other than storm water discharges, the Director may waive composite sampling for any outfall for which the applicant demonstrates that the use of an automatic sampler is infeasible and that the minimum of four (4) grab samples will be a representative sample of the effluent being discharged. For storm water discharges, all samples shall be collected from the discharge resulting from the first storm event after a minimum period of 96 hours without a measurable (greater than 0.1 inch rainfall) storm event. For storm water discharges, a grab sample shall be taken during the first twenty minutes of the discharge, and a flow-weighted composite shall be taken for either the entire discharge or for the first three hours of the discharge. The flow-weighted composite sample for a storm water discharge may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes. However, a minimum of one grab sample may be taken for storm water discharges from holding ponds or other impoundments with a retention period greater than 24 hours. For a flow-weighted composite sample, only one analysis of the composite of aliquots is required. For storm water discharge samples quantitative data must be reported for the grab sample taken during the first twenty minutes of the discharge for all pollutants specified in § 122.26, and for flow-weighted composites, quantitative data must be reported for all pollutants specified in § 122.26 except pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform and fecal streptococcus. The Director may establish appropriate site-specific sampling requirements, including the location of the outfall to be sampled, the season the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled and the form of percipitation sampled (snow melt or rain fall). An applicant is expected to "know or have reason to believe" that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated storm water runoff from the facility.)

* * * * *

(g)(10) (removed and reserved)

* * * * *

(k) *Application requirements for new sources and new discharges.* New manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits (except for new discharges of facilities subject to the requirements of § 122.21(h) or new discharges of storm water associated with industrial activity which are subject to the requirements of § 122.26(c)(1) and this section (except as provided by § 122.26(c)(1)(ii)) shall provide the following information to the Director, using the application forms provided by the Director:

* * * * *

4. Section 122.22 is amended by revising paragraph (b) introductory text, to read as follows:

§ 122.22 Signatories to permit applications and reports (applicable to State programs, see § 123.25).

* * * * *

(b) All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

* * * * *

5. Section 122.26 is revised to read as follows:

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* (1) Prior to October 1, 1992, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(i) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(ii) A discharge associated with industrial activity;

(iii) A discharge from a large municipal separate storm sewer system;

(iv) A discharge from a medium municipal separate storm sewer system;

(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at 122.2. The Director or the EPA Regional Administrator may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director or the EPA Regional Administrator may consider the following factors:

(A) The location of the discharge with respect to waters of the United States;

(B) The size of the discharge;

(C) The quantity and nature of the pollutants discharged to waters of the United States; and

(D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation, runoff and which are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations. Contaminated storm water runoff from mining operations includes runoff which contain pollutants above natural background levels. Contaminated storm water runoff from oil and gas exploration, production, processing or treatment operations or transmission facilities includes, but is not limited to, runoff which:

(i) Contains a hazardous substance in excess of reporting quantities established at 40 CFR 117.3 or 40 CFR 302.4;

(ii) Contains oil in excess of the reporting quantity established at 40 CFR 110.3; or

(iii) Contributes to a violation of a water quality standard.

(3) *Large and Medium Municipal Separate Storm Sewer Systems.*

(i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system; or

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible.

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

(vii) (A) Operators of storm water discharges associated with industrial activity which discharge to a municipal separate storm sewer system are not required to submit an individual NPDES permit application or participate in a group application for such discharge provided:

(*1*) The operator of such a storm water discharge submits, to the municipality responsible for the municipal separate storm sewer receiving the discharge by no later than [*insert 180 days from date of publication of final rule*] or prior to commencing such discharge: the name of the facility; the location of the discharge; a description (such as SIC codes) which best reflects the principal products or services provided by each facility; existing quantitative data (including flow estimates and sampling data) describing the discharge; and a certification that, if feasible, the discharge has been tested for the presence of non-storm water discharges. The certification shall include a description of the results of any test for the presence of non-storm water discharges, the method used, the date of any testing, and the on-site drainage points that were directly observed during a test, or why the test was not feasible;

(*2*) Such discharge is composed entirely of storm water;

(*3*) Such discharge is in compliance with applicable conditions of the NPDES permit issued for the discharge from the municipal separate storm sewer which receives the storm water discharge associated with industrial activity, provided the discharger has been notified of such conditions; and

(*4*) Such discharges do not contain a hazardous substance in excess of reporting quantities established at 40 CFR 117.3 or 40 CFR 302.4.

(B) Notwithstanding paragraph (a)(3)(vii)(A) of this section, for the purpose of appropriate oversight and enforcement, the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, may require an individual permit for a discharge of storm water associated with industrial activity to a municipal separate storm sewer. Cases where an individual permit may be required include, but are not limited to:

(*1*) The discharge is not compliance with the provisions of paragraph (a)(3)(vii)(A) of this Section; or

(*2*) The discharge potentially contains toxic pollutants or hazardous substances in amounts that may interfere with water quality objectives.

(viii) All discharges to a municipal separate storm sewer that are not composed entirely of storm water must obtain a NPDES permit in accordance with the requirements of Part 122.

(4) *Other Municipal Separate Storm Sewers.* The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(5) *Non-Municipal Separate Storm Sewers.* For storm water discharges associated with industrial activity from point sources which do not discharge to a municipal separate storm sewer, the Director, in his discretion, may issue a single NPDES permit covering all storm water discharges associated with industrial activity which discharge into the same set of conveyances which discharge from a single outfall, or multiple permits which cover all storm water discharges associated with industrial activity into such a system.

(i) All storm water discharges associated with industrial activity that discharge into a storm water discharge system that is not a municipal separate storm sewer must either be covered by an individual permit or a permit issued to the operator of the portion of the system that directly discharges to waters of the United States.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must be identified in the application submitted by the operator of the portion of the system that discharges directly to waters of the United States. Any such application shall include all information regarding storm water discharges associated with industrial activity that discharge into the system that would be required if the dischargers submitted separate applications. The operator of a storm water discharge so identified shall not be required to obtain an individual NPDES permit unless the Director specifies otherwise.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

(6) *Combined Sewer Systems.* Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must

obtain NPDES permits in accordance with the procedures of § 122.21 and are not subject to the provisions of this section.

(7) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under Title II, Title III or Title VI of the Clean Water Act. See 40 CFR Part 35, Subpart I, Appendix A(b)H.2.j.

(b) *Definitions.*

(1) "Co-permittee" means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) "illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer.)

(3) "incorporated place" means the District of Columbia, or a city, town or village that is incorporated under the laws of the State in which it is located.

(4) "Large municipal separate storm sewer system" means all municipal separate storm sewers that are either:

(i) Owned or operated by an incorporated place with a population of 250,000 or more as determined by the most recent Bureau of Census estimates; or

(ii) Owned or operated by a municipality other than an incorporated place with a population of 250,000 or more, and that are designated by the Director as part of the large municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4)(i) of this Section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors.

(5) "Major municipal separate storm sewer outfall" (or "major outfall") means a municipal separate storm sewer outfall that discharges from a pipe with a diameter of more than 36 inches or its equivalent (discharges from conveyances other than circular pipe which are associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a pipe with a diameter of 12 inches or more or from its equivalent (discharges from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) "Major outfall" means a major municipal separate storm sewer outfall.

(7) "Medium municipal separate storm sewer system" means all municipal separate storm sewers that are either:

(i) Owned or operated by an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the most recent Bureau of Census estimates; or

(ii) Owned or operated by a municipality other than an incorporated place with a population of 100,000 or more, and that are designated by the Director as part of the medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(7)(i) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors.

(6) "Municipal separate storm sewer" means a conveyance or system of conveyances (including roads with drainage systems) that:

(i) Is owned or operated by a city, town, borough, country, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) That is designed solely for collecting or conveying storm water; and

(iii) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

(9) "Outfall" means "point source" as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(10) "Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.

(11) "Significant materials" includes raw materials; fuels; materials such as solvents and detergents; finished materials such as metallic products; and waste products such as ashes, slag and sludge that are used or stored in quantities at an industrial plant that, if released and mixed with storm water, could result in impacts to receiving waters.

(12) "Storm water" means storm water runoff, snow melt runoff, surface runoff, street wash waters related to street cleaning or maintenance, infiltration (other than infiltration contaminated by seepage from sanitary sewers or by other discharges) and drainage.

(13) "Storm water discharge associated with industrial activity" means any "point source" as defined by 40 CFR 122.2 which is used for collecting and conveying storm water and which is located at an industrial plant or directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term includes, but is not limited to, storm water discharges from drainage areas in which are located: industrial plant yards; immediate access roads and rail lines; drainage ponds; material handling sites; refuse sites; sites used for the application or disposal or process waters; sites used for the storage and maintenance of material handling equipment; and sites that are presently or have been used in the past for residual treatment, storage or disposal. Material handling activities include: storage, loading and unloading of any raw material, intermediate product, finished product, byproduct or waste product. The term excludes areas located on plant lands separate from the

plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from lands used for the plant's industrial activities. industrial plants (including industrial plants at Federally owned or operated facilities) include, but are not limited to, the following:

(i) Facilities subject to effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards (see 40 CFR Subchapter N);

(ii) Facilities classified as Standard Indistrial Classifications 20 through 39 (manufacturing industry);

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(1)) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations;

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

(v) Active and inactive landfills, land application sites, and open dumps and that have received any industrial wastes, including those that are subject to regulation under Subtitle D of RCRA;

(vi) Facilities involved in significant recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards;

(vii) Steam electric power generating facilities, including coal handling sites, and onsite and offsite ancillary transformer storage areas;

(viii) Transportation facilities classified as Standard Industrial Classifications 40 through 45, and 47 which have vehicle maintenance shops, material handling facilities, equipment cleaning operations or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance, loading, storage and unloading activities or equipment cleaning operations, or which are subject to another subparagraph under this paragraph are associated with industrial activity;

(ix) POTW lands used for land application treatment technologies, sludge disposal, handling or processing areas, and chemical handling and storage areas; and

(x) Facilities classified as Standard Industrial Classifications 15 and 16 (General building contractors and heavy construction contractors) including clearing, grading and excavation activities except: (A) operations that result in the disturbance of less than 1 acre total land area which are not part of a larger common plan of development or sale; or (B) that are designed to serve single family residential projects, including duplexes, triplexes, or guadruplexes, that result in the disturbance of less than 5 acre total land areas which are not part of a larger common plan of development or sale.

(c) *Application requirements for storm water discharges associated with industrial activity*— (1) *Individual application.* Any discharge that contains storm water associated with industrial activity and that an operator is required to obtain a permit for, or any discharge of storm water which the Director is evaluating for designation (see 40 CFR 124.52(c)) under paragraph (a)(1)(v) and is not a municipal separate storm sewer, and which is not part of a group application described under paragraph (c)(2) of this section, shall submit an NPDES application in accordance with the requirement of § 122.21 and shall provide the following information (Applicants for discharges composed entirely of storm water shall submit Form 1 and Form 2F. Applicants for discharges composed of storm water and non-storm water shall submit Form 1, Form 2C, and Form 2F. Applicants for new sources or new discharges (as defined in section 122.2 of this part) composed of storm water and non-storm water shall submit Form 1, Form 2D, and Form 2F):

(i) Except as provided in paragraphs 122.26(c)(1) (ii) and (iii), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall and a narrative description of significant materials that are currently or in the past have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge.

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested for the presence of non-storm water discharges which are not covered by a NPDES permit. tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test;

(D) Existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility;

(E) Representative quantitative data based on samples collected during representative storm events and collected in accordance with section 122.21 of this Part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

(*1*) Any pollutant limited in an effluent guideline to which the facility is subject;

(*2*) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);

(3) Oil and grease, pH, TOC, BOD_5, COD, TSS, total phosphorus, total nitrogen;

(4) Any information on the discharge required under § 122.21(g)(7) (iii) and (iv) of this Part;

(5) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and

(6) The date and duration of the storm event(s) sampled, rainfall measurements or estimates of the storm event which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event.

(F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21(g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(i), (g)(7)(ii), and (g)(7)(v).

(G) Operators of new sources or new discharges (as defined in section 122.2 of this part) which are composed in part or entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this paragraph instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this paragraph within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new sources or new discharges which is composed entirely of storm water are exempt from the requirements of § 122.21(k)(3)(ii), (k)(3)(iii), and (k)(5).

(ii) The operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(13)(x) of this section, is exempt from the requirements of § 122.21(g) and § 122.26(c)(1)(i) of this Part. Such operator shall provide a narrative description of:

(A) The nature of the construction activity;

(B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

(C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements; and

(D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

(E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(F) The name of the receiving water.

(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility:

(A) Is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless storm water runoff discharged from the facility:

(1) Contains a release of hazardous substance in excess of reporting quantities established at 40 CFR 177.3 or 40 CFR 302.4;

(2) Contains a release of oil in excess of the reporting quantity established at 40 CFR 110.3; or

(3) Contributes to a violation of a water quality standard.

(B) Notwithstanding paragraph (c)(1)(iii)(A) of this section, the Director may require on a case-by-case basis the operator of an existing or new storm water discharge from an oil or gas exploration, production, processing, or treatment operation, or transmission facility to submit a permit application in accordance with paragraph (c)(1)(i) of this section.

(iv) The Director may require additional information under § 122.21(g)(13) of this Part and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) *Group application for discharges associated with industrial activity.* In lieu of individual applications for storm water discharges associated with industrial activity, a group application may be filed by an entity representing a group of applicants that are part of the same subcategory (see 40 CFR Subchapter N) or, where such grouping is inapplicable, are sufficiently similar as to be appropriate for general permit coverage under § 122.28 of this Part. The Part 1 application (Parts 1A and 1B) shall be submitted to the Office of Water Enforcement and Permits, U.S. EPA, 401 M Street, SW., Washington, DC 20460 for approval. Once a Part 1 application is approved, group applicants are to submit Part 2 of the group application to the Office of Water Enforcement and Permits. A group application shall consist of:

(i) *Part 1A.* Part 1A of a group application shall:

(A) Identify the participants in the group application by name and location. Facilities participating in the group application shall be listed in nine subdivisions, based on the facility location relative to the nine precipitation zones indicated in Appendix E to this Part.

(B) Include a narrative description summarizing the industrial activities of participants of the group application and explaining why the participants, as a whole, are sufficiently similar to be covered by a general permit;

(C) Include a list of significant materials stored outside by participants in the group application and materials management practices employed to minimize contact by these materials with storm water runoff;

(D) Identify 10 percent of the dischargers participating in the group application with a minimum of 10 dischargers, and either a minimum of 2 dischargers from each precipitation zone indicated in Appendix E of this Part in which two or more members of the group are located, or one discharger from each precipitation zone indicated in Appendix E of this Part in which only one member of the group is located) from which quantitative data will be submitted in Part 2. If more than 1,000 facilities are identified in a group application, no more than 100 dischargers must submit quantitative data in Part 2. A description of why the facilities selected to perform sampling and analysis are representative of the group as a whole, in terms of the information provided in paragraphs (c)(2)(i)(B) and (i)(C) of this section, shall accompany this section. Different factors impacting the nature of the storm water discharges, such as processes used and material management, shall be represented, to the extent feasible, in a manner roughly equivalent to their proportion in the group.

(ii) *Part 1B.* Part 1B of the group application shall, for each participant in the group application:

(A) Provide the information described under § 122.26(c)(1)(i) (A), (B), (C) and (D) of this Part;

(B) List all constituents that are addressed in a NPDES permit issued to the facility for any non-storm water discharge; and

(C) Include a narrative description of industrial activities at the facility that are different from or that are in addition

to the activities described under paragraph (c)(2)(i)(B) of this section.

(iii) *Part 2.* Part 2 of a group application shall contain quantitative data (NPDES Form 2F) as modified by paragraph (c)(1) of this section so that when Part 1 and Part 2 of the group application are taken together, a complete NPDES application (Form 1, Form 2C and Form 2F) can be evaluated for each discharger identified in paragraph (c)(2)(i)(D) of this section.

(d) *Application requirements for large and medium municipal separate storm sewer discharges.* The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(V) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include:

(1) *Part 1.* Part 1 of the application shall consist of:

(i) *General Information.* The applicants' name, address, telephone number, ownership status and status as a Federal, State or local government entity.

(ii) *Legal Authority.* A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) *Source Identification.*

(A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost-effective) extended one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

(*1*) The location of known municipal storm sewer system outfalls discharging to waters of the United States;

(*2*) An estimate of the outer perimeter and area of the drainage area associated with each major outfall and a description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area. For each land use division, an etimate of a runoff coefficient shall be provided;

(*3*) The name, address, location, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge to the municipal separate storm sewer storm water associated with industrial activity;

(*4*) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;

(*5*) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;

(*6*) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and

(*7*) The identification of publicly owned lands.

(iv) *Discharge Characterization.*

(A) Monthly mean rain and snow fall estimates and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfall sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

(*1*) Assessed and reported in Section 305(b) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

(*2*) Listed under section 304(1)(1)(A)(i), 304(1)(1)(A)(ii), or 304(1)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;

(*3*) Waterbodies listed in State Nonpoint Source Assessments required by Section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards in which storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adds significant pollution (or contributes to a violation of water quality standards);

(*4*) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under Section 314(a) of the CWA and a description of those publicly owned lakes for which uses are known to be impaired, and a description of procedures, processes and methods relating to pollutants discharges in municipal systems to control sources of pollutants on such lakes and a description of methods and procedures to restore the quality of such lakes;

(*5*) Areas of concern of the Great Lakes that have been identified by the International Joint Commission;

(*6*) Estuaries of national significance that have been designated under the National Estuary Program under § 320 of the CWA;

(*7*) Other water bodies that the applicant recognizes as highly valued or sensitive waters; and

(*8*) Existing data showing pollutants in bottom sediments, fish tissue or biosurvey data.

(D) *Field Screening Analysis.* Results of a field screening analysis for illicit connections and illegal dumping for all major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description for each major outfall of a visual observation made during a dry weather period. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observation regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, total and hexavalant chromium, detergents (or surfactants) and free cyanide shall be

provided along with an estimate of the flow rate. Where the field analysis does not involve analytical method approved under 40 CFR Part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test.

(E) *Characterization plan.* Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this Section. Such description shall include:

(*1*) The identification of major outfalls that, based on information provided in the field screen analysis of paragraph (d)(1)(iv)(D) of this paragraph and other relevant information, are suspected of containing illicit discharges, for sampling under paragraph (d)(2)(iii)(A) of this section; for identified outfalls, a plan to detect and control illicit discharges and improper disposal to the storm sewer may be submitted in lieu of sampling under paragraph (d)(2)(iii)(A) of this section; and

(*2*) The location of outfalls appropriate for representative data collection under paragraph (d)(2)(iii)(B) of this section, a description of why the outfall is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls for such sampling should reflect water quality concerns (see paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) *Management Programs.*

(A) A description of the existing management program to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented, accompanied with an estimate of the reduction of pollutant loads. Such controls may include, but are not limited to: procedures to control pollution resulting from construction activities, floodplain management controls, wetland protection measures, best management practices for new subdivisions and emergency spill response programs. The description may address controls established under State law as well as local controls.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(*2*) *Part 2.* Part 2 of the application shall consist of:

(i) *Adequate Legal Authority.* A demonstration that the applicant shall operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by each storm water discharge associated with industrial activity or the quantity of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

(ii) *Source Identification.* The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(*1*) of this section. For any major outfall identified under this paragraph but not identified in Part 1 of the application, the applicant shall submit appropriate information required under paragraph (d)(1)(iv)(D) of this section;

(iii) *Characterization data.* When "quantitative data" for a pollutant are required under paragraphs (d)(2)(iii)(A)(*3*), (B)(*4*) and (B)(*5*) of this section, the applicant must collect a sample of effluent in accordance with 40 CFR 122.21(g)(7) and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR Part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

(A) Dry weather and storm event sampling requirements established by the Director on the basis of the results of the screening analysis for illicit discharges and illegal dumping submitted under paragraph (d)(1)(ix) of this section. At a minimum, the Director shall require that for appropriate major outfalls:

(*1*) An estimate of the dry weather flow be provided and a 24-hour composite sample be collected during dry weather;

(*2*) Samples be collected of a storm water discharge from a representative storm event and an estimate of the flowrate during the storm event, the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event be provided; and

(*3*) For samples collected under paragraphs (d)(2)(iii) (A)(*1*) and (A)(*2*) of this section, quantitative data shall be provided for:

pH; lead
fecal coliform; copper
fecal streptococcus; chromium
volatile organic carbon (VOC); cadmium
surfactant (MBAS); silver
oil and grease; nickel
TSS; zinc
total organic carbon (TOC); cyanides
biological oxygen demand (BOD_5); total phenol
chemical oxygen demand (COD)

(B) Quantitative data from representative outfalls designate by the Director (based on information received in Part 1 of the application, the Director shall designate between five and ten outfalls as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) including:

(*1*) For each outfall designated under this subparagraph, the applicant shall collect samples of a storm water discharge from a representative storm event;

(*2*) For a minimum of one outfall designated under this subparagraph, the applicant shall collect samples of storm water discharges from three representative storm events that occur at last one month apart;

(*3*) The applicant shall provide a narrative description of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(4) For samples collected under paragraphs (d)(2)(iii)(B)(1) and (B)(2) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II (except bis (chlormethyl) ether, dichlorofluoromethane and trichlorofluoremethane); the pollutants listed in Table III (toxic metals, cyanide, and total phenol) of Appendix D of 40 CFR Part 122, and for the following pollutants:

total suspended solids (TSS); dissolved solids
COD; BOD_5
oil and grease; fecal coliform
fecal streptococcus; pH
total nitrogen; dissolved phosphorus
total ammonia plus organic nitrogen; total phosphorus

(5) Additional quantitative data required by the Director (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(C) Estimates of the annual pollutant load of the cumulative discharges from all outfalls (including outfalls that are not classified as major outfalls) represented in the permit application and the event mean concentration of the cumulative discharge from all outfalls (including outfalls that are not classified as major outfalls) represented in the permit application during a representative storm for BOD_5, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including a description of the representative storm, discharge monitoring, modelling, data analysis, and calculation methods;

(D) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(B) of this section; and

(E) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) *Proposed management program.* A proposed program covers the duration of the permit including a comprehensive planning process which includes public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a system-wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on a consideration of appropriate controls including:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants in discharges from municipal separate storm sewers;

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(3) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems;

(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies;

(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

(B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system;

(2) A description of sampling requirements during storm events and during non-storm events for the following constituents: fecal coliform, fecal streptococcus, VOC, surfactants (MBAS), and residual chlorine;

(3) A description of other testing programs based on smoke testing, and testing with fluorometric dyes;

(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewer

(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and

disposal of used oil and toxic materials; and

(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.

(C) A description of a program to monitor pollutants in runoff from industrial facilities that discharge to the municipal storm sewer, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(2) A description of requirements for nonstructural and structural best management practices;

(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(4) A description of appropriate educational and training measures for construction site operators.

(v) *Assessment of Controls.* Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment will also identify known impacts of storm water controls on ground water.

(vi) *Fiscal Analysis.* For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the proposed programs under paragraphs (d)(2)(iii) and (d)(2)(iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where such requirements are not practicable to are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from the requirements of paragraphs (d)(1)(iv)(E)(7), (d)(2)(ii), (d)(2)(iii)(B) of this section and non-applicable portions of paragraph (d)(2)(iv) of this section. The Director shall not exclude from any permit application requirements under this paragraph, the operator of a discharge from a municipal separate storm sewer that is owned or operated by, or public conveyances within, an incorporated place with a population of 100,000 or more as determined by the most recent Bureau of Census estimates.

(e) *Application deadlines.* Any operator of a point source required to obtain a permit under paragraph (a)(1) of this section that does not have an effective NPDES permit covering its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) For any storm water discharge associated with industrial activity that is not part of a group application as described in paragraph (c)(2), of this section, the application shall be submitted to the Director by [*insert 12 months from date of publication of final rule*];

(2) For any group application:

(i) Part 1 of the application shall be submitted to the Director, Office of Water Enforcement and Permits by [*insert 120 days from the date of publication of final rule*];

(ii) Based on information in the Part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving Part 1 of the group application.

(iii) Part 2 of the application shall be submitted to the Director, Office of Water Enforcement and Permits by [*insert 18 months from the date of publication of final rule*].

(3) For any discharge from a large municipal separate storm sewer:

(i) Part 1 of the application shall be submitted to the Director by [*insert 12 months from date of publication of final rule*];

(ii) Based on information received in the Part 1 application the Director will approve or deny a sampling plan within 90 days after receiving the Part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by [*insert 24 months from date of publication of final rule*].

(4) For any discharge from a medium municipal separate storm sewer:

(i) Part 1 of the application shall be submitted to the Director by November 4, 1990.

(ii) Based on information received in the Part 1 application the Director will approve or deny a sampling plan within 90 days after receiving the Part 1 application.

(iii) Part 2 of the application shall be submitted to the Director by February 4, 1992.

(5) A permit application shall be submitted to the Director within 60 days of notice, unless permission for a later date is granted by the Director (see 40 CFR 124.52(c)), for:

(i) A storm water discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraph (a)(1)(v) of this section);

(ii) A discharge of storm water associated with industrial activity to a municipal separate storm sewer for which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, requires an individual permit under paragraph 122.26(a)(3)(vii)(B);

(iii) A storm water discharge from an oil or gas exploration, production, processing or treatment operation or transmission facility which is required to submit a permit application on a case-by-case basis under paragraph (c)(1)(iii)(B) of this section; or

(iv) A storm water discharge subject to paragraph (c)(1)(iv) of this section.

(f) *Petitions.* (1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require an NPDES permit (or a permit issued under an approved NPDES State program) for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the population served by such separate system to account for storm water discharged to combined sewers as defined by 40 CFR 35.2005(b)(11) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be

reduced proportional to the fraction, based by estimating lengths, of length of combined sewers over the sum of the lengths of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition.

6. Section 122.28(b)(2)(i)(A) is revised to read as follows:

§ 122.28 General permits (applicable to State NPDES programs, see § 123.25.

* * * * *

(b) * * *

(2) * * *

(i) * * *

(A) The discharge(s) is a significant contributor of pollution. In making this determination, the Director may consider the following factors:

(1) The location of the discharge with respect to waters of the United States;

(2) The size of the discharge;

(3) The quantity and nature of the pollutants discharged to waters of the United States; and

(4) Other relevant factors;

* * * * *

7. Section 122.42 is amended by adding paragraph (c) to read as follows:

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25)

* * ANNUAL REPORT REQUIREMENTS

(c) *Municipal Separate Storm Sewer Systems.* The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under § 122.26(a)(1)(v) of this Part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;

(2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this Part; and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this Part.

7a. Appendix E is added to Part 122 to read as follows:

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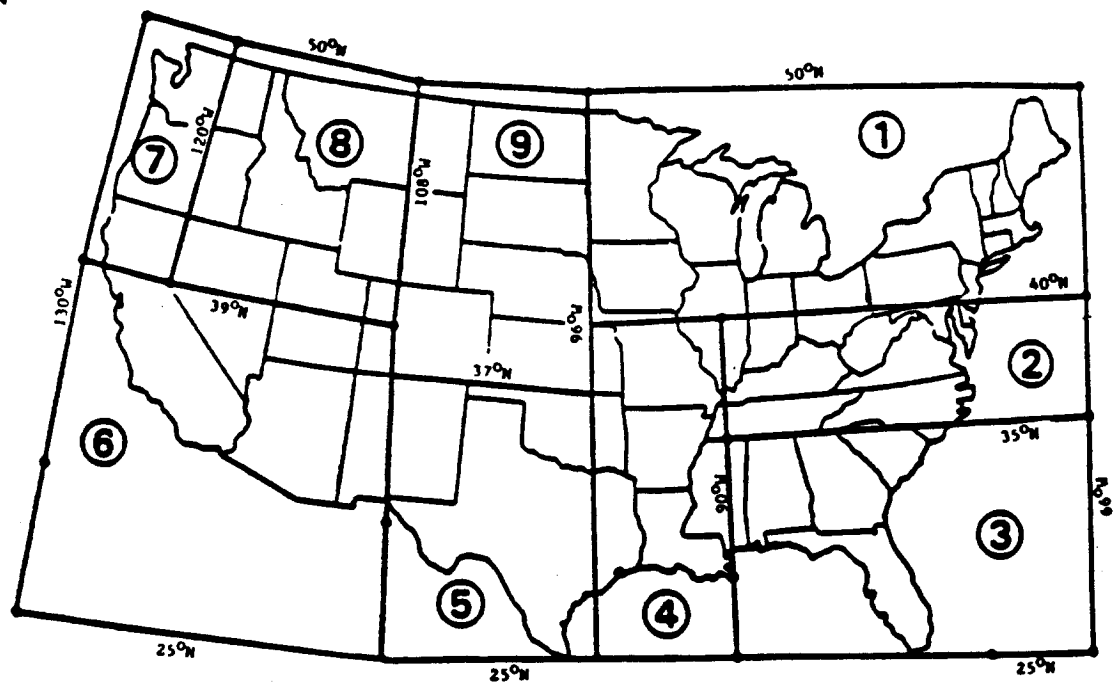
Appendix E to Part 122—Rainfall Zones on the United States



BILLING CODE 6560-50-C

Not Shown: Alaska (Zone 7); Hawaii (Zone 7); Puerto Rico (Zone 7); Virgin Islands (Zone -3).

Source: Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality, prepared for U.S. Environmental Protection Agency, Office of Water, Nonpoint Source Division, Washington, DC 1986.

PART 123—STATE PROGRAM REQUIREMENTS

8. The authority citation for Part 123 continues to read as follows:

Authority: Clean Water Act, 33 U.S.C. 1251 et seq.

9. Section 123.25(a)(9) is revised to read as follows:

§ 123.25 Requirements for permitting.

(a) • • •

(9) Section 122.26—(Storm water discharges);

• • • • •

PART 124—PROCEDURES FOR DECISIONMAKING

10. The authority citation for Part 124 is revised to read as follows:

Authority: Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.; Safe Drinking Water Act, 42 U.S.C. 300f et seq.; Clean Water Act, 33 U.S.C. 1251 et seq.; and Clean Air Act, 42 U.S.C. 1857 et seq.

11. Section 124.52 is amended by revising paragraph (b) and adding paragraph (c) to read as follows:

§ 124.52 Permits required on a case-by-case basis.

• • • • •

(b) Whenever the Regional Administrator decides that an individual permit is required under this section, except as provided in paragraph (c) of this section, the Regional Administrator shall notify the discharger in writing of that decision and the reasons for it, and shall send an application form with the notice. The discharger must apply for a permit under § 122.21 within 60 days of notice. The question whether the designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

(c) Prior to a case-by-case determination that an individual permit is required for a storm water discharge under this section (see 40 CFR 122.26(a)(1)(v), (c)(1)(iii) and (c)(1)(iv)), the Regional Administrator may require the discharger to submit a permit application or other information regarding the discharge under section 308 of the CWA. In requiring such information, the Regional Administrator shall notify the discharger in writing and shall send an application form with the notice. The discharger must apply for a permit under § 122.26 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the initial designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

12. Part 504 is added to read as follows:

PART 504—STATE STORM WATER MANAGEMENT PROGRAMS

Sec.

504.0 Program summary and purpose.

504.3 Storm water management plans.

Authority: Clean Water Act, 33 U.S.C. 1251 et seq.

§ 504.0 Program summary and purpose.

(a) This subpart establishes State storm water management programs under section 402(p) of Clean Water Act. State storm water management programs, along with the NPDES requirements for storm water discharges, are to establish comprehensive programs to regulate storm water discharges, including a framework for establishing procedures and methods to control storm water discharges.

(b) State storm water management programs are to include the development of management plans to assist continuing planning necessary to implement comprehensive programs to regulate storm water discharges to mitigate water quality impacts. Initially, State storm water management plans will provide States with a voluntary means of participating in studies of storm water discharges under Section 402(p)(5) of the CWA.

§ 504.3 Storm water management plans

EPA requests that States wishing to participate in studies of storm water discharges under Section 402(p)(5) of the CWA, prepare and submit storm water management plans which include the following plan elements or reference such plan elements contained in separate documents:

(a) Existing State programs, including appropriate Non-Point Source programs, to reduce pollutants in discharges from municipal separate storm sewers and other storm water discharges;

(b) Storm water discharges or classes of storm water discharges in addition to storm water discharges described in 40 CFR 122.26(a). At a minimum, plans should include the identification of municipal agencies which own or operate or are otherwise responsible for discharges from municipal separate storm sewers including State agencies, county agencies associated with cities, towns, villages, townships, with a population of 10,000 or more, or located in whole or in part in urban areas designated by the Bureau of Census. Such identification shall include a description of the limitations under State law of legal authorities of such municipal agencies in developing and implementing measures to reduce pollutants in discharges from municipal separate storm sewers;

(c) To the maximum extent practicable, the nature and extent of pollutants in such discharges;

(d) Procedures and methods to contro' storm water discharges to the extent necessary to mitigate impacts on water quality; and

(e) Priorities for developing a comprehensive program to reduce pollutants in storm water discharges. Priorities should be based on:

(1) The magnitude of water quality impacts associated with storm water discharges on various receiving waters relative to other discharges causing water quality impacts;

(2) The nature of the storm water discharges considering:

(i) The nature of impacts on receiving waters;

(ii) The size of and pollutants in the storm water discharges;

(iii) The nature of the pollution source;

(iv) Available measures to reduce pollutants in storm water discharges; and

(v) Other relevant factors.

Appendix

Note: The following Appendix will not appear in the Code of Federal Regulations.

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Please print or type in the unshaded areas only

EPA ID Number (copy from item 1 of Form 1)

Form Approved. OMB No. xxxx-xxxx
Approval expires xx-xx-xx

Form 2F NPDES

EPA

United States Environmental Protection Agency
Washington, DC 20460

Application for Permit To Discharge Stormwater Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for the application is estimated to average 31.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (list)	B. Latitude	C. Longitude	D. Receiving Water (name)

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls: number	2. Affected Outfalls: source of discharge	3. Brief Description of Project	4. Final Compliance Date: a. req.	4. Final Compliance Date: b. proj.

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall; each past or present areas used for outdoor storage or disposal of significant materials; each existing structural control measure to reduce pollutants in storm water runoff; materials loading and access areas; areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility.

Continue on Page 2

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)

B. Provide a narrative description of significant materials that are currently or in the past have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff, and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1

V. Nonstormwater Discharges

A. I certify under penalty of law that the outfall(s) covered by this application have been tested for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name and Official Title (type or print)	Signature	Date Signed

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility, including the approximate date and location of the spill or leak, and the type and amount of material released.

Continued from Page 2

EPA ID Number (copy from Item I of Form 1)

VII. Discharge Information

A,B,C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2

E. Potential discharges not covered by analyses - Is any pollutant listed in Table 2F-2 a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ Yes (list all such pollutants below) ☐ No (go to Section IX)

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ Yes (list all such pollutants below) ☐ No (go to Section IX)

IX. Contract Analysis Information

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☐ Yes (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below) ☐ No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title (type or print)	B. Area Code and Phone No.
C. Signature	D. Date Signed

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VII. Discharge Information (*Continued from page 3 of Form 2F*)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease						
Biological Oxygen Demand (BOD5)						
Chemical Oxygen Demand (COD)						
Total Suspended Solids (TSS)						
Total Nitrogen						
Total Phosphorus						
pH	Minimum	Maximum	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		

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Continued from the Front

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*

7. Provide a description of the method of flow measurement or estimate.

EPA Form 3510-2F (12-88)

BILLING CODE 6560-50-C

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Instructions—Form 2F

Application for Permit to Discharge Stormwater Associated with Industrial Activity

Who Must File Form 2F

Form 2F must be completed by operators of facilities which discharge stormwater associated with industrial activity or by operators of stormwater discharges that EPA is evaluating for designation as a significant contributor of pollutants to waters of the United States, or as contributing to a violation of a water quality standard.

Operators of discharges which are composed entirely of stormwater must complete Form 2F (EPA Form 3510-2F) in conjunction with Form 1 (EPA Form 3510-1).

Operators of discharges of stormwater which are combined with process wastewater (process wastewater is water that comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, waste product, or wastewater) must complete and submit Form 2F, Form 1, and Form 2C (EPA Form 3510-2C).

Operators of discharges of stormwater which are combined with nonprocess wastewater (nonprocess wastewater includes noncontact cooling water and sanitary wastes which are not regulated by effluent guidelines or a new source performance standard, except discharges by educational, medical, or commercial chemical laboratories) must complete Form 1, Form 2F, and Form 2E (EPA Form 3510-2E).

Operators of new sources or new discharges of stormwater associated with industrial activity which will be combined with other nonstormwater new sources or new discharges must submit Form 1, Form 2F, and Form 2D (EPA Form 3510-2D).

Where to File Applications

The application forms should be sent to the EPA Regional Office which covers the State in which the facility is located. Form 2F must be used only when applying for permits in States where the NPDES permits program is administered by EPA. For facilities located in States which are approved to administer the NPDES permits program, the State environmental agency should be contacted for proper permit application forms and instructions.

Information on whether a particular program is administered by EPA or by a State agency can be obtained from your EPA Regional Office. Form 1, Table 1 of the "General Instructions" lists the addresses of EPA Regional Offices and the States within the jurisdiction of each Office.

Completeness

Your application will not be considered complete unless you answer every question on this form and on Form 1. If an item does not apply to you, enter "NA" (for not applicable) to show that you considered the question.

Public Availability of Submitted Information

You may not claim as confidential any information required by this form or Form 1, whether the information is reported on the forms or in an attachment. Section 402(j) of the Clean Water Act requires that all permit applications will be available to the public. This information will be made available to the public upon request.

Any information you submit to EPA which goes beyond that required by this form, Form 1, or Form 2C you may claim as confidential, but claims for information which are effluent data will be denied.

If you do not assert a claim of confidentiality at the time of submitting the information, EPA may make the information public without further notice to you. Claims of confidentiality will be handled in accordance with EPA's business confidentiality regulations at 40 CFR Part 2.

Definitions

All significant terms used in these instructions and in the form are defined in the glossary found in the General Instructions which accompany Form 1.

EPA ID Number

Fill in your EPA Identification Number at the top of each odd-numbered page of Form 2F. You may copy this number directly from item I of Form 1.

Item I

You may use the map you provided for item XI of Form 1 to determine the latitude and longitude of each of your outfalls and the name of the receiving water.

Item II-A

If you check "yes" to this question, complete all parts of the chart, or attach a copy of any previous submission you have made to EPA containing the same information.

Item II-B

You are not required to submit a description of future pollution control projects if you do not wish to or if none is planned.

Item III

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including:

- each of its drainage and discharge structures;
- the drainage area of each stormwater outfall;
- paved areas and building within the drainage area of each stormwater outfall, each past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in stormwater runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied;
- each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste for less than 90 days under 40 CFR 262.34);
- each well where fluids from the facility are injected underground; and
- springs, and other surface water bodies which receive stormwater discharges from the facility;

Item IV-A

For each outfall, provide an estimate of the area drained by the outfall which is covered by impervious surfaces. For the purpose of this application, impervious surfaces are surfaces where stormwater runs off at rates that are significantly higher than background rates (e.g., predevelopment levels) and include paved areas, building roofs, parking lots, and roadways. Include an estimate of the total area (including all impervious and pervious areas) drained by each outfall. The site map required under item III can be used to estimate the total area drained by each outfall.

Item IV-B

Provide a narrative description of significant materials that are currently or in the past have been treated, stored, or disposed in a manner to allow exposure to stormwater; method of treatment, storage or disposal of these materials; past and present materials management practices employed to minimize contact by these materials with stormwater runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

Significant materials should be identified by chemical name, form (e.g., powder, liquid, etc.), and type of container or treatment unit. Indicate any materials treated, stored, or disposed of together.

Item IV-C

For each outfall, structural controls include structures which enclose material handling or storage areas, covering materials, berms, dikes, or diversion ditches around manufacturing, production, storage or treatment units, retention ponds, etc. Nonstructural controls include practices such as spill prevention plans, employee training, visual inspections, preventive maintenance, and housekeeping measures that are used to prevent or minimize the potential for releases of pollutants.

Item V

Provide a certification that all outfalls that should contain stormwater discharges associated with industrial activity have been tested for the presence of nonstormwater discharges which are not covered by an NPDES permit. Tests for such nonstormwater discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. Part B must include a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test. All nonstormwater discharges must be identified in a Form 2C or Form 2E which must accompany this application (see beginning of instructions under section titled "Who Must File Form 2F" for a description of when Form 2C and Form 2E must be submitted).

Item VI

Provide a description of existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility. Significant spills at a facility include releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (see 40 CFR 110.10 and 40 CFR 117.21) or section 102 of CERCLA (see 40 CFR 302.4).

Items VII-A, B, and C

These items require you to collect and report data on the pollutants discharged for each of your outfalls. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following general instructions apply to the entire item.

General Instructions

Part A requires you to report at least one analysis for each pollutant listed. Parts B and C require you to report analytical data in two ways. For some pollutants addressed in Parts B and C, if you know or have reason to know that the pollutant is present in your discharge, you may be required to list the pollutant and test (sample and analyze) and report the levels of the pollutants in your discharge. For all other pollutants addressed in Parts B and C, you must list the pollutant if you know or have reason to know that the pollutant is present in the discharge, and either report quantitative data for the pollutant or briefly describe the reasons the pollutant is expected to be discharged. (See specific instructions on the form and below for Parts A through C.) Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, material management practices, maintenance chemicals, history of spills and releases, intermediate and final products and byproducts, and any previous analyses known to you of your effluent or similar effluent.

A. Sampling: The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater or stormwater discharges. You may contact EPA or your State permitting authority for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative, to the extent feasible, of your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit, or at any site adequate for the collection of a representative sample.

For pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, and fecal coliform, grab samples taken during the first 20 minutes of the discharge must be used (you are not required to analyze a flow-weighted composite for these parameters). For all other pollutants both a grab sample collected during the first 20 minutes of the discharge and a flow-weighted composite sample must be analyzed. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period of greater than 24 hours.

All samples shall be collected from a discharge resulting from the first storm event after a minimum period of 96 hours without a measurable (greater than 0.1 inch rainfall) storm event.

A grab sample shall be taken during the first twenty minutes of the discharge, and a flow-weighted composite shall be taken for the entire event or for the first three hours of the event.

Grab and composite samples are defined as follows:

Grab sample: An individual sample of at least 100 milliliters collected during the first twenty minutes of the discharge. This sample is to be analyzed separately from the composite sample.

Flow-Weighted Composite sample: A flow-weighted composite sample may be taken with a continuous sampler that proportions the amount of sample collected with the flow rate or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire event or for the first three hours of the event, with each aliquot being at least 100 milliliters and collected with a minimum period of fifteen minutes between aliquot collections. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. For GC/MS Volatile Organic Analysis (VOA), aliquots must be combined in the laboratory immediately before analysis. Only one analysis for the composite sample is required.

The Agency is currently reviewing sampling requirements in light of recent research on testing methods. Upon completion of its review, the Agency plans to propose changes to the sampling requirements.

Data from samples taken in the past may be used, provided that:

All data requirements are met;

Sampling was done no more than three years before submission; and

All data are representative of the present discharge.

Among the factors which would cause the data to be unrepresentative are significant changes in production level, changes in raw materials, processes, or final products, and changes in stormwater treatment. When the Agency

promulgates new analytical methods in 40 CFR Part 136. EPA will provide information as to when you should use the new methods to generate data on your discharges. Of course, the Director may request additional information, including current quantitative data, if they determine it to be necessary to assess your discharges.

B. Reporting: All levels must be reported as concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper instead of filling out pages VII-1 and VII-2 if the separate sheets contain all the required information in a format which is consistent with pages VII-1 and VII-2 in spacing and in identification of pollutants and columns. Use the following abbreviations in the columns headed "Units."

Concentration	Mass
ppm = parts per million	lbs = pounds.
mg/l = milligrams per liter	tons = tons (English tons).
ppb = parts per billion	mg = milligrams.
µg/l = micrograms per liter.	g = grams.
kg = kilograms	T = tonnes (metric tons).

All reporting of values for metals must be in terms of "total recoverable metal," unless:

(1) An applicable, promulgated effluent limitation or standard specifies the limitation for the metal in dissolved, valent, or total form; or

(2) All approved analytical methods for the metal inherently measure only its dissolved form (e.g., hexavalent chromium); or

(3) The permitting authority has determined that in establishing case-by-case limitations it is necessary to express the limitations on the metal in dissolved, valent, or total form to carry out the provisions of the CWA. If you measure only one grab sample and one flow-weighted composite sample for a given outfall, complete only the "Maximum Values" columns and insert "1" into the "Number of Storm Events Sampled" column. The permitting authority may require you to conduct additional analyses to further characterize your discharges.

If you measure more than one value for a grab sample or a flow-weighted composite sample for a given outfall and those values are representative of your discharge, you must report them. You must describe your method of testing and data analysis. You also must determine the average of all values within the last year and report the concentration mass under the "Average Values" columns, and the total number of storm events sampled under the "Number of Storm Events Sampled" columns.

C. Analysis: You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding time, preservation techniques, and the quality control measures which you used. If you have two or more substantially identical outfalls, you may request permission from your permitting authority to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the permitting authority, on a separate sheet attached to the application form, identify which outfall you did test, and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

Part VII-A

Part VII-A must be completed by all applicants for all outfalls who must complete Form 2F.

Analyze a grab sample collected during the first twenty minutes of the discharge and flow-weighted composite samples for all pollutants in this Part, and report the results except use only grab samples for pH and oil and grease. See discussion in General Instructions to Item VII for definitions of grab sample collected during the first twenty minutes of discharge and flow-weighted composite sample. The "Average Values" column is not compulsory but should be filled out if data are available.

Part VII-B

List all pollutants that are limited in an effluent guideline which the facility is subject to (see 40 CFR Subchapter N to determine which pollutants are limited in effluent guidelines) or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See discussion in General Instructions to item VII for definitions of grab sample collected during the first twenty minutes of discharge and flow-weighted composite sample. The "Average Values" column is not compulsory but should be filled out if data are available.

Analyze a grab sample collected during the first twenty minutes of the discharge and flow-weighted composite samples for all pollutants in this Part, and report the results, except as provided in the General Instructions.

Part VII-C

Part VII-C must be completed by all applicants for all outfalls which discharge stormwater associated with industrial activity, or that EPA is evaluating for designation as a significant contributor of pollutants to waters of the United States, or as contributing to a violation of a water quality standard. Use both a grab sample and a composite sample for all pollutants you analyze for in this part except use grab samples for residual chlorine and fecal coliform. The "Average Values" column is not compulsory but should be filled out if data are available. Part C requires you to address the pollutants in Table 2F-2, 2F-3, and 2F-4 for each outfall. Pollutants in each of these Tables are addressed differently.

Table 2F-2: For each outfall, list all pollutants in Table 2F-2 that you know or have reason to believe are discharged (except pollutants previously listed in Part VII-B). If a pollutant is limited in an effluent guideline limitation which the facility is subject to (e.g., use of TSS as an indicator to control the discharge of iron and aluminum), the pollutant should be listed in Part VII-B. If a pollutant in Table 2F-2 is indirectly limited by an effluent guideline limitation through an indicator, you must analyze for it and report data in Part VII-C. For other pollutants listed in Table 2F-2 (those not limited directly or indirectly by an effluent limitation guideline), that you know or have reason to believe are discharged, you must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

Table 2F-3: For each outfall, list all pollutants in Table 2F-3 that you know or have reason to believe are discharged. For every pollutant in Table 2F-3 expected to be discharged in concentrations of 10 ppb or greater, you must submit quantitative data. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, you must submit quantitative data if any of these four pollutants is expected to be discharged in concentrations of 100 ppb or greater. For every pollutant expected to be discharged in concentrations less than 10 ppb (or 100 ppb for the four pollutants listed above), then you must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

Small Business Exemption—If you are a "small business," you are exempt from

the reporting requirements for the organic toxic pollutants listed in Table 2F-3. There are two ways in which you can qualify as a "small business". If your facility is a coal mine, and if your probable total annual production is less than 100,000 tons per year, you may submit past production data or estimated future production (such as a schedule of estimated total production under 30 CFR 795.14(c)) instead of conducting analyses for the organic toxic pollutants. If your facility is not a coal mine, and if your gross total annual sales for the most recent three years average less than $100,000 per year (in second quarter 1980 dollars), you may submit sales data for those years instead of conducting analyses for the organic toxic pollutants. The production or sales data must be for the facility which is the source of the discharge. The data should not be limited to production or sales for the process or processes which contribute to the discharge, unless those are the only processes at your facility. For sales data, in situations involving intracorporate transfer of goods and services, the transfer price per unit should approximate market prices for those goods and services as closely as possible. Sales figures for years after 1980 should be indexed to the second quarter of 1980 by using the gross national product price deflator (second quarter of 1980=100). This index is available in National Income and Product Accounts of the United States (Department of Commerce, Bureau of Economic Analysis).

Table 2F-4: For each outfall, list any pollutant in Table 2F-4 that you know or believe to be present in the discharge and explain why you believe it to be present. No analysis is required, but if you have analytical data, you must report them. *NOte:* Under 40 CFR 117.12(a)(2), certain discharges of hazardous substances (listed at 40 CFR 177.21 or 40 CFR 302.4) may be exempted from the requirements of section 311 of CWA, which establishes reporting requirements, civil penalties, and liability for cleanup costs for spills of oil and hazardous substances. A discharge of a particular substance may be exempted if the origin, source, and amount of the discharged substances are identified in the NPDES permit application or in the permit, if the permit contains a requirement for treatment of the discharge, and if the treatment is in place. To apply for an exclusion of the discharge of any hazardous substance from the requirements of section 311, attach additional sheets of paper to your form, setting forth the following information:

1. The substance and the amount of each substance which may be discharged.
2. The origin and source of the discharge of the substance.
3. The treatment which is to be provided for the discharge by:
   a. An onsite treatment system separate from any treatment system treating your normal discharge;
   b. A treatment system designed to treat your normal discharge and which is additionally capable of treating the amount of the substance identified under paragraph 1 above; or
   c. Any combination of the above.

See 40 CFR 117.12 (a)(2) and (c), published on August 29, 1979, in 44 FR 50766, or contact your Regional Office (Table 1 on Form 1, Instructions), for further information on exclusions from section 311.

Part VII-D

If sampling is conducted during more than one storm event, you only need to report the information requested in Part VII-D for the storm event(s) which resulted in any maximum pollutant concentration reported in Part VII-A, VII-B, or VII-C.

Provide flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, the method of flow measurement, or estimation. Provide the data and duration of the storm event(s) sampled, rainfall measurements, or estimates of the storm event which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event.

Part VII-E

List any toxic pollutant listed in Table 2F-2, 2F-3, or 2F-4 which you currently use or manufacture as an intermediate or final product or byproduct. In addition, if you know or have reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) is discharged or if you use or manufacture 2,4,5-trichlorophenoxy acetic acid (2,4,5,-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5,-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); O,O-dimethyl O-(2,4,5-trichlorphenyl) phosphorothioate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophene (HCP); then list TCDD. The Director may waive or modify the requirement if you demonstrate that it would be unduly burdensome to identify each toxic pollutant and the Director has adequate information to issue your permit. You may not claim this information as confidential; however, you do not have to distinguish between use or production of the pollutants or list the amounts.

Item VIII

Self explanatory. The permitting authority may ask you to provide additional details after your application is received.

Item X

The Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(c)(4) of the Clean Water Act provides that "Any person who knowingly makes any false material statement, representation, or certification in any application, . . . shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than 2 years, or by both. If a conviction of such person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or by both." 40 CFR Part 122.22 requires the certification to be signed as follows:

(A) For a corporation: by a responsible corporate official. For purposes of this section, a responsible corporate official means (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note: EPA does not require specific assignments or delegation of authority to responsible corporate officers identified in 122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate position under 122.22(a)(1)(ii) rather than to specific individuals.

(B) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(C) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

TABLE 2F-1.—CODES FOR TREATMENT UNITS.

Physical Treatment Processes
1-A—Ammonia Stripping
1-B—Dialysis
1-C—Diatomaceous Earth Filtration
1-D—Distillation
1-E—Electrodialysis
1-F—Evaporation
1-G—Flocculation
1-H—Flotation
1-I—Foam Fractionation
1-J—Freezing
1-K—Gas-Phase Separation
1-L—Grinding (Comminutors)
1-M—Grit Removal
1-N—Microstraining
1-O—Mixing
1-P—Moving-Bed Filters
1-Q—Multimedia Filtration
1-R—Rapid Sand Filtration
1-S—Reverse Osmosis (Hyperfiltration)
1-T—Screening
1-U—Sedimentation (Settling)
1-V—Slow Sand Filtration
1-W—Solvent Extraction
1-X—Sorption

Chemical Treatment Processes
2-A—Carbon Adsorption
2-B—Chemical Oxidation
2-C—Chemical Precipitation
2-D—Coagulation
2-E—Dechlorination
2-F—Disinfection (Chlorine)
2-G—Disinfection (Ozone)
2-H—Disinfection (Other)
2-I—Electrochemical Treatment
2-J—Ion Exchange
2-K—Neutralization
2-L—Reduction

Biological Treatment Processes
3-A—Activated Sludge
3-B—Aerated Lagoons
3-C—Anaerobic Treatment
3-D—Nitrification-Denitrification
3-E—Pre-Aeration
3-F—Spray Irrigation/Land Application
3-G—Stabilization Ponds
3-H—Trickling Filtration

Other Processes
4-A—Discharge to Surface Water
4-B—Ocean Discharge Through Outfall
4-C—Reuse/Recycle of Treated Effluent
4-D—Underground Injection

Sludge Treatment and Disposal Processes
5-A—Aerobic Digestion
5-B—Anaerobic Digestion
5-C—Belt Filtration
5-D—Centrifugation
5-E—Chemical Conditioning
5-F—Chlorine Treatment
5-G—Composting
5-H—Drying Beds
5-I—Elutriation
5-J—Flotation Thickening
5-K—Freezing
5-L—Gravity Thickening
5-M—Heat Drying
5-N—Heat Treatment
5-O—Incineration
5-P—Land Application
5-Q—Landfill
5-R—Pressure Filtration
5-S—Pyrolysis
5-T—Sludge Lagoons
5-U—Vacuum Filtration
5-V—Vibration
5-W—Wet Oxidation

TABLE 2F-2.—CONVENTIONAL AND NON-CONVENTIONAL POLLUTANTS REQUIRED TO BE TESTED BY EXISTING DISCHARGER IF EXPECTED TO BE PRESENT

Bromide
Chlorine, Total Residual
Color
Fecal Coliform
Fluoride
Nitrate-Nitrite
Nitrogen, Total Organic
Oil and Grease
Phosphorus, Total Radioactivity
Sulfate
Sulfide
Sulfite
Surfactants
Aluminum, Total
Barium, Total
Boron, Total
Cobalt, Total
Iron, Total
Magnesium, Total
Molybdenum, Total
Magnesium, Total
Tin, Total
Titanium, Total

TABLE 2F-3—TOXIC POLLUTANTS REQUIRED TO BE IDENTIFIED BY APPLICANT IF EXPECTED TO BE PRESENT

Toxic Pollutants and Total Phenol
Antimony, Total
Arsenic, Total
Beryllium, Total
Cadmium, Total
Chromium, Total
Copper, Total
Lead, Total
Mercury, Total
Nickel, Total
Selenium, Total
Silver, Total
Thallium, Total
Zinc, Total
Cyanide, Total
Phenols, Total

GC/MS Fraction Volatiles Compounds
Acrolein
Acrylonitrile
Benzene
Bis (Chloromethyl) Ether
Bromoform
Carbon Tetrachloride

TABLE 2F-3—TOXIC POLLUTANTS REQUIRED TO BE IDENTIFIED BY APPLICANT IF EXPECTED TO BE PRESENT—Continued

Chlorobenzene
Chlorodibromomethane
Chloroethane
2-Chloroethylvinyl Ether
Chloroform
Dichlorobromomethane
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
1,2-Dichloropropane
1,3-Dichloropropylene
Ethylbenzene
Methyl Bromide
Methyl Chloride
Methylene Chloride
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
1,2-Trans-Dichloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
Vinyl Chloride

Acid Compounds
2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
4,6-Dinitro-O-Cresol
2,4-Dinitrophenol
2-Nitrophenol
4-Nitrophenol
p-Chloro-M-Cresol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Base/Neutral
Acenaphthene
Acenaphthylene
Anthracene
Benzidine
Benzo(a)anthracene
Benzo(a)pyrene
3,4-Benzofluoranthene
Benzo(ghi)perylene
Benzo(k)fluoranthene
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl)ether
Bis(2-chloroisopropyl)ether
Bis(2-ethylhexyl)phthalate
4-Bromophenyl Phenyl Ether
Butylbenzyl Phthalate
2-Chloronaphthalene
4-Chlorophenyl Phenyl Ether
Chrysene
Dibenzo(a,h)anthracene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
3,3'-Dichlorobenzidine
Diethyl Phthalate
Dimethyl Phthalate
Di-N-Butyl Phthalate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-N-Octyl Phthalate
1,2-Diphenylhydrazine (as Azobenzene)
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachloroethane
Indeno(1,2,3-cd)pyrene
Isophorone
Naphthalene
Nitrobenzene

TABLE 2F-3—TOXIC POLLUTANTS REQUIRED TO BE IDENTIFIED BY APPLICANT IF EXPECTED TO BE PRESENT—Continued

N-Nitrosodimethylamine
N-Nitrosodi-N-Propylamine
N-Nitrosodiphenylamine
Phenanthrene
Pyrene
1,2,4-Trichlorobenzene

Pesticides

Aldrin
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC
Chlordane
4,4'-DDT
4,4'-DDE
4,4'-DDD
Dieldrin
Alpha-Endosulfan
Beta-Endosulfan
Endosulfan Sulfate
Endrin
Endrin Aldehyde
Heptachlor
Heptachlor Epoxide
PCB-1242
PCB-1254
PCB-1221
PCB-1232
PCB-1248
PCB-1260
PCB-1016
Toxaphene

Toxic Pollutant

Asbestos

TABLE 2F-4—HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED BY APPLICANT IF EXPECTED TO BE PRESENT

Hazardous Substances

Acetaldehyde
Allyl alcohol
Allyl chloride
Amyl acetate
Aniline
Benzonitrile
Benzyl chloride
Butyl acetate
Butylamine
Carbaryl
Carbofuran
Carbon disulfide
Chlorpyrifos
Coumaphos
Cresol
Crotonaldehyde
Cyclohexane
2,4-D (2,4-Dichlorophenoxyacetic acid)
Diazinon
Dicamba
Dichlobenil
Dichlone
2,2-Dichloropropionic acid
Dichlorvos
Diethyl amine
Dimethyl amine
Dinitrobenzene
Diquat
Disulfoton
Diuron
Epichlorohydrin
Ethion
Ethylene diamine
Ethylene dibromide
Formaldehyde
Furfural
Guthion
Isoprene
Isopropanolamine
Kelthane

TABLE 2F-4—HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED BY APPLICANT IF EXPECTED TO BE PRESENT—Continued

Kepone
Malathion
Mercaptodimethur
Methoxychlor
Methyl mercaptan
Methyl methacrylate
Methyl parathion
Mevinphos
Mexacarbate
Monoethyl amine
Monomethyl amine
Naled
Naphthenic acid
Nitrotoluene
Parathion
Phenolsulfonate
Phosgene
Propargite
Propylene oxide
Pyrethrins
Quinoline
Resorcinol
Strontium
Strychnine
Styrene
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)
TDE (Tetrachlorodiphenyl ethane)
2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Trichlorofan
Triethylamine
Trimethylamine
Uranium
Vanadium
Vinyl acetate
Xylene
Xylenol
Zirconium

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VOL 23

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N P D E S

MEMORANDUM OF AGREEMENT

BETWEEN

THE U.S. ENVIRONMENTAL PROTECTION AGENCY

AND

THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

* * * * *

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NPDES MEMORANDUM OF AGREEMENT BETWEEN
THE U.S. ENVIRONMENTAL PROTECTION AGENCY AND
THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

I. PREFACE

A. Introduction

The State Water Resources Control Board (State Board) is the State water pollution control agency for all purposes of the Clean Water Act pursuant to Section 13160 of the California Water Code. The State Board has been authorized by the U.S. Environmental Protection Agency (EPA), pursuant to Section 402 of the Clean Water Act (CWA), to administer the National Pollutant Discharge Elimination System (NPDES) program in California since 1973.

The Chairman of the State Board and the Regional Administrator of EPA, Region 9 hereby affirm that the State Board and the Regional Boards have primary authority for the issuance, compliance monitoring, and enforcement of all NPDES permits in California including NPDES general permits and permits for federal facilities; and implementation and enforcement of National Pretreatment Program requirements except for NPDES permits incorporating variances granted under Sections 301(h) or 301(m), and permits to dischargers for which EPA has assumed direct responsibility pursuant to 40 CFR 123.44. The State may apply separate requirements to these facilities under its own authority.

This Memorandum of Agreement (MOA) redefines the working relationship between the State and EPA pursuant to the Federal regulatory amendments that have been promulgated since 1973, and supersedes:

1. THE MEMORANDUM OF UNDERSTANDING REGARDING PERMIT AND ENFORCEMENT PROGRAMS BETWEEN THE STATE WATER RESOURCES CONTROL BOARD AND THE REGIONAL ADMINISTRATOR, REGION IX, ENVIRONMENTAL PROTECTION AGENCY, signed March 26, 1973; and

2. The STATE/EPA COMPLIANCE AND ENFORCEMENT AGREEMENT, dated October 31, 1986. The State's standard operating procedures for the NPDES and pretreatment programs are described in the State's Administrative Procedures Manual (APM).

The State shall implement the provision of this MOA through the APM. The State's annual workplan, which is prepared pursuant to Section 106 of the CWA, will establish priorities, activities and outputs for the implementation of specific components of the NPDES and pretreatment programs. The basic requirements of this MOA shall override any other State/EPA agreements as required by 40 CFR 123.24(c). EPA shall implement the provisions of this MOA through written EPA policy guidance and the annual State/EPA 106 agreement.

B. Definitions

The following definitions are provided to clarify the provisions of this MOA.

1. "The APM" means the State's Administrative Procedures Manual. The APM describes standard operating requirements, procedures, and guidance for internal management of the State Board and Regional Boards in the administration of the NPDES and pretreatment programs. The APM is kept current through periodic updates.

2. "Comments" means recommendations made by EPA or another party, either orally or in writing, about a draft permit.

3. "Compliance monitoring" means the review of monitoring reports, progress reports, and other reports furnished by members of the regulated community. It also means the various types of inspection activities conducted at the facilities of the regulated community.

4. "CWA" means the Clean Water Act [33 USC 1251 et. seq.].

5. "Days" mean calendar days unless specified otherwise.

6. "Prenotice draft permit" is the document reviewed by EPA, other agencies, and the applicant prior to public review.

7. "Draft permit" is the document reviewed by EPA and the public.

8. "Enforcement" means all activities that may be undertaken by the Regional Boards, the State Board, or EPA to achieve compliance with NPDES and pretreatment program requirements.

9. "EPA" means the U.S. Environmental Protection Agency (EPA) Region 9, unless otherwise stated.

10. "Formal enforcement action" means an action, order or referral to achieve compliance with NPDES and pretreatment program requirements that: (a) specifies a deadline for compliance; (b) is independently enforceable without having to prove the original violation; and (c) subjects the defendant to adverse legal consequences for failure to obey the order (see footnote #6, p.19, National Guidance for Oversight of NPDES Programs, FFY 1986, dated January 20, 1985). Time Schedule Orders, Administrative Civil Liability Orders, Cease and Desist Orders, Cleanup and Abatement Orders, and referrals to the Attorney General meet these criteria. Effective January 1, 1988, the State and Regional Boards will have authority to impose administrative civil liability, consistent with the requirements of 40 CFR 123.27(a)(3)(i), for all NPDES and pretreatment program violations.

11. "Issuance" means the issuance, reissuance, or modification of NPDES permits through the adoption of an order by a Regional Board or the State Board.

12. "Objections" means EPA objections to applications, prenotice draft permits, draft permits, or proposed permits that are based on federal law or regulation, which are filed as "objections", and which must be resolved before a NPDES permit can be issued, or reissued or modified thereto. "Objection" and "formal objection" mean the same thing.

13. "Proposed permit" means a permit adopted by the State after the close of the public comment period which may then be sent to EPA for review before final issuance by the State. The State's common terminology of "adopted permit" is equivalent to the term "proposed permit" as used at 40 CFR 122.2.

14. Quality Assurance" means all activities undertaken by the State or EPA to determine the accuracy of the sampling data reported on Discharge Monitoring Reports (DMRs), inspection reports, and other reports.

15. "State" means the staff and members of the Regional Boards and the State Board collectively.

16. "106 Workplan" means the annual agreement that is negotiated between the State and EPA.

C. Roles and Responsibilities

1. EPA Responsibilities

EPA is responsible for:

a. Providing financial, technical, and other forms of assistance to the State;

b. Providing the State Board with copies of all proposed, revised, promulgated, remanded, withdrawn, and suspended federal regulations and guidelines;

c. Advising the State Board of new case law pertaining to the NPDES and pretreatment programs;

d. Providing the State Board with draft and final national policy and guidance documents;

e. Monitoring the NPDES and pretreatment programs in California to assure that the program is administered in conformance with federal legislation, regulations, and policy;

f. Intervening as necessary in specific situations (such as development of draft permits, or permit violations) to maintain program consistency throughout all states and over time;

g. Administering the program directly to the following classes of facilities:

(1) Dischargers granted variances under Sections 301(h) or 301(m) of the CWA; and

(2) Dischargers which EPA has assumed direct responsibility for pursuant to 40 CFR 123.44, and

2. State Board Responsibilities

The State Board is responsible for supporting and overseeing the Regional Board's management of the NPDES and pretreatment programs in California. This responsibility includes:

a. Evaluating Regional Board performance in the areas of permit content, procedure, compliance, monitoring and surveillance, quality assurance of sample analyses, and program enforcement;

b. Acting on its own motion as necessary to assure that the program is administered in conformance with Federal and State legislation, regulations, policy, this MOA, and the State annual 106 Workplan;

c. Providing technical assistance to the Regional Boards;

d. Developing and implementing regulations, policies, and guidelines as needed to maintain consistency between State and federal policy and program operations, and to maintain consistency of program implementation throughout all nine regions and over time;

e. Reviewing decisions of the Regional Boards upon petition from aggrieved persons or upon its own motion;

f. Assisting the Regional Boards in the implementation of federal program revisions through the development of policies and procedures; and

g. Performing any of the functions and responsibilities ascribed to the Regional Boards.

(1) Dischargers granted variances under Sections 301(h) or 301(m) of the CWA; and

(2) Dischargers which EPA has assumed direct responsibility for pursuant to 40 CFR 123.44, and

2. State Board Responsibilities

The State Board is responsible for supporting and overseeing the Regional Board's management of the NPDES and pretreatment programs in California. This responsibility includes:

a. Evaluating Regional Board performance in the areas of permit content, procedure, compliance, monitoring and surveillance, quality assurance of sample analyses, and program enforcement;

b. Acting on its own motion as necessary to assure that the program is administered in conformance with Federal and State legislation, regulations, policy, this MOA, and the State annual 106 Workplan;

c. Providing technical assistance to the Regional Boards;

d. Developing and implementing regulations, policies, and guidelines as needed to maintain consistency between State and federal policy and program operations, and to maintain consistency of program implementation throughout all nine regions and over time;

e. Reviewing decisions of the Regional Boards upon petition from aggrieved persons or upon its own motion;

f. Assisting the Regional Boards in the implementation of federal program revisions through the development of policies and procedures; and

g. Performing any of the functions and responsibilities ascribed to the Regional Boards.

h. California Pretreatment Program responsibilities as listed in Section III.B. of this MOA.

3. Regional Board Responsibilities

The following responsibilities for managing the NPDES and pretreatment programs in California have been assigned to the Regional Boards. These responsibilities include:

a. Regulating all discharges subject to the NPDES and pretreatment programs, except those reserved to EPA, in conformance with Federal and State law, regulations, and policy;

b. Maintaining technical expertise, administrative procedures and management control, such that implementation of the NPDES and pretreatment programs consistently conforms to State laws, regulations, and policies;

c. Implementing federal program revisions;

d. Providing technical assistance to the regulated community to encourage voluntary compliance with program requirements;

e. Assuring that no one realizes an economic advantage from noncompliance;

f. Maintaining an adequate public file at the appropriate Regional Board Office for each permittee. Such files must, at a minimum, include copies of: permit application, issued permit, public notice and fact sheet, discharge monitoring reports, all inspection reports, all enforcement actions, and other pertinent information and correspondence;

g. Comprehensively evaluating and assessing compliance with schedules, effluent limitations, and other conditions in permits;

h. Taking timely and appropriate enforcement actions in accordance with the CWA, applicable Federal regulations, and State Law; and

i. California Pretreatment Program responsibilities as listed in Section III. B of this MOA.

D. Program Coordination

In order to reinforce the State Board's program policy and overview roles, EPA will normally arrange its meetings with Regional Board staff through appropriate staff of the State Board. In all cases, the State Board will be notified of any EPA meetings with Regional Boards.

E. Conflict Resolution

Disputes shall be resolved in accordance with the Agreement on a Conflict Resolution Process Between Regional Administrator, EPA, Region 9 and Chairman, State Water Resources Control Board.

II. PERMIT REVIEW, ISSUANCE, AND OBJECTIONS

A. General

The State Board and Regional Boards have primary authority for the issuance of NPDES permits. EPA may comment upon or object to the issuance of a permit or the terms or conditions therein. Neither the State Board nor the Regional Boards shall adopt or issue a NPDES permit until all objections made by EPA have been resolved pursuant to 40 CFR 123.44 and this MOA. The following procedures describe EPA permit review, comment, and objection options that may delay the permit process. These options present the longest periods allowed by 40 CFR 123.44. However, the process should normally require far less time.

The State Board, Regional Boards, and EPA agree to coordinate permit review through frequent telephone contact. Most differences over permit content should be resolved through telephone liaison. Therefore, permit review by the State and EPA should not delay issuing NPDES permits. However, if this review process causes significant delays, the Chief, Division of Water Quality (DWQ) of the State Board (or his or her designee), and the Director, Water Management Division (WMD) of EPA (or his or her designee) agree to review the circumstances of the delays. The State Board and EPA shall determine the reasons for the delays and take corrective action.

To the extent possible, all expiring NPDES permits shall be reissued on or before their expiration. If timely reissuance is not possible, the State Board will notify the Regional Administrator of the reasons for the delay. In no event will permits continued administratively beyond their expiration date be modified or revised.

In the case of the development of a general permit, the Regional Board will collect sufficient data to develop effluent limitations and prepare and draft the general permit. The Regional Board will issue and administer NPDES general permits in accordance with the California Water Code, Division 7 and federal regulations 40 CFR 122.28.

1. EPA Waiver of Review

   a. EPA waives the right to routinely review, object to, or comment upon State-issued permits under Section 402 of the CWA for all categories of discharges except those identified under II.A.2. below.

   b. Notwithstanding this waiver, the State Board and the Regional Boards shall furnish EPA with copies of any file material within 30 days of an EPA request for the material.

   c. The Regional Administrator of EPA, Region 9 may terminate this waiver at any time, in whole or in part, by sending the State Board a written notice of termination.

   d. The State shall supply EPA with copies of final permits.

2. Permits Subject to Review

   a. The Regional Boards shall send EPA copies of applications, prenotice draft permits, draft permits, adopted (proposed) permits, and associated Fact Sheets and Statements of Basis for the following categories of discharges.

      (1) Discharges from a "major" facility as defined by the current major discharger list;

(2) Discharges to territorial seas;

(3) Discharges from facilities within any of the industrial categories described under 40 CFR Part 122, Appendix A;

(4) Discharges which may affect the water quality of another state;

(5) Discharges to be regulated by a General Permit (excludes applications since they are not part of the General Permit process);

(6) Discharges of uncontaminated cooling water with a daily average discharge exceeding 500 million gallons;

(7) Discharges from any other source which exceeds a daily average discharge of 0.5 million gallons; and

(8) Other categories of discharges EPA may designate which may have an environmental impact or public visibility. The Regional Boards or the State Board will consult with EPA regarding other significant discharges.

B. Applications

The provisions for EPA review of applications do not apply to General Permits, because applications are not part of the General Permit Process.

1. Initial Applications

a. The Regional Boards shall forward a complete copy of each NPDES application to EPA and the State Board within 15 days of its receipt.

b. EPA shall have 30 days* from receipt of the application to comment upon or object to its completeness.

(1) EPA shall initially express its comments and objections to the Regional Board through staff telephone liaison.

(2) EPA shall send a copy of comments or objections to an application to the Regional Board, the State Board, and the applicant.

(3) If EPA fails to send written comments or objections to an application within 30 days of receipt, EPA waives its right to comment or object.

c. An EPA objection to an application shall specify in writing:

(1) The nature of the objection;

(2) The sections of the CWA or the NPDES regulations that support the objection; and

(3) The information required to eliminate the objection.

2. State Agreement with EPA Objections and Revised Applications

a. If the State agrees with EPA's objections, the Regional Board shall forward a complete copy of the revised application to EPA within 10 days of its arrival at the Regional Board offices.

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*COMPUTATION OF TIME: Pursuant to 40 CFR 124.20(d), three(3) days shall be allowed for transit of documents by mail. Therefore, the State must allow at least 36 days, from the postmark date on the application for receipt of an EPA response. If the State Board or a Regional Board delivers a document to EPA within less than three days, the number of days saved by such delivery may be subtracted from the 36 days. All of the timeframes mentioned in this MOA are in calendar days.

b. Another 30-day review period shall begin upon EPA's receipt of the revised application; and

c. This application review process shall be repeated until the application complies with all NPDES regulations.

d. When EPA has no objections pursuant to 40 CFR 123.44, the Regional Board may complete development of a prenotice draft NPDES permit.

e. If an objection is filed, EPA shall advise the State Board and the Regional Board in writing when the application is complete.

f. The Regional Board will be responsible for notifying the applicant.

3. State Disagreement with EPA Objections and Draft Permits

If the Regional Board or the State Board disagrees with EPA's assertion that an application is incomplete, they may issue a prenotice draft permit, provided that:

a. The Regional Board or the State Board states in a transmittal letter that the prenotice draft permit has been issued an EPA objection to the application;

b. EPA may add comments upon or objections to the prenotice draft permit including a reiteration of its objection to the application;

c. Objections to an application will be subject to the same procedures as an EPA objection to the prenotice draft permit, as described below except that the State shall not issue a public notice for a draft permit for which there is an unresolved EPA objection.

C. Prenotice Draft Permits

1. EPA Review of Individual Prenotice Draft Permits

a. It is the intent of the Regional Boards, or the State Board whenever it undertakes the issuance of an NPDES permit, to issue apranotice draft NPDES permit. A copy of

associated Statement of Basis or Fact Sheet shall be sent to EPA. As a matter of urgency the Regional Board or the State Board may decide not to issue a prenotice draft NPDES permit.

b. EPA shall have 30 days from its receipt to send comments upon, or an initial objection to, the prenotice draft permit to the Regional Board and State Board.

(1) If EPA mails an initial objection pursuant to 40 CFR 23.44 within 30 days from its receipt of a prenotice draft permit, EPA shall have 90 days from its receipt of the prenotice draft permit to mail a formal objection.

(2) If EPA requests additional information on a prenotice raft permit, a new 30-day review shall begin upon EPA's receipt of the additional information.

(3) If EPA mails an initial objection pursuant to 40 CFR 123.44 within 30 days from its receipt of additional information, EPA shall have 90 days from its receipt of the additional information to mail a formal objection.

c. If a prenotice draft permit is not issued, the procedures and schedules for EPA review, comment, and objections to a prenotice draft permit, described in Section II.C.4, shall apply to the draft permit.

2. EPA Review of Prenotice Draft General Permits

a. The Regional Boards, or the State Board whenever it undertakes the issuance of an NPDES General Permit, shall mail a copy of each prenotice draft Generalmit and Fact Permit Sheet, except for those for stormwater point sources, to:

(1) Director
Office of Water Enforcement and
Permits (EN 335)
U.S. Environmental Protection Agency
401 M Street S.W.
Washington, D.C. 20460; and

(2) EPA, Region 9.

b. EPA, Region 9, and the Director of the Office of Water Enforcement and Permits, EPA Headquarters, shall have 90 days from their receipt of the prenotice draft General Permit to send comments upon or objections to the State Board and Regional Board.

c. If a prenotice draft general permit is issued, the procedures and schedules for EPA review, comment, and objections to a prenotice draft permit, described in Section II.C.4 shall apply to the draft general permit.

3. EPA Comments

a. The Regional Boards and State Board shall treat any comments made by EPA upon a prenotice draft individual permit or upon a prenotice draft General Permit as they would comments from any authoritative source.

b. The Regional Boards or the State Board shall prepare a written response to each significant comment made by EPA that they do not accommodate by revising the draft permit.

4. EPA Objections

The discussion below describes the procedures the Regional Boards and State Board may pursue if EPA issues an objection to a prenotice draft permit. NPDES regulations restrict the resolution of an EPA objection to three alternatives, or a combination thereof: (a) the Regional Board or the State Board changes the permit, (b) EPA withdraws the objection, or (c) EPA acquires exclusive NPDES jurisdiction over the discharge.

a. Timing of EPA Objections

(1) If the Regional Board or the State Board receives an initial objection from EPA within 36 days of the postmark on the prenotice draft permit sent to EPA, the Regional Board or the State Board shall delay issuance of the public notice until one of the following events occur:

(a) The Regional Board has received EPA's formal objection;

(b) EPA withdraws the initial objection; or

(c) Ninety-six (96) days have passed from the postmark on the prenotice draft (See Section II.C.2 for timing of EPA objections to prenotice general permits).

(2) Whenever EPA files an initial objection to a prenotice draft permit, EPA shall expedite its effort to file the formal objection, in order to avoid undue delay of the permit's final issuance.

(3) EPA may not make an initial objection to the prenotice draft permit once its 30-day review period has lapsed.

(4) EPA may not make a formal objection to the prenotice draft permit, if it failed to make an initial objection within the 30-day period.

(5) EPA may not make a formal objection to the Preenotice draft permit once the 90-day objection period has lapsed.

(6) EPA may not modify the objection, after the 90-day formal objection period, to require more change to the prenotice draft permit than was required under the original objection.

(7) EPA may revise the objection within its allotted 90-day objection period to require additional changes to the prenotice draft permit than were required under its original objection. Such a change to an objection by EPA shall cause the State's allotted 90 day response period to restart upon the State's eceipt of the revised objection.

(8) If the Regional Board receives an EPA formal objection within the 96 days specified above, the State Board or the Regional Board may exercise one of the options described under II.C.4.c. and II.C.4.d. below.

b. Content of EPA Objections

(1) For initial objections that must be filed within 30 days, EPA may simply identify:

(a) The name of the facility and its NPDES umber; and

(b) The general nature of the objection.

(2) For formal objections that must be filed within 90 days, EPA shall specify:

(a) The reasons for the objections;

(b) The section of the CWA, the regulations or the guidelines which support the objection; and

(c) The changes to the permit that are required as a condition to elimination of the objection.

(3) Every EPA objection shall be based upon one or more of the grounds for objection described under 40 CFR 123.44(c). EPA shall:

(a) Cite each of the grounds which applies to the objection; and

(b) Explain how each citation applies to a deficiency of the prenotice draft permit.

(4) Correspondence from EPA which objects to a prenotice draft permit, but which fails to meet the substantive criteria of this part (II.C.4.b) does not constitute an objection and may be treated by the State as comments.

c. State Board Options

(1) If EPA and a Regional Board are unable to resolve a disagreement over provisions of a prenotice draft permit to which EPA has filed a formal objection, the State Board may mediate the disagreement to a resolution that is satisfactory to EPA and to the Regional Board.

(2) If the disagreement proves intractable, the State Board may:

(a) Revise and resubmit the prenotice draft permit in accordance with the required by the EPA objection (The State Board would then be obliged to continue the issuance process and adopt the permit if the Regional Board declines todo so);

(b) Request a public hearing pursuant to 40 CFR 123.44(e); or

(c) Hold a public hearing on the EPA objection.

d. Regional Board Options

(1) If the Regional Board changes the prenotice draft permit to eliminate the basis of the EPA formal objection within 90 days of the Regional Board's receipt of that objection, the permit will remain within the

Regional Board's jurisdiction (see 40 CFR 123.44(h)). The Regional Board may then continue on to the public notice of the permit.

(2) If EPA and a Regional Board are unable to resolve a disagreement over provisions of a prenotice draft permit to which EPA has filed a formal objection, the Regional Board may:

(a) Request that EPA conduct a public hearing, pursuant to 40 CFR 123.44(e); or

(b) Hold a public hearing on the EPA objection.

e. The State Board or a Regional Board Holds a Public Hearing

(1) If either the State Board or a Regional Board decide to hold a public hearing on an EPA objection, that Board shall:

(a) Prepare a written rebuttal describing the legal and environmental reasons why each each provision of the prenotice draft permit should not be changed to accomodate the objection.

(b) Issue a public notice in accordance with 40 CFR 124.10 and 40 CFR 124.57(a) to open the public comment period and announce the public hearing;

(c) Make available for public review:

- The permit application;
- The draft permit;
- The Fact Sheet or Statement of Basis;
- All comments received upon the draft permit;

- The EPA objections; and
- The Regional Board's rebuttal;

(d) Conduct the hearing in accordance with 40 CFR 124.11 and 124.12; and

(e) Decide whether to accommodate the EPA objection.

(2) A representative of EPA shall attend the hearing to explain EPA's objection.

f. State Board and Regional Board Failure to Respond within 90 days (see 40 CFR 123.44(h))

EPA shall acquire exclusive NPDES authority over the discharge pursuant to 40 CFR 123.44(h)(3), if within 90 days of their receipt of an EPA formal objection:

(1) Neither the State Board nor the Regional Board changes the permit to eliminate the basis of the EPA objection;

(2) Neither the State Board nor the Regional Board requests EPA to hold a public hearing pursuant to 40 CFR 123.44(e); and

(3) EPA does not withdraw the objection.

This applies whether or not the State Board or a Regional Board holds a public hearing on the EPA objection.

g. EPA Public Hearing of an EPA Objection

(1) If the State Board or a Regional Board requests a public hearing pursuant to 40 CFR 123.44(e) within the 90-day response period, EPA shall hold a public hearing in accordance with the procedures of 40 CFR Part 124.

(a) If the State Board or Regional Board withdraws its request for

a public hearing before EPA has issued the public notice, EPA shall cancelthe hearing unless third party interest otherwise warrants a hearing pursuant to 40 CFR 123.44(e).

(b) If the State Board or Regional Board withdraws its request for a public hearing after EPA has issued the public notice of the hearing, and EPA determines that there is not sufficient third party interest pursuant to 40 CFR 123.44(e), the State Board or Regional Board shall publish a public notice and send a cancellation to everyone on the EPA mailing list.

(2) Within 30 days after the EPA public hearing, EPA shall:

(a) Reaffirm, withdraw, or modify the original objection; and

(b) Send notice of its action to:

- o The State Board;
- o The Regional Board;
- o The applicant; and
- o Each party who submitted comments at the hearing.

(3) If EPA does not withdraw the objection, the State Board or Regional Board shall have 30 days from its receipt of the EPA notice to change the permit to eliminate the basis of the objection.

(4) If EPA modifies the objection to require less change to the prenotice draft permit than was required under the origiaal objection, the State Board or Regional Board shall have 30 days from its receipt of the EPA notice to change the permit to eliminate the basis of the objection.

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(5) EPA may not modify the objection to require more change to the prenotice draft permit than was required by the original objection.

(6) If the State Board or Regional Board fails to send a revised draft permit to EPA within 30 days of its receipt of the EPA notification, EPA acquires exclusive NPDES authority over the discharge pursuant to 40 CFR 123.44(h)(3).

h. Resolved Objections

(1) Whenever EPA has filed a formal objection to a prenotice draft permit and the State Board or Regional Board has changed the permit to eliminate the basis of the objection, or EPA has withdrawn the objection, EPA shall send notice to:

(a) The State Board;

(b) The Regional Board;

(c) The applicant; and

(d) Every other party who has submitted comments upon the EPA objection.

(2) EPA shall send the notice within 30 days of its receipt of the revised State permit, or upon its withdrawal of the objection.

D. Public Notice

1. If the State Board or Regional Board does not receive an EPA initial objection within 36 days of the postmark on the individual prenotice draft permit or within 96 days of the postmark of the prenotice draft general permit, the State Board or Regional Board may proceed with the public notice process.

2. The State Board or Regional Board shall issue the public notice and conduct all public

participation activities for NPDES permits in accordance with the provisions of 40 CFR Part 124 applicable to State Programs.

(a) The Regional Boards and State Board shall make electronic or stenographic recordings of each of the EIR public hearings, pursuant to 23 California Administrative Code Section 847.4(a).

(b) The Regional Board or the State Board shall make a copy of all comments, including tapes or transcripts of oral comments presented at Board Hearings, and the Board's written responses to the comments, available to EPA and the public upon request, pursuant to 40 CFR 124.17(a) and (c).

3. All EPA comments upon and objections to a prenotice draft permit, draft permit or both, and all correspondence, public comments and other documents associated with any EPA objections shall become part of the administrative record/permit file and shall be available for public review.

E. Draft Permits

1. The State Board and Regional Boards shall send a copy of each draft permit and its Statement of Basis or Fact Sheet to EPA as part of the public notice process. A copy of each draft general permit, and accompanying fact sheet except those for stormwater point sources, shall be sent to EPA and:

Director
Office of Water Enforcement
and Permits (EN 335)
U.S. Environmental Protection Agency
401 M Street SW
Washington, DC 20460

2. EPA may not object to a draft permit which it had an opportunity to review as a prenotice draft permit, except to the extent that it includes changes to the prenotice draft permit, or the bases of the objection were not reasonably ascertainable during the prior review period (e.g., because of new facts, new science, or new law).

3. If EPA issues an objection to a draft permit, the procedures described under II.C.4. shall apply.

F. Final Permits

1. Final Permits Become Effective Upon Adoption

NPDES permits other than general permits, adopted by the State Board or Regional Boards shall become effective upon the adoption date only when:

a. EPA has made no objections to the permit;

b. There has been no significant public comment;

c. There have been no changes made to the latest version of the draft permit that was sent to EPA for review (unless the only changes were made to accommodate EPA comments); and

d. The State Board or Regional Board does not specify a different effective date at the time of adoption.

2. Permit Becomes Effective 50 Days after Adoption

NPDES permits, other than general permits, adopted by the State Board or Regional Board shall become effective on the 50th day after the date of adoption, if EPA has made no objection to the permit; if:

a. There has been significant public comment; or

b. Changes have been made to the latest version of the draft permit that was sent to EPA for review (unless the only changes were made to accommodate EPA comments).

3. Permit Becomes Effective 100 days after Adoption

General permits adopted by the State Board or the Regional Boards shall become effective on the 100th day after the date of adoption, if EPA has made no objection to the permit, if:

a. There has been significant public comment; or

b. Changes have been made to the latest version of thet draft permit that was sent to EPA for review (unless the only changes were made to accommodate EPA comments).

4. EPA Review of Adopted Permits

a. Transmittal of Adopted Permits to EPA

The Regional Boards shall send copies of the following documents to EPA and the State Board, upon adoption of each NPDES permit identified under II.A.2:

(1) Each significant comment made upon the draft permit, including a transcript or tape of all comments made at public hearings;

(2) The response to each significant comment made upon the draft permit;

(3) Recommendations of any other affected states, including any written comments prepared by this State te explaining the reasons for rejecting any other states' written recommendations.

(4) The Executive Officer (or State Board Executive Director) summary sheet;

(5) The Fact Sheet or Statement of Basis, if it has been changed; and

(6) The final permit.

For general permits, except those for stormwater point sources, the State Board also shall send copies of these documents to:

Director
Office of Water Enforcement
and Permits (EN 335)
U.S. Environmental Protection Agency
401 M Street SW
Washington, DC 20460

b. EPA Review Period

EPA shall have 30 days from its receipt of these materials to review and comment upon or object to an NPDES permit which becomes effective 50 days after the date of adoption under II.F.2.

EPA shall have 90 days from its receipt of these materials to review and comment upon or object to a general permit which becomes effective 100 days after the date of adoption under II.F.2.

c. EPA Comments upon Adopted Permits

If EPA comments upon an adopted permit pursuant to II.F.3.b. above, the State Board or Regional Board must either change the permit to accommodate the comments, or respond to the comments as follows:

(1) If, the State Board or Regional Board changes the permit, the permit will have to be readopted unless the only changes fall within the definition of minor modifications under 40 CFR 122.63, in which case the permit may take effect as originally scheduled (at least 50 days after the date of adoption); or

(2) If the State Board or Regional Board responds to the EPA comment instead of changing the permit, the permit may take effect as originally scheduled (at least 50 days after the date of adoption).

d. EPA Objection to Adopted Permits

If EPA mails an initial objection to an adopted permit within 30 days of its receipt pursuant to II.F.3.b., the full objection process will have begun, as described under II.C.4. and the permit effective date shall be stayed until the basis of the EPA objection has been eliminated.

e. Restrictions upon EPA Comments and Objections

(1) EPA shall use this review period to make objections which pertain only:

(a) To changes made to the draft permit;

(b) To comments made upon the permit;

(c) To new information that was not reasonably ascertainable during the initial review period; or

(d) To objections made by EPA to the draft permit.

(2) EPA shall not use this review period to file comments or objections which it neglected to file during the prenotice comment period or during the public notice comment period.

G. Permit Modification

1. When a Regional Board or State Board decides to modify an NPDES permit, a prenotice draft permit shall be given public notice and issued in accordance with NPDES regulations.

2. Whenever a Regional Board or State Board decides to modify an NPDES permit, the Regional Board or State Board shall follow the EPA review procedures for prenotice draft permits described under II.C. through II.F.

3. Minor permit modifications (not the same as modifications to minor permits) as described under 40 CFR 122.63 may be accomplished by letter, and are not subject to public review prior to their issuance under NPDES. However, they are subject to notice and review provisions under State law The following protocol shall apply to "minor permit modifications":

a. The Regional Boards or State Board, as appropriate, shall send a copy of each

minor permit modification to EPA and the State Board.

b. If EPA or the State Board notice that a minor modification has been issued (by either a Regional Board or the State Board) which does not conform to the criteria of 40 CFR 122.63, the State Board shall notify the permittee and the Regional Board that the minor modification was improper. The State should initiate promptly any proceedings necessary to void or rescind the modification. The Regional Board or State Board may then initiate a formal permit modification that is subject to public review as specified by NPDES regulations.

4. No NPDES permit shall be modified to extend beyond the maximum term allowed by NPDES regulations. If a Regional Board or State Board decides to extend a permit expiration date to a date more than five years from the date of issuance of the permit, the Board shall revoke and reissue the permit in accordance with NPDES regulations.

H. Administrative or Court Action

If the terms of any permit, including any permit for which review has been waived pursuant to Part II.A.1. above, are affected in any manner by administrative or court action, the Regional Board or State Board shall immediately transmit a copy of the permit, with changes identified, to EPA and shall allow 30 days for EPA to make written objections to the changed permit pursuant to Section 402(d)(2) of the CWA.

I. Variance Requests

1. State Variance Authority

a. The State may approve applications for the following variances, subject to EPA objections under Section C.4 above:

(1) Compliance extension based on delay of a publicly owned treatment works (POTW), under Section 301(i) of the CWA;

(2) Compliance extension based upon the use of innovative technology, under Section 301(k) of the CWA; and

(3) Variances from thermal pollution requirements, under Section 316(a) of the CWA.

b. Unless the State denies the variance application, the State shall adopt approved modifications as either formal modifications to active permits or as provisions of reissued permits.

2. State/EPA Shared Variance Authority

a. The State may deny or forward to EPA, with or without recommendations, applications for the following variances:

(1) Variances based upon the presence of fundamentally different factors (FDF), under Section 301(n) of the CWA;

(2) Variances based upon the economic capabilities of the applicant, under Section 301(c) of the CWA;

(3) Variances based upon water quality factors, under Section 301(g) of the CWA; and

(4) Variances based on economic and social costs or upon the economic capabilities of the applicant for achieving EPA promulgated water quality related effluent limitations, under Section 302(b)(2) of the CWA.

b. Unless the State denies the variance application at the outset, the State will subsequently issue an NPDES permit based upon EPA's final decision.

3. Certification and Concurrence in EPA Variance Decisions under Sections 301(h) and 301(m)

a. The State may deny or forward to EPA, with or without recommendations, applications for the following variances:

(1) Variances based upon the quality of coastal marine waters under Section 301(h) of the CWA (these are addressed by a separate agreement.); and

(2) Variances based upon the energy and environmental costs of meeting requirements for wood processing waste discharged to the marine waters of Humboldt Bay, under Section 301(m) of the CWA.

b. If EPA decides to prepare a draft permit on the application for a variance, the State will issue or deny waste discharge requirements under its own authority as part of the concurrence process.

(1) The State's decision on issuance of waste discharge requirements shall constitute the State's decision on concurrence in the variance. Any amendment or rescission of the waste discharge requirements, and any State Board order finding that a Regional Board's action in issuing the waste discharge requirements was inappropriate or improper, shall constitute a modification of the State's concurrence if the amendment, rescission, or State Board order is issued before EPA issues a final permit authorizing the variance.

(2) Waste discharge requirements issued by the State shall require compliance with any condition EPA imposes in the final permit. Any authorization made by the waste discharge requirements to discharge under a variance will be contingent upon issuance of a permit by EPA authorizing the variance.

(3) EPA will not issue a final permit until the State issues waste discharge requirements. If the waste discharge requirements are issued by a Regional Board, EPA will not issue a final permit until at least 31 days after the Regional Board's decision.

While any timely petition is still pending before the State Board, EPA will not issue a final permit until after 10 months have passed without State Board action on the petition. After 10 months have passed without State Board action on the petition EPA may issue a 301(h) permit provided that the permit includes a reopener clause allowing EPA to revise the permit consistent with the State Board's order on the petition for review. If the State Board initiates action on the petition within 10 months, by notifying the parties involved that the petition is complete, EPA will not issue a 301 (h) permit until after the state Board has issued an order on the petition for review.

(4) A permit issued by EPA shall incorporate any condition of the State's concurrence, including any provisions of the waste discharge requirements issued to the discharge, unless EPA substitutes a more stringent requirement.

III. PRETREATMENT PROGRAM

A. General

This Section defines the State Board, the Regional Boards, and EPA responsibilities for the establishment, implementation, and enforcement of the National Pretreatment Program pursuant to Sections 307 and 402(b) of the CWA, and as described in Section VI of the "NPDES Program Description, January 1988".

B. Roles and Responsibilities

EPA will oversee California Pretreatment Program operations consistent with the requirements of 40 CFR Part 403, this Section of the MOA, and Section VI of the "NPDES Program Description, January 1988".

Consistent with State and federal law, and the State Clean Water Strategy, the State will administer the California Pretreatment Program.

The State Board will have primary responsibility for:

1. Developing, implementing, and overseeing the California Pretreatment Program;

2. Providing technical and legal assistance to the Regional Boards, publicly owned treatment works (POTWs), and industrial users;

3. Developing and maintaining a data management system;

4. Providing information to EPA or other organizations as required and/or requested; and

5. Reviewing and ruling on petitions for review of Regional Board decisions.

The Regional Boards, with the assistance and oversight of the State Board, will have primary responsibility for:

1. Enforcing the National pretreatment standards: prohibited discharges, established in 40 CFR 403.5;

2. Enforcing the National categorical pretreatment standards established by the EPA in accordance with Section 307 (b) and (c) of the CWA, and promulgated in 40 CFR Subchapter N, Effluent Guidelines and Standards;

3. Review, approval, or denial of POTW Pretreatment Programs in accordance with the procedures discussed in 40 CFR 403.8, 403.9, and 403.11;

4. Requiring a Pretreatment Program as an enforceable condition in NPDES permits or waste discharge requirements issued to POTWs as required in 40 CFR 403.8, and as provided in Section 402(b)(8) of the CWA;

5. Requiring POTWs to develop and enforce local limits as set forth in 40 CFR 403.5(c);

6. Review and, as appropriate, approval of POTW requests for authority to modify categorical pretreatment standards to reflect removal of pollutants by a POTW in accordance with 40 CFR

403.7, 403.9, and 403.11, and enforcing related conditions in the POTW's NPDES permit or waste discharge requirements;

7. Overseeing POTW Pretreatment Programs to ensure compliance with requirements specified in 40 CFR 403.8, and in the POTW's NPDES permit or waste discharge requirements;

8. Performing inspection, surveillance, and monitoring activities which will determine, independent of information supplied by the POTW, compliance or noncompliance by the POTW with pretreatment requirements incorporated into the POTW permit;

9. Providing the State Board and EPA, upon request, copies of all notices received from POTWs that relate to a new or changed introduction of pollutants to the POTW; and

10. Applying and enforcing all other pretreatment regulations as required by 40 CFR Part 403.

C. POTW Pretreatment Program and Removal Credits Approval

Each Regional Board shall review and approve POTW applications for POTW pretreatment program authority and POTW applications to revise discharge limits for industrial users who are, or may in the future be, subject to categorical pretreatment standards. It shall submit its findings together with the application and supporting information to the State Board and EPA for review. No POTW Pretreatment Program or request for revised discharge limits shall be approved by the Regional Boards if the State Board or EPA objects in writing to the approval of such submission in accordance with 40 CFR 403.11(d).

Note: No removal credits can be approved until EPA promulgates sludge regulations under Section 405 of the Clean Water Act.

D. Requests for Categorical Determination

Each Regional Board shall review requests for determinations of whether an industrial user does or does not fall within a particular industrial category or subcategory. The Regional Boards will make a written determination for each request

stating the reasons for the determinations. The Regional Board shall then forward its findings, together with a copy of the request and any necessary supporting information, to the State Board and EPA for concurrence. If the State Board or EPA does not modify the Regional Board's decision within 60 days after receipt thereof, the Regional Board finding is final. A copy of the final determination shall be sent to the requestor, the State Board, and EPA Region 9.

E. Variances From Categorical Standards For Fundamentally Different Factors

Each Regional Board shall make an initial finding on all requests from industrial users for fundamentally different factors variances from the applicable categorical pretreatment standard. If the Regional Board determines that the variance request should be denied, the Regional Board will so notify the applicant and provide reasons for its determination in writing. Where the Regional Board's initial finding is to approve the request, the finding, together with the request and supporting information, shall be forwarded to the State Board. If the State Board concurs with the Regional Board's finding, it will submit it to EPA for a final determination. The Regional Board may deny but not approve and implement the fundamentally different factor(s) variance request until written approval has been received from EPA.

If EPA finds that fundamentally different factors do exist, a variance reflecting this determination shall be granted. If EPA determines that fundamentally different factors do not exist, the variance request shall be denied and the Regional Board shall so notify the applicant and provide EPA's reasons for the denial in writing.

F. Net/Gross Adjustments to Categorical Standards

If the Regional Board receives a request for a net/gross adjustment of applicable categorical pretreatment standards in accordance with 40 CFR 403.15, the Regional Board shall forward the application to EPA for a determination. A copy of the application will be provided to the State Board. Once this determination has been made, EPA shall

notify the applicant, the applicant's POTW, the Regional Board, and State Board and provide reasons for the determination and any additional monitoring requirements the EPA deems necessary, in writing.

G. Miscellaneous

The State Board, with the assistance of the Regional Boards, will submit to the EPA a list of POTWs which are required to develop their own pretreatment program or are under investigation by a Regional Board for the possible need for a local pretreatment program. The State will document its reasons for all deletions from this list. Before deleting any POTW with a design flow greater than five-million gallons per day (mgd), the State will obtain an industrial survey from the POTW and determine: (1) that the POTW is not experiencing pass through or interference problems; and (2) that there are no industrial users of the POTW that are subject either to categorical pretreatment standards or specific limits developed pursuant to 40 CFR 403.5(c). The State will document all such determinations and provide copies to EPA. For deletions of POTWs with flows less than 5 mgd, the State will first determine (with appropriate documentation) that the POTW is not experiencing treatment process upsets, violations of POTW effluent limitations, or contamination of municipal sludge due to industrial users. The State will also maintain documentation on the total design flow and the nature and amount of industrial wastes received by the POTW.

The State Board and EPA will communicate, through the Section 106 Workplan process, commitments and priorities for program implementation including commitments for inspection of POTWs and industrial users. The Section 106 Workplan will contain, at a minimum, the following: (1) a list of NPDES permits or waste discharge requirements to be issued by the Regional Boards to POTWs subject to pretreatment requirements; and (2) the number of POTWs to be audited or inspected on a quarterly basis.

H. Other Provisions

Nothing in this agreement is intended to affect any pretreatment requirement, including any standards or prohibitions established by State or local law, as long as the State or local requirements are not less stringent than any set forth in the National Pretreatment Program, or other requirements or

prohibitions established under the CWA or Federal regulations. Nothing in this MOA shall be construed to limit the authority of the EPA to take action pursuant to Sections 204, 208, 301, 304, 306, 307, 308, 309, 311, 402, 404, 405, 501, or other Sections of the CWA (33 U.S.C. Section 1251 et seq).

IV. COMPLIANCE MONITORING AND ENFORCEMENT

This Section constitutes the State/EPA Enforcement Agreement. The State Board and EPA will review this section of the MOA each year.

A. Enforcement Management Systems (EMS)

The State Board will maintain compliance monitoring and enforcement procedures in the APM which are consistent with the seven principles of the EPA Enforcement Management System Guide (listed below), and this MOA. The APM shall constitute the State Enforcement Management System for the NPDES program, and shall describe criteria for:

1. Maintaining a source inventory (of information about discharges subject to NPDES permits) that is complete and accurate;

2. Processing and assessing the flow of information available on a systematic and timely basis;

3. Completing a preenforcement screening (of compliance-related information coming into the inventory) by reviewing the information as soon as possible after it is received;

4. Performing a more formal enforcement evaluation (of the same information) where appropriate;

5. Instituting formal enforcement action and follow-up wherever necessary;

6. Initiating field investigations based upon a systematic plan; and

7. Using internal management controls to provide adequate enforcement information to all levels of the organization.

These compliance and enforcement-related provisions of the APM shall constitute the framework (within which the circumstances of

noncompliance are reviewed) for making NPDES enforcement decisions, and evaluation of those decisions by others.

B. Inspections

1. State Inspections

a. The Regional Boards shall conduct compliance inspections to determine the status of compliance with permit requirements, including sampling and non-sampling inspections.

b. The State Board will maintain up-to-date procedures in the APM for conducting compliance inspections, which conform to NPDES regulations.

c. The State is responsible for inspecting annually all major dischargers. To enable this goal to be accomplished EPA may assist the State by inspecting some dischargers. The 106 workplan will specify the number of sampling inspections and the number of reconnaissance inspections to be conducted by the State each year.

2. EPA Inspections

a. EPA retains the authority to perform compliance inspections of any permittee at any time.

b. For those inspections scheduled more than 15 days in advance, EPA will notify the appropriate Regional Board and the State Board within 15 days in advance. For inspections scheduled less than 15 days in advance, EPA will provide as much advance notice as possible.

c. EPA will send copies of inspection reports to the Regional Board and State Board within 30 days of the inspection if there are no effluent samples to be analyzed. EPA will usually send copies of inspection results to the State within 60 days of the inspection if there are effluent samples to be analyzed.

3. Inspection Assistance

a. EPA and the State Board will provide technical assistance to the Regional Boards in their inspection programs whenever staff are available. This assistance may be requestedat any time by the Regional Boards.

b. If neither EPA nor the State Board are able to provide such assistance when it is requested, the State Board shall schedule the assistance at the earliest possible date, and so notify the Regional Board and EPA.

C. Discharger Reports

1. Review of Reports

The Regional Boards shall require each NPDES permittee to send copies of its Discharge Monitoring Reports (DMRs) to EPA and the Regional Boards for review.

a. Whenever a Regional Board cannot complete the review of DMRs and other compliance reports within 30 days of their arrival, the Regional Board shall follow the "exception procedures" in the APM.

b. For auditing and reporting purposes Regional Boards (or the State Board if it should undertake DMR review) shall track and document the date of receipt, the date of review, and the review results (i.e., compliance status) of each DMR and compliance report.

2. Quality Assurance Reviews

EPA routinely conducts technical studies of the accuracy of the reported effluent data from NPDES permittees. EPA send check samples to selected permittees for analysis as part of these studies. The permittees are required to return the results to EPA.

a. Delinquent Permittees

(1) EPA will send the State Board a list of permittees who declined to return

the analytical results of the check samples.

(2) The State Board shall transmit the list to the Regional Boards and assure that they require the permittee to participate in all subsequent studies.

(3) The State Board or Regional Board shall take other appropriate enforcement action against NPDES permittees that have failed to return the anlytical results of the sample.

b. Unacceptable Quality of Analysis

(1) EPA will send the State Board and Regional Boards a list of permittees who failed the analysis study.

(2) The Regional Boards will determine whether the causes of failure are due to clerical errors in report preparation or procedural errors in sample analysis.

(a) If the problem is due to clerical errors, the Regional Board will clarify the reporting procedures.

(b) If the problem is due to analytical errors,the Regional Board will assure that the problems are corrected immediately or that the permittee begins using another laboratory.

(c) If the permittee is using in-house laboratory facility, the Regional Board staff shall take action to assure compliance with NPDES requirements.

c. EPA Technical Assistance

Within the constraints of available staff time, EPA will provide technical assistance and guidance concerning acceptable analytical procedures.

D. Public Complaints

1. Telephone Complaints

a. Telephone complaints received by EPA or the State Board pertaining to a discharge to water of the United States will be referred to the appropriate Regional Board.

b. The Regional Boards shall maintain written documentation of each telephone complaint and its disposition.

2. Written Complaints

a. Written complaints pertaining toa discharge to waters of the United States may be responded to by telephone or by letter. All telephone responses shall be documented by memo.

b. Copies of each response prepared by EPA or the State Board shall be sent to the appropriate Regional Board.

c. The Regional Boards shall retain documentation of each written complaint and its disposition.

3. Complaint Resolution

a. The Regional Boards will investigate complaints and inform the complainant of the investigation results.

b. The Regional Boards shall place a copy of each NPDES-related complaint and a memo of recorddescribing the investigation results thereof into the permit file or compliance file of the appropriate facility.

E. State Enforcement

1. Basis of EPA/State Relationship

a. The Regional Boards pursue enforcement of NPDES permit requirements, and of all other provisions of the NPDES program under State authority.

b. The State Board shall assure that enforcement of the NPDES program is exercised aggressively, fairly, and consistently by all nine Regional Boards. The staff of the State Board will review enforcement practices and inform the Regional Board is not taking appropriate enforcement actions.

(1) The State Board will assure that Federal facilities are treated the same as other NPDES facilities within the constraints of Section 313 of the Clean Water Act.

(2) The State Board will keep a record of all penalties assessed and all penalties collected in NPDES enforcement cases.

c. EPA shall monitor the State's performance, and may take enforcement action under Section 309 of the CWA, whenever the State does not take timely and appropriate enforcement action.

d. EPA shall coordinate its enforcement actions with the State Board and with the appropriate Regional Board as described below.

e. The State Board and EPA will meet periodically to discuss the status of pending and adopted enforcement actions as well as other issues of concern.

2. State Notice to EPA of Enforcement Actions

The State shall send copies of proposed and final enforcement actions, settlements, and amendments thereto, against NPDES facilities to EPA within five working days after the date of signature.

F. EPA Enforcement

1. EPA Initiation of Enforcement Action

EPA will initiate enforcement action:

a. At the request of the State;

b. If the State response to the violation is not consistent with the APM and EPA policy or is otherwise determined by EPA not to be timely and appropriate; or

c. If there is an overriding federal interest.

2. EPA Deferral of Enforcement Action

EPA shall defer formal enforcement action whenever the State initiates an enforcement action determined by EPA to be timely and appropriate for the violation, except when there is an overriding federal interest.

G. Enforcement Procedures

If circumstnaces require EPA to pursue formal enforcement, EPA, and the State shall observe the following procedures:

1. Enforcement Based on the Quarterly Noncompliance Report

a. EPA shall notify the State Board and the appropriate Regional Boards by letter, of the facilities (the name and NPDES number) for which for which EPA policy requires formal enforcement action.

b. The State Board shall respond to EPA by letter within 30 days of its receipt of the EPA notice.

c. The response shall include:

(1) The name and NPDES number of:

(a) Each facility which has returned to compliance;

(b) Each facility for which the Regional Boards have scheduled formal enforcement actions;

(c) Each facility for which a Regional Board or the State Board has taken a formal enforcement action, if the

enforcement action was not shown on the QNCR as part of the response to the violation; and

(d) Each facility against which the State Board will pursue formal enforcement.

(2) Identification of the type of each formal enforcement action;

(3) A description of how each Regional Board plans to address the violations which have not been corrected by the faciilities, and for which they are not pursuing formal enforcement; and

(4) A description of the enforcement action State Board staff will recommend to take against any facility.

e. EPA shall notify the State Board either that the State response to the violation is sufficient to defer a formal action by EPA, or that EPA will proceed with a formal enforcement action pursuant to Section 309 of the CWA.

2. Enforcement Based on Information Other than the Quarterly Noncompliance Report

a. EPA shall notify the State Board and the appropriate Regional Board of each violation against which EPA intends to pursue formal enforcement. This notice shall include:

(1) The name and NPDES number of the facility;

(2) An identification of the violations which warrant formal enforcement;

(3) The reasons why EPA believes formal enforcement is necessary; and

(4) The reasons why past or pending State responses are insufficient.

b. Within ten working days of the notification by EPA, and after

consultation with the appropriate Regional Boards, the State Board will respond to the EPA notice. The State Board's response will include:

(1) A discussion of the circumstances of the identified violations;

(2) A description of the substance and timing of any past, pending, or planned responses to the violations by the Regional Board or the State Board; including identification of the office and staff responsible for the action;

(3) The amounts of any penalties sought or collected; and

(4) Whether or not the State Board believes the responses are appropriate and why.

c. EPA shall notify the State Board either that the State response to the violation is sufficient to defer a formal action by EPA, or that EPA will proceed with a formal enforcement action pursuant to Section 309 of the CWA.

d. Normal enforcement action until ten working days from the date of the EPA notice have passed.

3. Overriding Federal Interest:

a. For the purposes of this MOA, an overriding federal interest exists when:

(1) EPA enforcement can reasonably be expected to expedite the discharger's return to full compliance;

(2) EPA enforcement can reasonably be expected to increase program credibility; or

(3) The violation has significant implications for the success of the NPDES program beyond the borders of California;

b. EPA shall notify the State Board and the appropriate Regional Board when there is an overriding federal interest;

c. Within ten working days of the EPA notice, the State Board will inform EPA of any coordination between the federal action and a State action that the State believes to be appropriate;

d. EPA shall either:

(1) Contact the Regional Board and the State Board to work out the details of coordinating the State and federal enforcement actions. Usually, such coordination will entail the exchange of draft enforcement actions for review. Comments can usually be exchanged by telephone, or in a staff meeting at the Regional Board depending upon the complexity of the enforcement action; or

(2) Inform the State Board that such coordination is infeasible;

e. EPA shall not proceed with its enforcement action until ten working days after the date of the EPA notice; and

f. In any instance of overriding federal interest and upon request by the State, EPA shall send the State Board and the appropriate Regional Board a brief, written explanation of the reasons for overriding federal interest or the reasons for infeasibility of enforcement coordination.

4. Recovery of Additional Penalties

Nothing in this MOA shall be construed to limit EPA's authority to take direct enforcement action for the recovery of additional penalties, whenever the penalties recovered by the State are less than those prescribed by the EPA penalty policy.

5. EPA Enforcement Without Notice to the State

Not withstanding the provisions above for prior notification to the State of federal enforcement actions, nothing in this MOA limits EPA's authority to take enforcement action without any prior notice to the State. If EPA does take such an action, it shall send copies of its correspondence with the affected facility to the State Board and the appropriate Regional Board.

V. STATE REPORTING

A. The State will submit the following to EPA:

Item	Description	Frequency of Submission
1	A copy of all permit applications except those for which EPA has waived review	Within 5 days of receipt
2	Copies of all draft NPDES permits and permit modifications including fact sheets except those for which EPA has waived review	When placed on public notice
3	Copies of all public notices	As issued
4	A copy of all issued, draft NPDES permits and permit modifications	As issued
5	A copy of settlements and decisions in permit appeals	As issued

Item	Description	Frequency of Submission
6	A list of major facilities of the scheduled for compliance inspections	With submission annual program
7	Proposed revisions to the scheduled compliance inspections	As needed

8	A list of compliance inspections performed during the previous quarter	Quarterly
9	Copies of all compliance inspection reports and data and transmittal letters to major permittees	Within 30 days of inspection
10	Copies of all compliance inspection reports and data transmittal letters to all other permittees	As requested
11	For major dischargers, a quarterly noncompliance report as specified in 40 CFR 123.45(a) and further qualified in EPA guidance	Quarterly, as specified in 40 CFR 123.45(c)
12	For minor dischargers, an annual noncompliance report as specified in 40 CFR 123.45(b)	Within 60 days of the end of the calendar as specified in 40 CFR 123.45(c)
13	Copies of all enforcement actions against NPDES violators (including letters, notices of violation, administrative orders, initial determinations, and referrals to the Attorney General)	As issued
Item	Description	Frequency of Submission
14	Copies of correspondence required to carry out the pretreatment program	As issued or received
15	Copies of Discharge Monitoring Report (DMR) and non-	Within 10 days of receipt

compliance notification from major permittees

B. Major Discharger List

The State annually shall submit to EPA an updated "major dischargers" list. The list shall include those dischargers mutually defined by the State Board and EPA as major dischargers plus any additional dischargers that in the opinion of the State or EPA, have a high potential for violation of water quality standards. The major discharger list for Federal facilities shall be jointly determined by EPA and the State. The schedule for submittal of the major discharger list shall be included in the 106 workplan.

C. Emergency Notification

1. The Regional Board shall telephone, or otherwise contact, EPA and the State Board immediately if it discovers a NPDES permit violation or threatening violation:

   a. That has significantly damaged or is likely to significantly damage the environment or the public health; or

   b. That has or is likely to cause significant public alarm.

2. The Regional Board will describe the circumstances and magnitude of the violation

VI. CONFIDENTIALITY OF INFORMATION

A. All information obtained or used by the State in the administration of the NPDES program shall be available to EPA upon request without restriction, and information in EPA's files which the State needs to implement its program shall be made available to the State upon request without restriction.

B. Whenever either party furnishes information to the other that has been claimed as confidential, the party furnishing the information will also furnish the confidentiality claim and the results of any legal review of the claim.

C. The party receiving the confidential information will treat it in accordance with the provisions of 40 CFR Part 2.

D. The State and EPA will deny all claims of confidentiality for effluent data, permit applications, permits, and the name and address of any permittee.

VII. PROGRAM REVIEW

A. To fulfill its responsibility for assuring the NPDES program requirements are met, EPA shall:

1. Review the information submitted by the State;

2. Meet with State officials from time to time todiscuss and observe the data handling, permit processing, and enforcement procedures, including both manual and automated processes;

3. Examine the files and documents of the State regarding selected facilities to determine: (a) whether permits are processed and issued consistent with federal requirements; (b) whether the State is able to discover permit violations when they occur; (c) whether State reviews are timely; and (d) whether State selection of enforcement actions is appropriate and effective. EPA shall notify the State in advance of any examination under this paragraph so that appropriate State officials may be available to discuss individual circumstances and problems.

   EPA need not reveal to the State in advance the files and documents to be examined. A copy of the examination report shall be transmitted to the State when available;

4. Review, from time to time, the legal authority upon which the State's program is based, including State statutes and regulations;

5. When appropriate, hold public hearings on the State's NPDES program; and

6. Review the State's public participation policies, practices and procedures.

B. Prior to taking any action to propose or effect any substantial amendment, recision, or repeal of any statute, regulations, or form which has been approved by EPA, and prior to the adoption of any statute, regulations, or form, the State shall notify the Regional Administrator and shall transmit the text of any such change or new form to the Regional Administrator (see 40 CFR 123.62 which provides that the change may trigger a program revision, which will not become effective until approved by EPA).

C. If an amendment, recision, or repeal of any statute, regulations, or form described in paragraph (B) above shall occur for any reason, including action by the State legislature or a court, the State shall within ten days of such event, notify the Regional Administrator and shall transmit a copy of the text of such revision to the Regional Administrator.

D. Prior to the approval of any test method as an alternative to those specified as required for NPDES permitting, the State shall obtain the approval of the Regional Administrator.

VIII. TERM OF THE MOA

A. This MOA shall become effective upon the date of signature of the Regional Administrator and of the Chair of the State Water Resources Control Board after State Board approval. If it is signed by the two parties on different days, the latter date shall be the effective date.

B. This MOA shall be reviewed by EPA and the State, and revised as appropriate within five (5) years of its effective date.

C. Either EPA or the State may initiate action to change this MOA at any time.

1. No change to this MOA shall become effective without the concurrence of both agencies.

2. The STATE REPORTING (V) portion may be changed by the written consent of the Chief, Division of Water Quality, SWRCB, and the Director, Water Management Division, EPA, Region 9. The Director of Permits Division (EN-336) must consent to all substantial changes.

3. All other changes to this MOA must be approved by the State Board and approved by the Regional Administrator, with the prior concurrence of the Director of the Office of Water Enforcement and Permits (EN-335)and the Associate General Counsel for Water for all substantial changes. The Director of the Office of Water Enforcement and Permits and Associate General Counsel for Water shall also determine whether changes should be deemed substantial.

4. All changes to this MOA determined by EPA to be substantial shall be subject to public notice and comment in accordance with the requirements of 40 CFR 123.62 before being approved.

D. Either party may terminate this MOA upon notice to other party pursuant to 40 CFR 123.64.

E. In witness thereof, the parties execute this agreement.

W. Don Maughan
Chairman,
State Water Resources
Control Board

Dated: JUN - 8 1989

John Wise
for Regional Administrator
Environmental Protection
Agency, Region 9

Dated: 22 SEP 1989

RPG 11/17
cc: DGG + CT
~~WDD~~
XS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

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Robert Ghirelli - [illegible] DATE: Nov 16, 1989

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JECT: City of LA Draft NPDES permit

M: William Pierce OFC. PHONE NO.: 744-3362

CODE: WM-5

COMMUNICATIONS CENTER USE ONLY

E SENT: OPERATOR'S INITIALS:

E SENT:

UP	EQUIPMENT	FACS. PHONE NO.	VERIF. PHONE NO.
ERAL USE	PANAFAX MV 3000	(415) 744-1070 FTS 454-1070	(415) 744-1393 FTS 454-1393
	FUJITSU 2500	(415) 744-1683 FTS 454-1683	(415) 744-1393 FTS 454-1393
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R0066317

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, CA 94105

NOV 16 1989

In Reply
Refer to: W-5-2

Robert Ghirelli
Executive Officer
California Regional Water Quality
Control Board, Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Dear Mr. Ghirelli:

Per your request, we have reviewed the draft NPDES permit prepared by the Board's staff for municipal separate storm sewer discharges within the City and County of Los Angeles.

As I mentioned during the November 3rd meeting in San Francisco, Region 9 concurs with your plans to issue NPDES permits for municipal stormwater discharges in the Los Angeles area. It is Region 9's intent to work with the Board to assist in the development of appropriate permit conditions.

Since this permit will be one of the first in the country for municipal stormwater, we will ensure that EPA Headquarters is kept informed of developments. The role of EPA Headquarters will be limited to monitoring the progress in developing permit conditions and offering suggestions based on experiences elsewhere in the country. However, EPA Headquarters will have no role in either approving or disapproving the final permit.

We generally concur with the approach to municipal stormwater permitting which you have proposed, whereby the application consists of those components described in Part 1 of EPA's draft regulations and the balance of the application requirements along with implementation are incorporated as requirements of the permit.

With regard to the application requirements, the City and County will have completed Tasks 1 through 4 prior to public notice of the draft permit. As such, Tasks 1 through 4 should be described in a finding and the body of the permit need only apply to Tasks 5 and 6.

The draft permit (Tasks 5 and 6) requires development and submittal of several plans during the term of the permit. As you will recall at the November 3rd meeting, we expressed a concern regarding the adequacy of public participation in the approval of the plans. It is also essential that additional conditions be included in Tasks 5 and 6 to ensure implementation of the various plans in accord with schedules which the Board has reviewed and revised/approved. We suggest a condition such as the following:

> "Upon approval/modification of these plans by the Board, subsequent to a public workshop, the permittee shall implement the plans according to the approved schedule."

It is also very important that the area to be permitted be described in detail in the permit application and permit finding. In addition, the schedule for phasing in the various areas needs to be specified in the permit.

Our specific comments on the draft permit are enclosed.

We appreciate your having taken the time to discuss stormwater permitting with us in San Francisco on November 3rd. Additional comments may be forthcoming as a result of the State stormwater permitting meeting in Sacramento on November 16.

Should you have any questions regarding this matter, please call me at (415) 744-2125.

Sincerely,

Harry Seraydarian
Director
Water Management Division

Enclosure

cc (w/encl.): Danny Walsh, State Water Resource Control Board
Phil Richardson, City of Los Angeles
Ralph Valenzuela, City of Los Angeles
Gene McPherson, City of Los Angeles
Orville McCollom, Los Angeles County Public Works Dept.
John Mitchell, Los Angeles County Public Works Dept.
Desi Alvarez, City of Santa Monica

ENCLOSURE - SPECIFIC COMMENTS ON PROPOSED STORMWATER PERMIT

1. FINDINGS

Finding F

We believe the finding could be clarified by replacing "industrial activities" with "industrial facilities which discharge stormwater associated with industrial activity."

2. APPLICATION REQUIREMENTS

Subtask 1(a, f)

We suggest that subtasks a and f be combined. The total area to be permitted should be described as well as the schedule for phasing in each portion of the overall area.

A map showing the drainage areas and outfall locations should also be provided.

Task 2

This task is unclear regarding whether or not the permit requires the source information described in Parts 1 and 2 of EPA's proposed permit application regulations or just Part 1. We suggest that Task 2 require source information comparable to the requirements of Part 1 of EPA's proposed regulations. Submittal of the Part 2 information could be added as an additional subtask of Task 5 or 6.

Subtask 4(d)

Information concerning existing structural controls (such as detention/retention basins, grassy swales, etc.) should be submitted as well as information concerning existing BMP's.

3. PERMIT REQUIREMENTS

Subtask 5(a)

This subtask should specify the parameters to be measured in stormwater or, alternatively, criteria upon which the parameters to be monitored will be determined. We recommend testing for the parameters specified in EPA's proposed permit application regulations; bioassay testing (acute testing initially) is also recommended. The monitoring should be conducted for representative residential, commercial and industrial areas.

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Ambient monitoring of the receiving water is also recommended to determine whether or not the discharges are causing violations of water quality standards.

<u>Subtask 5(d)</u>

The list of BMP's identified to be "readily applied" should be accompanied by an implementation schedule which requires implementation as soon as practicable. Also, the permit should require that existing BMP's continue to be implemented.

<u>Subtask 6(b)</u>

This subtask should specify that the monitoring and characterization report would cover only those areas specified by the schedule provided under Subtask 5(a). However, the permit should also require a continuing monitoring program (targeted toward those areas showing the greatest stormwater contamination in the first phase of monitoring) to gather additional stormwater quality data.

<u>Subtask 6(c)</u>

This subtask needs to be clarified. We assume that the intent of the subtask is to require only BMP's which are appropriate on a site-specific basis. We suggest that Subtask 6(c) require a list of BMP's appropriate for each city or watershed with a discussion of the criteria used for the selection.

<u>Subtask 6(d)</u>

The plan for implementation of control measures should include <u>industrial</u> areas as well as commercial and residential areas. An assessment of the expected effectiveness of the controls should also be provided with the stormwater management plan.

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federal register

Friday
November 16, 1990

Part II

Environmental Protection Agency

40 CFR Parts 122, 123, and 124
National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 122, 123, and 124

[FRL-3834-7]

RIN 2040-AA79

National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Today's final rule begins to implement section 402(p) of the Clean Water Act (CWA) (added by section 405 of the Water Quality Act of 1987 (WQA)), which requires the Environmental Protection Agency (EPA) to establish regulations setting forth National Pollutant Discharge Elimination System (NPDES) permit application requirements for: storm water discharges associated with industrial activity; discharges from a municipal separate storm sewer system serving a population of 250,000 or more; and discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000.

Today's rule also clarifies the requirements of section 401 of the WQA, which amended CWA section 402(1)(2) to provide that NPDES permits shall not be required for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of such operations. This rule sets forth NPDES permit application requirements addressing storm water discharges associated with industrial activity and storm water discharges from large and medium municipal separate storm sewer systems.

DATES: This final rule becomes effective December 17, 1990. In accordance with 40 CFR 23.2, this rule shall be considered final for purposes of judicial review on November 30, 1990, at 1 p.m. eastern daylight time. The public record is located at EPA Headquarters, EPA Public Information Reference Unit, room 2402, 401 M Street SW., Washington DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For further information on the rule contact: Thomas J. Seaton, Kevin Weiss, or Michael Mitchell Office of Water Enforcement and Permits (EN-336), United States Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, (202) 475-8518.

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SUPPLEMENTARY INFORMATION:

I. Background and Water Quality Concerns

The 1972 amendments to the Federal Water Pollution Control Act (referred to as the Clean Water Act or CWA), prohibit the discharge of any pollutant to navigable waters from a point source unless the discharge is authorized by an NPDES permit. Efforts to improve water quality under the NPDES program traditionally and primarily focused on reducing pollutants in discharges of industrial process wastewater and municipal sewage. This program emphasis developed for a number of reasons. At the onset of the program in 1972, many sources of industrial process wastewater and municipal sewage were not adequately controlled and represented pressing environmental problems. In addition, sewage outfalls and industrial process discharges were easily identified as responsible for poor, often drastically degraded, water quality conditions. However, as pollution control measures were initially

developed for these discharges, it became evident that more diffuse sources (occurring over a wide area) of water pollution, such as agricultural and urban runoff were also major causes of water quality problems. Some diffuse sources of water pollution, such as agricultural storm water discharges and irrigation return flows, are statutorily exempted from the NPDES program.

Since enactment of the 1972 amendments to the CWA, considering the rise of economic activity and population, significant progress in controlling water pollution has been made, particularly with regard to industrial process wastewater and municipal sewage. Expenditures by EPA, the States, and local governments to construct and upgrade sewage treatment facilities have substantially increased the population served by higher levels of treatment. Backlogs of expired permits for industrial process wastewater discharges have been reduced. Continued improvements are expected for these discharges as the NPDES program continues to place increasing emphasis on water quality-based pollution controls, especially for toxic pollutants.

Although assessments of water quality are difficult to perform and verify, several national assessments of water quality are available. For the purpose of these assessments, urban runoff was considered to be a diffuse source or nonpoint source pollution. From a legal standpoint, however, most urban runoff is discharged through conveyances such as separate storm sewers or other conveyances which are point sources under the CWA. These discharges are subject to the NPDES program. The "National Water Quality Inventory, 1988 Report to Congress" provides a general assessment of water quality based on biennial reports submitted by the States under section 305(b) of the CWA. In preparing the section 305(b) Reports, the States were asked to indicate the fraction of the States' waters that were assessed, as well as the fraction of the States' waters that were fully supporting, partly supporting, or not supporting designated uses. The Report indicates that of the rivers, lakes, and estuaries that were assessed by States (approximately one-fifth of stream miles, one-third of lake acres and one-half of estuarine waters), roughly 70% to 75% are supporting the uses for which they are designated. For waters with use impairments, States were asked to determine impacts due to diffuse sources (agricultural and urban runoff and other sources), municipal sewage, industrial process wastewaters, combined sewer overflows, and natural and other sources, then combine impacts to arrive at estimates of the relative percentage of State waters affected by each source. In this manner, the relative importance of the various sources of pollution that are causing use impairments was assessed and weighted national averages were calculated. Based on 37 States that provided information on sources of pollution, industrial process wastewaters were cited as the cause of non-support for 7.5% of rivers and streams, 10% of lakes, and 6% of estuaries. Municipal sewage was the cause of non-support for 13% of rivers and streams, 5% lakes, 43% estuaries, 41% of the Great Lake shoreline, and 11% of coastal waters. The Assessment concluded that pollution from diffuse sources, such as runoff from agricultural, urban areas, construction sites, land disposal and resource extraction, is cited by the States as the leading cause of water quality impairment. These sources appear to be increasingly important contributors of use impairment as discharges of industrial process wastewaters and municipal sewage plants come under increased control and as intensified data collection efforts provide additional information. Some examples of diffuse sources cited as causing use impairment are: for rivers and streams, 9% from separate storm sewers, 6% from construction and 13% from resource extraction; for lakes, 28% from separate storm sewers and 25% from land disposal; for the Great Lakes shoreline, 10% from separate storm sewers, 34% from resource extraction, and 82% from land disposal; for estuaries, 28% from separate storm sewers and 27% from land disposal; and for coastal areas, 20% from separate storm sewers and 29% from land disposal.

The States conducted a more comprehensive study of diffuse pollution sources under the sponsorship of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) and EPA. The study resulted in the report "America's Clean Water—The States' Nonpoint Source Assessment, 1985" which indicated that 38 States reported urban runoff as a major cause of beneficial use impairment. In addition, 21 States reported construction site runoff as a major cause of use impairment.

To provide a better understanding of the nature of urban runoff from commercial and residential areas, from 1978 through 1983, EPA provided funding and guidance to the Nationwide Urban Runoff Program (NURP). The NURP included 28 projects across the Nation, conducted separately at the local level but centrally reviewed, coordinated, and guided.

One focus of the NURP was to characterize the water quality of discharges from separate storm sewers which drain residential, commercial, and light industrial (industrial parks) sites. The majority of samples collected in the study were analyzed for eight conventional pollutants and three metals. Data collected under the NURP indicated that on an annual loading basis, suspended solids in discharges from separate storm sewers draining runoff from residential, commercial and light industrial areas are on and an order of magnitude greater than solids in discharges from municipal secondary sewage treatment plants. In addition, the study indicated that annual loadings of chemical oxygen demand (COD) are comparable in magnitude to effluent from secondary sewage treatment plants. When analyzing annual loadings associated with urban runoff, it is important to recognize that discharges of urban runoff are highly intermittent, and that the short-term loadings associated with individual events will be high and may have shock loading effects on receiving water, such as low dissolved oxygen levels. NURP data also showed that fecal coliform counts in urban runoff are typically in the tens to hundreds of thousands per 100 ml of runoff during warm weather conditions, although the study suggested that fecal coliform may not be the most appropriate indicator organism for identifying potential health risks in storm water runoff. Although NURP did not evaluate oil and grease, other studies have demonstrated that urban runoff is an extremely important source of oil pollution to receiving waters, with hydrocarbon levels in urban runoff typically being reported at a range of 2 to 15 mg/L. These hydrocarbons tend to accumulate in bottom sediments where they may persist for long periods of time and exert adverse impacts on benthic organisms.

A portion of the NURP study involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. Seventy-seven priority pollutants were detected in samples of storm water discharges from residential, commercial and light industrial lands taken during the NURP study, including 14 inorganic and 63 organic pollutants. Table A-4 shows the priority pollutants which were detected in at least ten percent of the discharge samples which were sampled for priority pollutants.

TABLE A-1.— PRIORITY POLLUTANTS DETECTED IN AT LEAST 10% OF NURP SAMPLES

(In percent)

	Frequency of detection
Metals and inorganics	
Antimony	13
Arsenic	52
Beryllium	12
Cadmium	48
Chromium	58
Copper	91
Cyanides	23
Lead	84
Nickel	43
Selenium	11
Zinc	84
Pesticides:	
Alpha-hexachlorocyclohexane	20
Alpha-endosulfan	19
Chlordane	17
Lindane	15
Halogenated aliphatics:	
Methane, dichloro-	11
Phenols and cresols:	
Phenol	14
Phenol, pentachloro-	19
Phenol, 4-nitro	10
Phthalate esters:	
Phthalate, bis(2-ethylhexyl)	22
Polycyclic aromatic hydrocarbons:	
Chrysene	10
Fluoranthene	16
Phenanthrene	12
Pyrene	15

The NURP data also showed a significant number of these samples exceeded various EPA freshwater water quality criteria.

The NURP study provides insight on what can be considered background levels of pollutants for urban runoff, as the study focused primarily on monitoring runoff from residential, commercial and light industrial areas. However, NURP concluded that the quality of urban runoff can be adversely impacted by several sources of pollutants that were not directly evaluated in the study and are generally not reflected in the NURP data, including illicit connections, construction site runoff, industrial site runoff and illegal dumping.

Other studies have shown that many storm sewers contain illicit discharges of non-storm water and that large amounts of wastes, particularly used oils, are improperly disposed in storm sewers. Removal of these discharges present opportunities for dramatic improvements in the quality of storm water discharges. Storm water discharges from industrial facilities may contain toxics and conventional pollutants when material management practices allow exposure to storm water, in addition to wastes from illicit connections and improperly disposed wastes

In some municipalities, illicit connections of sanitary, commercial and industrial discharges to storm sewer systems have had a significant impact on the water quality of receiving waters. Although the NURP study did not emphasize the identification of illicit connections to storm sewers (other than to assure that monitoring sites used in the study were free from sanitary sewage contamination), the study concluded that illicit connections can result in high bacterial counts and dangers to public health. The study also noted that removing such discharges presented opportunities for dramatic improvements in the quality of urban storm water discharges.

Studies have shown that illicit connections to storm sewers can create severe, wide-spread contamination problems. For example, the Huron River Pollution Abatement Program inspected 660 businesses, homes and other buildings located in Washtenaw County, Michigan and identified 14% of the buildings as having improper storm drain connections. Illicit discharges were detected at a higher rate of 60% for automobile related businesses, including service stations, automobile dealerships, car washes, body shops and light industrial facilities. While some of the problems discovered in this study were the result of improper plumbing or illegal connections, a majority were approved connections at the time they were built.

Intensive construction activities may result in severe localized impacts on water quality because of high unit loads of pollutants, primarily sediments. Construction sites can also generate other pollutants such as phosphorus and nitrogen from fertilizer, pesticides, petroleum products, construction chemicals and solid wastes. These materials can be toxic to aquatic organisms and degrade water for drinking and water-contact recreation. Sediment loadings rates from construction sites are typically 10 to 20 times that of agricultural lands, with runoff rates as high as 100 times that of agricultural lands, and typically 1,000 to 2,000 times that of forest lands. Even a small amount of construction may have a significant negative impact on water quality in localized areas. Over a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades.

II. Water Quality Act of 1987

The WQA contains three provisions which specifically address storm water discharges. The central WQA provision governing storm water discharges is section 405, which adds section 402(p) to the CWA. Section 402(p)(1) provides that EPA or NPDES States cannot require a permit for certain storm water discharges until October 1, 1992, except for storm water discharges listed under section 402(p)(2). Section 402(p)(2) lists five types of storm water discharges which are required to obtain a permit prior to October 1, 1992:

(A) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(B) A discharge associated with industrial activity;

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more;

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more, but less than 250,000; or

(E) A discharge for which the Administrator or the State, as the case may be, determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.

Section 402(p)(4)(A) requires EPA to promulgate final regulations governing storm water permit application requirements for storm water discharges associated with industrial activity and discharges from large municipal separate storm sewer systems (systems serving a population of 250,000 or more), "no later than two years" after the date of enactment (*i.e.*, no later than February 4, 1989). Section 402(p)(4)(B) also requires EPA to promulgate final regulations governing storm water permit application requirements for discharges from medium municipal separate storm sewer systems (systems serving a population of 100,000 or more but less than 250,000) "no later than four years" after enactment (*i.e.*, no later than February 4, 1991).

In addition, section 402(p)(4) provides that permit applications for storm water discharges associated with industrial activity and discharges from large municipal separate storm sewer systems "shall be filed no later than three years" after the date of enactment of the WQA (*i.e.*, no later than February 4, 1990). Permit applications for discharges from medium municipal systems must be filed "no later than five years" after enactment (*i.e.*, no later than February 4, 1992).

The WQA clarified and amended the requirements for permits for storm water discharges in the new CWA section 402(p)(3). The Act clarified that permits for discharges associated with industrial activity must meet all of the applicable provisions of section 402 and section 301

including technology and water quality based standards. However, the new Act makes significant changes to the permit standards for discharges from municipal storm sewers. Section 402(p)(3)(B) provides that permits for such discharges:

(i) May be issued on a system- or jurisdiction-wide basis;
(ii) Shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and
(iii) Shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

These changes are discussed in more detail later in today's rule.

The EPA, in consultation with the States, is required to conduct two studies on storm water discharges that are in the class of discharges for which EPA and NPDES States cannot require permits prior to October 1, 1992. The first study will identify those storm water discharges or classes of storm water discharges for which permits are not required prior to October 1, 1992, and determine, to the maximum extent practicable, the nature and extent of pollutants in such discharges. The second study is for the purpose of establishing procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality. Based on the two studies the EPA, in consultation with State and local officials, is required to issue regulations no later than October 1, 1992, which designate additional storm water discharges to be regulated to protect water quality and establish a comprehensive program to regulate such designated sources. This program must, at a minimum, (A) Establish priorities, (B) establish requirements for State storm water management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

Section 401 of the WQA amends section 402(1)(2) of the CWA to provide that the EPA shall not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities if the storm water discharge is not contaminated by contact with, or does not come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of such operations.

Section 503 of the WQA amends section 502(14) of the CWA to exclude agricultural storm water discharges from the definition of point source.

III. Remand of 1984 Regulations

On December 4, 1987, the United States Court of Appeals for the District of Columbia Circuit vacated 40 CFR 122.26, (as promulgated on September 28, 1984, 49 FR 37998, September 26, 1984), and remanded the regulations to EPA for further rulemaking (*NRDC v. EPA*, No. 80-1607). EPA had requested the remand because of significant changes made by the storm water provisions of the WQA. The effect of the decision was to invalidate the storm water discharge regulations then found at § 122.26.

Storm water discharges which had been issued an NPDES permit prior to February 4, 1987, were not affected by the Court remand or the February 12, 1988, rule implementing the court order (53 FR 4157). (*See* section 402(p)(2)(A) of the CWA.) Similarly, the remand did not affect the authority of EPA or an NPDES State to require a permit for any storm water discharge (except an agricultural storm water discharge) designated under section 402(p)(2)(E) of the CWA. The notice of the remand clarified that such designated discharges meet the regulatory definition of point source found at 40 CFR 122.2 and that EPA or an NPDES State can rely on the statutory authority and require the filing of an application (Form 1 and Form 2C) for an NPDES permit with respect to such discharges on a case-by-case basis.

IV. Codification Rule and Case-by-Case Designations

Codification Rule

On January 4, 1989, (54 FR 255), EPA published a final rule which codified numerous provisions of the WQA into EPA regulations. The codification rule included several provisions dealing with storm water discharges. The codification rule promulgated the language found at section 402(p) (1) and (2) of the amended Clean Water Act at 40 CFR 122.26(a)(1). In addition, the codification rule promulgated the language of Section 503 of the WQA which exempted agricultural storm water discharges from the definition of point source at 40 CFR 122.2, and section 401 of the WQA addressing uncontaminated storm water discharges from mining or oil and gas operations at 40 CFR 122.26(a)(2).

EPA also codified the statutory authority of section 402(p)(2)(E) of the CWA for the Administrator or the State Director, as the case may be, to designate storm water discharges for a permit on a case-by-case basis at 40 CFR 122.26(a)(1)(v).

Case by Case Designations

Section 402(p)(2)(E) of the CWA authorizes case-by-case designations of storm water discharges for immediate permitting if the Administrator or the State Director determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

In determining that a storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States for the purpose of a designation under section 402(p)(2)(E), the legislative history for the provision provides that "EPA or the State should use any available water quality or sampling data to determine whether the latter two criteria (contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States) are met, and should require additional sampling as necessary to determine whether or not these criteria are met." Conference Report, *Cong. Rec.* S16443 (daily ed. October 16, 1986). In accordance with this legislative history, today's rule promulgates permit application requirements for certain storm water discharges, including discharges designated on a case-by-case basis. EPA will consider a number of factors when determining whether a storm water discharge is a significant contributor of pollution to the waters of the United States. These factors include: the location of the discharge with respect to waters of the United States; the size of the discharge; the quantity and nature of the pollutants reaching waters of the United States; and any other relevant factors. Today's rule incorporates these factors at 40 CFR 122.26(a)(1)(v).

Under today's rule, case-by-case designations are made under regulatory procedures found at 40 CFR 124.52. The procedures at 40 CFR 124.52 require that whenever the Director decides that an individual permit is required, the Director shall notify the discharger in writing that the discharge requires a permit and the reasons for the decision. In addition, an application form is sent with the notice. Section 124.52 provides a 60 day period from the date of notice for submitting a permit application. Although this 60 day period may be appropriate for many designated storm water discharges, site specific factors may dictate that the Director provide

additional time for submitting a permit application. For example, due to the complexities associated with designation of a municipal separate storm sewer system for a system- or jurisdiction-wide permit, the Director may provide the applicant with additional time to submit relevant information or may require that information be submitted in several phases.

V. Consent Decree of October 28, 1989

On April 20, 1989, EPA was served notice of intent to sue by Kathy Williams *et al.* because of the Agency's failure to promulgate final storm regulations on February 4, 1989, pursuant to Section 402(p)(4) of the CWA. A suit was filed by the same party on July 20, 1989, alleging the same cause of action, to wit: the Agency's failure to promulgate regulations under section 402(p)(4) of the CWA. On October 20, 1989, EPA entered into a consent decree with Kathy Williams *et al.* wherein the Federal District Court, District of Oregon, Southern Division, decreed that the Agency promulgate final regulations for storm water discharges identified in sections 402(p)(2) (B) and (C) of the CWA no later than July 20, 1990. *Kathy Williams et al.*, v. *William K. Reilly, Administrator, et al.*, No. 89-6265-E (D-Ore.) In July 1990, the consent degree was amended to provide for a promulgation date of October 31. Today's rule is promulgated in compliance with the terms of the consent decree as amended.

VI. Today's Final Rule and Response to Comments

A. Overview

Section 405 of the WQA alters the regulatory approach to control pollutants in storm water discharges by adopting a phased and tiered approach. The new provision phases in permit application requirements, permit issuance deadlines and compliance with permit conditions for different categories of storm water discharges. The approach is tiered in that storm water discharges associated with industrial activity must comply with sections 301 and 402 of the CWA (requiring control of the discharge of pollutants that utilize the Best Available Technology (BAT) and the Best Conventional Pollutant Control Technology (BCT) and where necessary, water quality-based controls), but permits for discharges from municipal separate storm sewer systems must require controls to reduce the discharge of pollutants to the maximum extent practicable, and where necessary water quality-based controls, and must include a requirement to effectively prohibit non-storm water discharges into the storm sewers. Furthermore, EPA in consultation with State and local officials must develop a comprehensive program to designate and regulate other storm water discharges to protect water quality.

This final regulation establishes requirements for the storm water permit application process. It also sets forth the required components of municipal storm water quality management plans, as well as a preliminary permitting strategy for industrial activities. In implementing these regulations, EPA and the States will strive to achieve environmental results in a cost effective manner by placing high priority on pollution prevention activities, and by targeting activities based on reducing risk from particularly harmful pollutants and/or from discharges to high value waters. EPA and the States will also work with applicants to avoid cross media transfers of storm water contaminants, especially through injection to shallow wells in the Class V Underground Injection Control Program.

In addition, EPA recognizes that problems associated with storm water, combined sewer overflows (CSOs) and infiltration and inflow (I&I) are all inter-related even though they are treated somewhat differently under the law. EPA believes that it is important to begin linking these programs and activities and, because of the potential cost to local governments, to investigate the use of innovative, non-traditional approaches to reducing or preventing contamination of storm water.

The application process for developing municipal storm water management plans provides an ideal opportunity between steps 1 and 2 for considering the full range of nontraditional, preventive approaches, including municipalities, public awareness/education programs, use of vegetation and/or land conservancy practices, alternative paving materials, creative ways to eliminate I&I and illegal hook-ups, and potentials for water reuse. EPA has already announced its plans to present an award for the best creative, cost effective approaches to storm water and CSOs beginning in 1991.

This rulemaking establishes permit application requirements for classes of storm water discharges that were specifically identified in section 402(p)(2). These priority storm water discharges include storm water discharges associated with industrial activity and discharges from a municipal separate storm sewer serving a population of 100,000 or more.

This rulemaking was developed after careful consideration of 450 sets of comments, comprising over 3200 pages, that were received from a variety of industries, trade associations, municipalities, State and Federal Agencies, environmental groups, and private citizens. These comments were received during a 90-day comment period which extended from December 7, 1988, to March 7, 1989. EPA received several requests for an extension of the comment period from 30-days up to 90-days. Many arguments were advanced for an extension including: the extent and complexity of the proposal, the existence of other concurrent EPA proposals, and the need for technical evaluations of the proposal. EPA considered these comments as they were received, but declined to extend the comment period beyond 90 days. The standard comment period on proposals normally range from 30 to 60 days. In light of the statutory deadline of February 4, 1989, additional time for the comment period beyond what was already a substantially lengthened comment period would have been inappropriate. The number and extent of the comments received on this proposal indicated that interested parties had substantially adequate time to review and comment on the regulation. Furthermore, the public was invited to attend six public meetings in Washington DC, Chicago, Dallas, Oakland, Jacksonville, and Boston to present questions and comments. EPA is convinced that substantial and adequate public participation was sought and received by the Agency.

Numerous commenters have also requested that the rule be reproposed due to the extent of the proposal and the number of options and issues upon which the Agency requested comments. EPA has decided against a reproposal. The December 7, 1988, notice of proposed rulemaking was extremely detailed and thoroughly identified major issues in such a manner as to allow the public clear opportunities to comment. The comments that were received were extensive, and many provided valuable information and ideas that have been incorporated into the regulation. Accordingly, the Agency is confident it has produced a workable and rational approach to the initial regulation of storm water discharges and a regulation that reflects the experience and knowledge of the public as provided in the comments, and which was developed in accordance with the

procedural requirements of the Administrative Procedures Act (APA). EPA believes that while the number of issues raised by the proposal was extensive, the number of detailed comments indicates that the public was able to understand the issues in order to comment adequately. Thus, a reproposal is unnecessary.

B. Definition of Storm Water

The December 7, 1988, notice requested comment on defining storm water as storm water runoff, surface runoff, street wash waters related to street cleaning or maintenance, infiltration (other than infiltration contaminated by seepage from sanitary sewers or by other discharges) and drainage related to storm events or snow melt. This definition is consistent with the regulatory definition of "storm sewer" at 40 CFR 35.2005(b)(47) which is used in the context of grants for construction of treatment works. This definition aids in distinguishing separate storm water sewers from sanitary sewers, combined sewers, process discharge outfalls and non-storm water, non-process discharge outfalls.

The definition of "storm water" has an important bearing on the NPDES permitting scheme under the CWA. The following discusses the interrelationship of NPDES permitting requirements for storm water discharges addressed by this rule and NPDES permitting requirements for other non-storm water discharges which may be discharged via the storm sewer as a storm water discharge. Today's rule addresses permit application requirements for storm water discharges associated with industrial activity and for discharges from municipal separate storm sewer systems serving a population of 100,000 or more. Storm water discharges associated with industrial activity are to be covered by permits which contain technology-based controls based on BAT/BCT considerations or water quality-based controls, if necessary. A permit for storm water discharges from an industrial facility may also cover other non-storm water discharges from the facility. Today's rule establishes individual (Form 1 and Form 2F) and group application requirements for storm water discharges associated with industrial activity. In addition, EPA or authorized NPDES States with authorized general permit programs may issue general permits which establish alternative application or notification requirements for storm water discharges covered by the general permit(s). Where a storm water discharge associated with industrial activity is mixed with a non-storm water discharge, both discharges must be covered by an NPDES permit (this can be in the same permit or with multiple permits). Permit application requirements for these "combination" discharges are discussed later in today's notice.

Today's rule also addresses permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more. Under today's rule, appropriate municipal owners or operators of these systems must obtain NPDES permits for discharges from these systems. These permits are to establish controls to the maximum extent practicable (MEP), effectively prohibit non-storm water discharges to the municipal separate storm sewer system and, where necessary, contain applicable water quality-based controls. Where non-storm water discharges or storm water discharges associated with industrial activity discharge through a municipal separate storm sewer system (including systems serving a population of 100,000 or more as well as other systems), which ultimately discharges to a waters of the United States, such discharges through a municipal storm sewer need to be covered by an NPDES permit that is independent of the permit issued for discharges from the municipal separate storm sewer system. Today's rule defines the term "illicit discharge" to describe any discharge through a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not authorized under the CWA. Section 402(p)(3)(B) of the CWA requires that permits for discharges from municipal separate storm sewers require the municipality to "effectively prohibit" non-storm water discharges from the municipal separate storm sewer. As discussed in more detail below, today's rule begins to implement the "effective prohibition" by requiring municipal operators of municipal separate storm sewer systems serving a population of 100,000 or more to submit a description of a program to detect and control certain non-storm water discharges to their municipal system. Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit (other than the permit for the discharge from the municipal separate storm sewer). For reasons discussed in more detail below, in general, municipalities will not be held responsible for prohibiting some specific components of discharges or flows listed below through their municipal separate storm sewer system, even though such components may be considered non-storm water discharges, unless such discharges are specifically identified on a case-by-case basis as needing to be addressed. However, operators of such non-storm water discharges need to obtain NPDES permits for these discharges under the present framework of the CWA (rather than the municipal operator of the municipal separate storm sewer system). (Note that section 516 of the Water Quality Act of 1987 requires EPA to conduct a study of de minimis discharges of pollutants to waters of the United States and to determine the most effective and appropriate methods of regulating any such discharges.)

EPA received numerous comments on the proposed regulatory definition of storm water, many of which proposed exclusions or additions to the definition. Several commenters suggested that the definition should include or not include detention and retention reservoir releases, water line flushing, fire hydrant flushing, runoff from fire fighting, swimming pool drainage and discharge, landscape irrigation, diverted stream flows, uncontaminated pumped ground water, rising ground waters, discharges from potable water sources, uncontaminated waters from cooling towers, foundation drains, non-contact cooling water (such as HVAC or heating, ventilation and air conditioning condensation water that POTWs require to be discharged to separate storm sewers rather than sanitary sewers), irrigation water, springs, roof drains, water from crawl space pumps, footing drains, lawn watering, individual car washing, flows from riparian habitats and wetlands. Most of these comments were made with regard to the concern that these were commonly occurring discharges which did not pose significant environmental problems. It was also noted that, unless these flows are classified as storm water, permits would be required for these discharges.

In response to the comments which requested EPA to define the term "storm water" broadly to include a number of classes of discharges which are not in any way related to precipitation events, EPA believes that this rulemaking is not an appropriate forum for addressing the appropriate regulation under the NPDES program of such non-storm water discharges, even though some classes of non-storm water discharges may typically contain only minimal amounts of pollutants. Congress did not intend that the term storm water be used to describe any discharge that has a de minimis amount of pollutants, nor did it intend for section 402(p) to be used to

provide a moratorium from permitting other non-storm water discharges. Consequently, the final definition of storm water has not been expanded from what was proposed. However, as discussed in more detail later in today's notice, municipal operators of municipal separate storm sewer systems will generally not be held responsible for "effectively prohibiting" limited classes of these discharges through their municipal separate storm sewer systems.

The proposed rule included infiltration in the definition of storm water. In this context one commenter suggested that the term infiltration be defined. Infiltration is defined at 40 CFR 35.2005(b)(20) as water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections or manholes. Infiltration does not include, and is distinguished from, inflow. Another commenter urged that ground water infiltration not be classified as storm water because the chemical characteristics and contaminants of ground water will differ from surface storm water because of a longer contact period with materials in the soil and because ground water quality will not reflect current practices at the site. In today's rule, the definition of storm water excludes infiltration since pollutants in these flows will depend on a large number of factors, including interactions with soil and past land use practices at a given site. Further infiltration flows can be contaminated by sources that are not related to precipitation events, such as seepage from sanitary sewers. Accordingly the final regulatory language does not include infiltration in the definition of storm water. Such flows may be subject to appropriate permit conditions in industrial permits. As discussed in more detail below, municipal management programs must address infiltration where identified as a source of pollutants to waters of the United States.

One commenter questioned the status of discharges from detention and retention basins used to collect storm water. This regulation covers discharges of storm water associated with industrial activity and discharges from municipal separate storm sewer systems serving a population of 100,000 or more into waters of the United States. Therefore, discharges from basins that are part of a conveyance system for a storm water discharge associated with industrial activity or part of a municipal separate storm sewer system serving a population of 100,000 or more are covered by this regulation. Flows which are channeled into basins and which do not discharge into waters of the United States are not addressed by today's rule.

Several commenters requested that the term illicit connection be replaced with a term that does not connote illegal discharges or activity, because many discharges of non-storm water to municipal separate storm sewer systems occurred prior to the establishment of the NPDES program and in accordance with local or State requirements at the time of the connection. EPA disagrees that there should be a change in this terminology. The fact that these connections were at one time legal does not confer such status now. The CWA prohibits the point source discharge of non-storm water not subject to an NPDES permit through municipal separate storm sewers to waters of the United States. Thus, classifying such discharges as illicit properly identifies such discharges as being illegal.

A commenter wanted clarification of the terms "other discharges" and "drainage" that are used in the definition of "storm water." As noted above, today's rule clarifies that infiltration is not considered storm water. Thus the portion of the definition of storm water that refers to "other discharges" has also been removed. However, the term drainage has been retained. "Drainage" does not take on any meaning other than the flow of runoff into a conveyance, as the word is commonly understood.

One commenter stated that irrigation flows combined with storm water discharges should be excluded from consideration in the storm water program. The Agency would note that irrigation return flows are excluded from regulation under the NPDES program. Section 402(l)(1) states that the Administrator or the State shall not require permits for discharges composed entirely of return flows from irrigated agriculture. The legislative history of the 1977 Clean Water Act, which enacted this language, states that the word "entirely" was intended to limit the exception to only those flows which do not contain additional discharges from activities unrelated to crop production. Congressional Record Vol. 123 (1977), pg. 4360, Senate Report No. 95–370. Accordingly, a storm water discharge component, from an industrial facility for example, included in such "joint" discharges may be regulated pursuant to an NPDES permit either at the point at which the storm water flow enters or joins the irrigation flow, or where the combined flow enters waters of the United States or a municipal separate storm sewer.

Some commenters expressed concern about including street wash waters as storm water. One commenter argued including street wash waters in the definition of storm water should not be construed to eliminate the need for management practices relating to construction activities where sediment may simply wash into storm drains. EPA agrees with these points and the concerns that storm sewers may receive material that pose environmental problems if street wash waters are included in the definition. Accordingly, such discharges are no longer in the definition as proposed, and must be addressed by municipal management programs as part of the prohibition on non-storm water discharges through municipal separate storm sewer systems.

Several commenters requested that the terms discharge and point source, in the context of permits for storm water discharge, be clarified. Several commenters stated that the EPA should clarify that storm water discharge does not include "sheet flow" off of an industrial facility. EPA interprets this as request for clarification on the status of the terms "point source" and "discharge" under these regulations. In response, this rulemaking only covers storm water discharges from point sources. A point source is defined at 40 CFR 122.2 as "any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff." EPA agrees with one commenter that this definition is adequate for defining what discharges of storm water are covered by this rulemaking. EPA notes that this definition would encompass municipal separate storm sewers. In view of this comprehensive definition of point source, EPA need clarify in this rulemaking only that a storm water discharge subject to NPDES regulation does not include storm water that enters the waters of the United States via means other than a "point source." As further discussed below, storm water from an industrial facility which enters and is subsequently discharged through a municipal separate storm sewer is a "discharge associated with industrial

activity" which must be covered by an individual or general permit pursuant to today's rule.

EPA would also note that individual facilities have the burden of determining whether a permit application should be submitted to address a point source discharge. Those unsure of the classification of storm water flow from a facility, should file permit applications addressing the flow, or prior to submitting the application consult permitting authorities for clarification.

One commenter stated that "point source" for this rulemaking should be defined, for the purposes of achieving better water quality, as those areas where "discharges leave the municipal [separate storm sewer] system." EPA notes in response that "point source" as currently defined will address such discharges, while keeping the definition of discharge and point source within the framework of the NPDES program, and without adding potentially confusing and ambiguous additional definitions to the regulation. If this comment is asserting that the term point source should not include discharges from sources through the municipal system, EPA disagrees. As discussed in detail below, discharges through municipal separate storm sewer systems which are not connected to an operable treatment works are discharges subject to NPDES permit requirements at [40 CFR 122.2(c)], and may properly be deemed point sources.

One industry argued that the definition of "point source" should be modified for storm water discharges so as to exclude discharges from land that is not artificially graded and which has a propensity to form channels where precipitation runs off. EPA intends to embrace the broadest possible definition of point source consistent with the legislative intent of the CWA and court interpretations to include any identifiable conveyance from which pollutants might enter the waters of the United States. In most court cases interpreting the term "point source", the term has been interpreted broadly. For example, the holding in *Sierra Club* v. *Abston Construction Co., Inc.*, 620 F.2d 41 (5th Cir. 1980) indicates that changing the surface of land or establishing grading patterns on land will result in a point source where the runoff from the site is ultimately discharged to waters of the United States:

> Simple erosion over the material surface, resulting in the discharge of water and other materials into navigable waters, does not constitute a point source discharge, absent some effort to *change the surface*, to *direct* the water flow or otherwise impede its progress * * * Gravity flow, resulting in a discharge into a navigable body of water, may be part of a point source discharge if the [discharger] at least initially collected or channeled the water and other materials. A point source of pollution may also be present where [dischargers] design spoil piles from discarded overburden such that, during periods of precipitation, erosion of spoil pile walls results in discharges into a navigable body of water by means of ditches, gullies and similar conveyances, even if the [dischargers] have done nothing beyond the mere collection of rock and other materials * * * Nothing in the Act relieves [dischargers] from liability simply because the operators did not actually construct those conveyances, so long as they are reasonably likely to be the means by which pollutants are ultimately deposited into a navigable body of water. Conveyances of pollution formed either as a result of natural erosion or by natural means, and which constitute a component of a * * * drainage system, may fit the statutory definition and thereby subject the operators to liability under the Act." 620 F.2d at 45 (emphasis added).

Under this approach, point source discharges of storm water result from structures which increase the imperviousness of the ground which acts to collect runoff, with runoff being conveyed along the resulting drainage or grading patterns.

The entire thrust of today's regulation is to control pollutants that enter receiving water from storm water conveyances. It is these conveyances that will carry the largest volume of water and higher levels of pollutants. The storm water permit application process and permit conditions will address circumstances and discharges peculiar to individual facilities.

One industry commented that the definition of waters of the State under some State NPDES programs included municipal storm sewer systems. The commenter was concerned that certain industrial facilities discharging through municipal storm sewers in these states would be required to obtain an NPDES permit, despite EPA's proposal not to require permits from such facilities generally. In response, EPA notes that section 510 of the CWA, approved States are able to have stricter requirements in their NPDES program. In approved NPDES States, the definition of waters of the State controls with regard to what constitutes a discharge to a water body. However, EPA believes that this will have little impact, since, as discussed below, all industrial dischargers, including those discharging through municipal separate storm sewer systems, will be subject to general or individual NPDES permits, regardless of any additional State requirements.

One municipality commented that neither the term "point source" nor "discharge" should be used in conjunction with industrial releases into urban storm water systems because that gives the impression that such systems are navigable waters. EPA disagrees that any confusion should result from the use of these terms in this context. In this rulemaking, EPA always addresses such discharges as "discharges through municipal separate storm sewer systems" as opposed to "discharges to waters of the United States." Nonetheless, such industrial discharges through municipal storm sewer systems are subject to the requirements of today's rule, as discussed elsewhere.

One commenter desired clarification with regard to what constituted an outfall, and if an outfall could be a pipe that connected two storm water conveyances. This rulemaking defines outfall as a point of discharge into the waters of the United States, and not a conveyance which connects to Sections of municipal separate storm sewer. In response to another comment, this rulemaking only addresses discharges to waters of United States, consequently discharges to ground waters are not covered by this rulemaking (unless there is a hydrological connection between the ground water and a nearby surface water body. *See, e.g., Exxon Corp.* v. *Train*, 554 F.2d 1310, 1312 n.1 (5th Cir. 1977); *McClellan Ecological Seepage Situation* v. *Weinberger*, 707 F.Supp. 1182, 1195–96 (E.D. Cal. 1988)).

In the WQA and other places, the term "storm water" is presented as a single word. Numerous comments were received by EPA as to the appropriate spelling. Many of these comments recommended that two words for storm water is appropriate. EPA has decided to use an approach consistent with the Government Printing Office's approved form where storm water appears as two words.

C. Responsibility for Storm Water Discharges Associated With Industrial Activity Through Municipal Separate Storm Sewers

The December 7, 1988, notice of proposed rulemaking requested comments on the appropriate permitting scheme for storm water discharges associated with industrial activity through municipal separate storm sewers. EPA proposed a permitting scheme that would define the requirement to obtain coverage under an NPDES permit for a storm water discharge associated with industrial activity through a municipal separate storm sewer in terms of the classification of the municipal separate storm sewer. EPA proposed holding municipal operators of large or medium

municipal separate storm sewer systems primarily responsible for applying for and obtaining an NPDES permit covering system discharges as well as storm water discharges (including storm water discharges associated with industrial activity) through the system. Under the proposed approach, operators of storm water discharges associated with industrial activity which discharge through a large or medium municipal separate storm sewer system would generally not be required to obtain permit coverage for their discharge (unless designated as a significant contributor of pollution pursuant to section 402(p)(2)(E)) provided the municipality was notified of: The name, location and type of facility and a certification that the discharge has been tested (if feasible) for non-storm water (including the results of any testing). The notification procedure also required the operator of the storm water discharge associated with industrial activity to determine that: The discharge is composed entirely of storm water; the discharge does not contain hazardous substances in excess of reporting quantities; and the facility is in compliance with applicable provisions of the NPDES permit issued to the municipality for storm water.

In the proposal, EPA also requested comments on whether a decision on regulatory requirements for storm water discharges associated with industrial activity through other municipal separate storm sewer systems (generally those serving a population of less than 100,000) should be postponed until completion of two studies of storm water discharges required under section 402(p)(5) of the CWA.

EPA favored these approaches because they appeared to reduce the potential administrative burden associated with preparing and processing the thousands of permit applications associated with the rulemaking and provide EPA additional flexibility in developing permitting requirements for storm water discharges associated with industrial activity. EPA also expressed its belief, based upon an analysis of ordinances controlling construction site runoff in place in certain cities, that municipalities generally possessed legal authority sufficient to control contributions of industrial storm water pollutants to their separate storm sewers to the degree necessary to implement the proposed rule. EPA commented that municipal controls on industrial sources implemented to comply with an NPDES permit issued to the municipality would likely result in a level of storm water pollution control very similar to that put directly on the industrial source through its own NPDES permit. This was to be accomplished by requiring municipal permittees, to the maximum extent practicable, to require industrial facilities in the municipality to develop and implement storm water controls based on a consideration of the same or similar factors as those used to make BAT/BCT determinations. (See 40 CFR 125.3 (d)(2) and (d)(3)).

The great majority of commenters on the December 7, 1988, notice addressed this aspect of the proposal. Based on consideration of the comments received on the notice, EPA has decided that it is appropriate to revise the approach in its proposed rule to require direct permit coverage for all storm water discharges associated with industrial activity, including those that discharge through municipal separate storm sewers. In response to this decision, EPA has continued to analyze the appropriate manner to respond to the large number of storm water discharges subject to this rulemaking. The development of EPA's policy regarding permitting these discharges is discussed in more detail in the section VI.D of today's preamble.

EPA notes that the status of discharges associated with industrial activity which pass through a municipal separate storm sewer system under section 402(p) raises difficult legal and policy questions. EPA believes that treating these discharges under permits separate from those issued to the municipality will most fully address both the legal and policy concerns raised in public comment.

Certain commenters supported EPA's proposal. Some commenters claimed that EPA lacked any authority to permit industrial discharges which were not discharged immediately to waters of the U.S. Other commenters agreed with EPA's statements in the proposal that its approach would result in a more manageable administrative burden for EPA and the NPDES states. However, numerous comments also were received which provided various arguments in support of revising the proposed approach. These comments addressed several areas including the definition of discharge under the CWA, the requirements and associated statutory time frames of section 402(p), as well as the resource and enforcement constraints of municipalities. EPA is persuaded by these comments and has modified its approach accordingly. The key comments on this issue are discussed below.

EPA disagrees with commenters who suggested that EPA lacks authority to permit separately industrial discharges through municipal sewers. The CWA prohibits the discharge of a pollutant except pursuant to an NPDES permit. Section 502(12)(A) of the CWA defines the "discharge of a pollutant" as "any addition of any pollutant to navigable waters from any point source." [1] There is no qualification in the statutory language regarding the source of the pollutants being discharged. Thus, pollutants from a remote location which are discharged through a point source conveyance controlled by a different entity (such as a municipal storm sewer) are nonetheless discharges for which a permit is required.

EPA's regulatory definition of the term "discharge" reflects this broad construction. EPA defines the term to include

> additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; *discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which does not lead to a treatment works;* and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

40 CFR § 122.2 (1989) (emphasis added). The only exception to this general rule is the one contemplated by section 307(b) of the CWA, *i.e.*, the introduction of pollutants into publicly-owned treatment works. EPA treats these as "indirect discharges," subject not to NPDES requirements, but to pretreatment standards under section 307(b).

In light of its construction of the term discharge, EPA has consistently maintained that a person who sends pollutants from a remote location through a point source into a water of the U.S. may be held liable for the unpermitted discharge of that pollutant. Thus, EPA asserts the authority to require a permit either from the operator of the point source conveyance, (such as a municipal storm sewer or a privately-owned treatment works), or from any person causing pollutants to be present in that conveyance and discharged through the point source, or both. *See Decision of the General Counsel (of EPA) No. 43* ("In re Friendswood Development Co.") (June 11, 1976) (operator of privately owned treatment work and dischargers to it are both subject to NPDES permit requirements). *See also*, 40 CFR 122.3(g), 122.44(m)

[1] Indeed, the DC Circuit has held, in the storm water context, that EPA may not exempt any point source discharges of pollutants from the requirement to obtain an NPDES permit. *NRDC v. Costle*, 568 F.2d 1369, 1377 (DC Cir. 1977)

(NPDES permit writer has discretion to permit contributors to a privately owned treatment works as direct dischargers). In other words, where pollutants are added by one person to a conveyance owned/operated by another person, and that conveyance discharges those pollutants through a point source, EPA may permit either person or both to ensure that the discharge is properly controlled. Pollutants from industrial sites discharged through a storm sewer to a point source are appropriately treated in this fashion.

Furthermore, EPA believes that storm water from an industrial plant which is discharged through a municipal storm sewer is a "discharge associated with industrial activity." Today's rule, as in the proposal, defines discharges associated with industrial activity solely in terms of the origin of the storm water runoff. There is no distinction for how the storm water reaches the waters of the U.S. In other words, pollutants in storm water from an industrial plant which are discharged are "associated with industrial activity," regardless of whether the industrial facility operates the conveyance discharging the storm water (or whether the storm water is ultimately discharged through a municipal storm sewer). Indeed, there is no distinction in the "industrial" nature of these two types of discharges. The pollutants of concern in an industrial storm water discharge are present when the storm water leaves the facility, either through an industrial or municipal storm water conveyance. EPA has no data to suggest that the pollutants in industrial storm water entering a municipal storm sewer are any different than those in storm water discharged immediately to a water of the U.S. Thus, industrial storm water in a municipal sewer is properly classified as "associated with industrial activity." Although EPA proposed not to cover these discharges by separate permit, the Agency believes that it is clearly not precluded from doing so.

Many comments also supported the proposed approach, noting that holding municipalities primarily responsible for obtaining a permit which covers industrial storm water discharges through municipal systems would reduce the administrative burden associated with preparing and processing thousands of permit applications—permit applications that would be submitted if each industrial discharger through a large or medium municipal separate storm sewer system had to apply individually (or as part of a group application).

EPA appreciates these concerns. Yet EPA also recognizes that there are also significant problems with putting the burden of controlling these sources on the municipalities (except for designated discharges) which must be balanced with the concerns about the permit application burden on industries. The industrial permitting strategy discussed in section VI.D below attempts to achieve this balance.

EPA also does not believe that the administrative burden will be nearly as significant as originally thought, for several reasons. First, as discussed in section VI.F.2 below and in response to significant public comment, EPA has significantly narrowed the scope of the definition of "associated with industrial activity" to focus in on those facilities which are most commonly considered "industrial" and thought to have the potential for the highest levels of pollutants in their storm water discharges. EPA believes this is a more appropriate way to ensure a manageable scope for the industrial storm water program in light of the statutory language of section 402(p), since it does not attempt to arbitrarily distinguish industrial facilities on the basis of the ownership of the conveyance through which a facility discharges its storm water. Second, EPA's industrial permitting strategy discussed in section VI.D is designed around aggressive use of general permits to cover the vast majority of industrial sources. These general permits will require industrial facilities to develop storm water control plans and practices similar to those that would have been required by the municipality. Yet, general permits will eliminate the need for thousands of individual or group permit applications, greatly reducing the burden on both industry EPA/States. Finally, even under the proposal, EPA believes that a large number of industrial dischargers would have been appropriate for designation for individual permitting under section 402(p)(2)(E), with the attendant individual application requirements. Today's approach will actually decrease the overall burden on these facilities; rather than filing an individual permit application upon designation, these facilities will generally be covered by a general permit.

By contrast, several commenters asserted that not only does EPA have the authority to cover these discharges by separate permit, it is required to by the language of section 402(p). As discussed above, storm water from an industrial plant which passes through a municipal storm sewer to a point source and is discharged to waters of the U.S. is a "discharge associated with industrial activity." Therefore, it is subject to the appropriate requirements of section 402(p). The operator of the discharge (or the industrial facility where the storm water originates) must apply for a permit within three years of the 1987 amendments (*i.e.*, Feb. 4, 1990);[3] EPA must issue a permit by one year later (Feb. 4, 1991); and the permit must require compliance within three years of permit issuance. That permit must ensure that the discharge is in compliance with all appropriate provisions of sections 301 and 402. Commenters asserted that EPA's proposal would violate these two requirements of the law. First, the statute requires all industrial storm water discharges to obtain a permit in the first round of permitting (*i.e.*, February 4, 1990). However, Congress established a different framework to address discharges from small municipal separate storm sewer systems. Section 402(p) requires EPA to complete two studies of storm water discharges, and based on these studies, promulgate additional regulations, including requirements for state storm water management programs by October 1, 1992. EPA is prohibited from issuing permits for storm water discharges from small municipal systems until October 1, 1992 unless the discharge is designated under section 402(p)(2)(E). Thus, industrial storm water discharges from these systems would not be covered by a permit until later than contemplated by statute. Second, permits for municipal storm sewer systems require controls on storm water discharges "to the maximum extent practicable," as opposed to the BAT/BCT requirements of section 301(b)(2). Yet, all industrial storm water discharges must comply with section 301(b)(2). Thus, covering industrial storm water under a municipal storm water permit will not ensure the legally-required level of control of industrial storm water discharges.

In addition to comments on the requirements of section 402(p), EPA received several comments questioning whether EPA's proposal to cover industrial pollutants in municipal separate storm sewers solely in the permit issued to the municipality would ensure adequate control of these pollutants due to both inadequate

[3] It should be noted that EPA did not promulgate the required storm water regulations by February, 1989, as contemplated by section 402(p)(4)(A). As discussed below, today's rule generally requires industrial storm water dischargers to file a permit application in one year.

resources and enforcement. Some municipalities stated that the burdens of this responsibility would be too great with regard to source identification and general administration of the program. These commenters claimed they lacked the necessary technical and regulatory expertise to regulate such sources. Commenters also noted that additional resources to control these sources would be difficult to obtain given the restrictions on local taxation in many states and the fact that EPA will not be providing funding to local governments to implement their storm water programs.

Municipalities also expressed concerns regarding enforcement of EPA's proposed approach. Some municipalities remarked that they did not have appropriate legal authority to address these discharges. Several commenters also stated that requiring municipalities to be responsible for addressing storm water discharges associated with industrial activity through their municipal system would result in unequal treatment of industries nationwide because of different municipal requirements and enforcement procedures. Several municipal entities expressed concern with regard to their responsibility and liability for pollutants discharged to their municipal storm sewer system, and further asserted that it was unfair to require municipalities to bear the full cost of controlling such pollutants. Other municipalities suggested that overall municipal storm water control would be impaired, since municipalities would spend a disproportionate amount of resources trying to control industrial discharges through their sewers, rather than addressing other storm water problems. In a related vein, certain commenters suggested that, where industrial storm water was a significant problem in a municipal sewer, EPA's proposed approach would hamper enforcement at the federal/state level, since all enforcement measures could be directed only at the municipality, rather than at the most direct source of that problem.

In response to all of these concerns, EPA has decided to require storm water discharges associated with industrial activity which discharge through municipal separate storm sewers to obtain separate individual or general NPDES permits. EPA believes that this change will adequately address all of the key concerns raised by commenters.

The Agency was particularly influenced by concerns that many municipalities lacked the authority under state law to address industrial storm water practices. EPA had assumed that since several cities regulate construction site activities, that they could regulate other industrial operations in a similar manner. Several commenters suggested otherwise. In light of these concerns, EPA agrees with certain commenters that municipal controls on industrial facilities, in lieu of federal control, might not comply with section 402(p)(3)(A) for those facilities.[3] This calls into question whether EPA's proposed approach would have reasonably implemented Congressional intent to address industrial storm water early and stringently in the permitting process.

EPA also agrees with those commenters who argued that municipal controls on industrial storm water sources were not directly analogous to the pretreatment program under section 307(b), as EPA suggested in the preamble to the proposal. The authority of cities to control the type and volume of industrial pollutants into a POTW is generally unquestioned under the laws of most states, since sewage and industrial waste treatment is a service provided by the municipality. Thus, EPA has greater confidence that cities can and will adopt effective pretreatment programs. By contrast, many cities are limited in the types of controls they can impose on flows into storm sewers; cities are more often limited to regulations on quantity of industrial flows to prevent flooding the system. So too, the pretreatment program allows for federal enforcement of local pretreatment requirements. Enforcement against direct dischargers (including dischargers through municipal storm sewers) is possible only when the municipal requirements are contained in an NPDES permit.

Although today's rule will require industrial discharges through municipal storm sewers to be covered by separate permit, EPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program. (See section VI.H.7. of today's preamble.) The CWA provides that permits for municipal separate storm sewers shall require municipalities to reduce pollutants to the maximum extent practicable. Permits issued to municipalities for discharges from municipal separate storm sewers will reflect terms, specified controls, and programs that achieve that goal. As with all NPDES permits, responsibility and liability is determined by the discharger's compliance with the terms of the permit. A municipality's responsibility for industrial storm water discharged through their system is governed by the terms of the permit issued. If an industrial source discharges storm water through a municipal separate storm sewer in violation of requirements incorporated into a permit for the industrial facility's discharge, that industrial operator of the discharge may be subject to an enforcement action instituted by the Director of the NPDES program.

Today's rule also requires operators of storm water discharges associated with industrial activity through large and medium municipal systems to provide municipal entities of the name, location, and type of facility that is discharging to the municipal system. This information will provide municipalities with a base of information from which management plans can be devised and implemented. This requirement is in addition to any requirements contained in the industrial facility's permit. As in the proposal, the notification process will assist cities in development of their industrial control programs.

EPA intends for the NPDES program, through requirements in permits for storm water discharges associated with industrial activity, to work in concert with municipalities in the industrial component of their storm water management program efforts. EPA believes that permitting of municipal storm sewer systems and the industrial discharges through them will act in a complementary manner to fully control the pollutants in those sewer systems. This will fully implement the intent of

[3] EPA notes that the legal issue raised by commenters regarding whether industrial storm water would be controlled to BAT if covered by a municipal permit at the MEP level is primarily a theoretical issue. As explained above, the proposal assumed that cities would establish controls on industry very similar to those established in an NPDES permit using best professional judgment. EPA's key concern, rather, is whether cities can, in fact, establish such controls. Thus, today's final rule should not appreciably change the requirements to be imposed on industrial sources, only how those requirements are enforced.

Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible. This approach will also address the concerns of municipalities that they lack sufficient authority and resources to control all industrial contributions to their storm sewers and will be liable for discharges outside of their control.

The permit application requirements for large and medium municipal separate storm sewer systems, discussed in more detail later in today's preamble, address the responsibilities of the municipal operators of these systems to identify and control pollutants in storm water discharges associated with industrial activity. Permit applications for large and medium municipal separate storm sewer systems are to identify the location of facilities which discharge storm water associated with industrial activity to the municipal system (*see* section VI.H.7. of the preamble). In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system (*see* section VI.H.7.c of this preamble). EPA notes that each municipal program will be tailored to the conditions in that city. Differences in regional weather patterns, hydrology, water quality standards, and storm sewer systems themselves dictate that storm water management practices will vary to some degree in each municipality. Accordingly, similar industrial storm water discharges may be treated differently in terms of the requirements imposed by the municipality, depending on the municipal program. Nonetheless, any individual or general permit issued to the industrial facility must comply with section 402(p)(3)(A) of the CWA.

EPA intends to provide assistance and guidance to municipalities and permitting authorities for developing storm water management programs that achieve permit requirements. EPA intends to issue a guidance document addressing municipal permit applications in the near term.

Controls developed in management plans for municipal system permits may take a variety of forms. Where necessary, municipal permittees can pursue local remedies to develop measures to reduce pollutants or halt storm water discharges with high levels of pollutants through municipal storm sewer systems. Some local entities have already implemented ordinances or laws that are designed to reduce the discharge of pollutants to municipal separate storm sewers, while other municipalities have developed a variety of techniques to control pollutants in storm water. Alternatively, where appropriate, municipal permittees may develop end-of-pipe controls to control pollutants in these discharges such as regional wet detention ponds or diverting flow to publicly owned treatment works. Finally, municipal applicants may bring individual storm water discharges, which cannot be adequately controlled by the municipal permittees or general permit coverage, to the attention of the permitting authority. Then, at the Director's discretion, appropriate additional controls can be required in the permit for the facility generating the targeted storm water discharge.

One commenter suggested that municipal operators of municipal separate storm sewers should have control over all storm water discharges from a facility that discharges both through the municipal system and to waters of the United States. In response, under this regulatory and statutory scheme, industries that discharge storm water directly into the waters of the United States, through municipal separate storm sewer systems, or both are required to obtain permit coverage for their discharges. However, municipalities are not precluded from exercising control over such facilities through their own municipal authorities.

It is important to note that EPA has established effluent guideline limitations for storm water discharges for nine subcategories of industrial dischargers (Cement Manufacturing (40 CFR part 411), Feedlots (40 CFR part 412), Fertilizer Manufacturing (40 CFR part 418), Petroleum Refining (40 CFR part 419), Phosphate Manufacturing (40 CFR part 422), Steam Electric (40 CFR part 423), Coal Mining (40 CFR part 434), Ore Mining and Dressing (40 CFR part 440) and Asphalt (40 CFR part 441)). Most of the existing facilities in these subcategories already have individual permits for their storm water discharges. Under today's rule, facilities with existing NPDES permits for storm water discharges through a municipal storm sewer will be required to maintain these permits and apply for an individual permit, under § 122.26(c), when existing permits expire. EPA received numerous comments supporting this decision because requiring facilities that have existing permits to comply with today's requirements immediately would be inefficient and not serve improved water quality.

Sections 402(p) (1) and (2) of the CWA provide that discharges from municipal separate storm sewer systems serving a population of less than 100,000 are not required to obtain a permit prior to October 1, 1992, unless designated on a case-by-case basis under section 402(p)(2)(E). However, as discussed above, storm water discharges associated with industrial activity through such municipal systems are not excluded. Thus, under today's rule, all storm water discharges associated with industrial activity that discharge through municipal separate storm sewer systems are required to obtain NPDES permit coverage, including those which discharge through systems serving populations less than 100,000. EPA believes requiring permits will address the legal concerns raised by commenters regarding these sources. In addition, it will allow for control of these significant sources of pollution while EPA continues to study under section 402(p)(6) whether to require the development of municipal storm water management plans in these municipalities. If these municipalities do ultimately obtain NPDES permits for their municipal separate storm sewer systems, early permitting of the industrial contributions may aid those cities in their storm water management efforts.

In the December 7, 1988, proposal, EPA recognized that storm water discharges associated with industrial activity from Federal facilities through municipal separate storm sewer systems may pose unique legal and administrative situations. EPA received numerous comments on this issue, with most of these comments coming from cities and counties. The comments reflected a general concern with respect to a municipality's ability to control Federal storm water discharges through municipal separate storm sewer systems. Most municipalities stated that they do not have the legal authority to adequately enforce against problem storm water discharges from Federal facilities and that these facilities should be required to obtain separate storm water permits. Some commenters stated that they have no Constitutional authority to regulate Federal facilities or establish regulation for such facilities. Some commenters indicated that Federal facilities could not be inspected, monitored, or subjected to enforcement for national security and other jurisdictional reasons. Some commenters argued that without clearly stated legal authority for the municipality, such dischargers should be required to obtain permits. One

municipality pointed out that Federal facilities within city limits are exempted from their Erosion and Sediment Control Act and that permits for these facilities should be required.

Under today's rule, Federal facilities which discharge storm water associated with industrial activity through municipal separate storm sewer systems will be required to obtain NPDES permit coverage under Federal or State law. EPA believes this will cure the legal authority problems at the local level raised by the commenters. EPA notes that this requirement is consistent with section 313(a) of the CWA.

D. Preliminary Permitting Strategy for Storm Water Discharges Associated With Industrial Activity

Many of the comments received on the December 7, 1988, proposal focused on the difficulties that EPA Regions and authorized NPDES States, with their finite resources, will have in implementing an effective permitting program for the large number of storm water discharges associated with industrial activity. Many commenters noted that problems with implementing permit programs are caused not only by the large number of industrial facilities subject to the program, but by the difficulties associated with identifying appropriate technologies for controlling storm water at various sites and the differences in the nature and extent of storm water discharges from different types of industrial facilities.

EPA recognizes these concerns; and based on a consideration of comments from authorized NPDES States, municipalities, industrial facilities and environmental groups on the permitting framework and permit application requirements for storm water discharges associated with industrial activity, EPA is in the process of developing a preliminary strategy for permitting storm water discharges associated with industrial activity. In developing this strategy, EPA recognizes that the CWA provides flexibility in the manner in which NPDES permits are issued.[4] EPA intends to use this flexibility in designing a workable and reasonable permitting system. In accordance with these considerations, EPA intends to publish in the near future a discussion of its preliminary permitting strategy for implementing the NPDES storm water program.

The preliminary strategy is intended to establish a framework for developing permitting priorities, and includes a four tier set of priorities for issuing permits to be implemented over time:

- *Tier I—baseline permitting:* One or more general permits will be developed to initially cover the majority of storm water discharges associated with industrial activity;
- *Tier II—watershed permitting:* Facilities within watersheds shown to be adversely impacted by storm water discharges associated with industrial activity will be targeted for permitting.
- *Tier III—industry specific permitting:* Specific industry categories will be targeted for individual or industry-specific permits; and
- *Tier IV—facility specific permitting:* A variety of factors will be used to target specific facilities for individual permits.

Tier I—Baseline Permitting

EPA intends to issue general permits that initially cover the majority of storm water discharges associated with industrial activity in States without authorized NPDES programs. These permits will also serve as models for States with authorized NPDES programs.

The consolidation of many sources under one permit will greatly reduce the otherwise overwhelming administrative burden associated with permitting storm water discharges associated with industrial activity. This approach has a number of additional advantages, including:

- Requirements will be established for discharges covered by the permit;
- Facilities whose discharges are covered by the permit will have an opportunity for substantial compliance with the CWA;
- The public, including municipal operators of municipal separate storm sewers which may receive storm water discharges associated with industrial activity, will have access under section 308(b) of the CWA to monitoring data and certain other information developed by the permittee;
- EPA will have the opportunity to begin to collect and review data on storm water discharges from priority industries, thereby supporting the development of subsequent permitting activities;
- Applicable requirements of municipal storm water management programs established in permits for discharges from municipal separate storm sewer systems will be enforceable directly against non-complying industrial facilities that generate the discharges;
- The public will be given an opportunity to comment on permitting activities;
- The baseline permits will provide a basis for bringing selected enforcement actions by eliminating many issues which might otherwise arise in an enforcement proceeding; and
- Finally, the baseline permits will provide a focus for public comment on the development of subsequent phases of the permitting strategy for storm water discharges, including the development of priorities for State storm water management programs developed under section 402(p)(6) of the CWA.

Initially, the coverage of the baseline permits will be broad, but the coverage is intended to shrink as other permits are issued for storm water discharges associated with industrial activities pursuant to Tier II through IV activities.

2. Tier II—Watershed Permitting

Facilities within watersheds shown to be adversely impacted by storm water discharges associated with industrial activity will be targeted for individual and general permitting. This process can be initiated by identifying receiving waters (or segments of receiving waters) where storm water discharges associated with industrial activity have been identified as a source of use impairment or are suspected to be contributing to use impairment.

3. Tier III—Industry Specific Permitting

Specific industry categories will be targeted for individual or industry-specific general permits. These permits will allow permitting authorities to focus attention and resources on industry categories of particular concern and/or industry categories where tailored requirements are appropriate. EPA will work with the States to coordinate the development of model permits for selected classes of industrial storm water discharges. EPA is also working to identify priority industrial categories in the two reports to Congress required under section 402(p)(5) of the CWA. In addition, group applications that are received can be used to develop model permits for the appropriate industries

[4] The courts in *NRDC* v. *Train*, 396 F.Supp. 1393 (D.D.C. 1975) *aff'd. NRDC* v. *Costle*, 568 F.2d 1369 (DC Cir. 1977), have acknowledged the administrative burden placed on the Agency by requiring individual permits for a large number of storm water discharges. These courts have recognized EPA's discretion to use certain administrative devices, such as area permits or general permits to help manage its workload. In addition, the courts have recognized flexibility in the type of permit conditions that are established, including requirements for best management practices.

4. Tier IV—Facility Specific Permitting

Individual permits will be appropriate for some storm water discharges in addition to those identified under Tier II and III activities. Individual permits should be issued where warranted by: the pollution potential of the discharge; the need for individual control mechanisms; and in cases where reduced administrative burdens exist. For example, individual NPDES permits for facilities with process discharges should be expanded during the normal process of permit reissuance to cover storm water discharges from the facility.

5. Relationship of Strategy to Permit Applications Requirements

The preliminary long-term permitting strategy described above identifies several permit schemes that EPA anticipates will be used in addressing storm water discharges associated with industrial activity. One issue that arises with this strategy is determining the appropriate information needed to develop and issue permits for these discharges. The NPDES regulatory scheme provides three major options for obtaining permit coverage for storm water discharges associated with industrial activity: (1) Individual permit applications; (2) group applications; and (3) case-by-case requirements developed for general permit coverage.

a. *Individual permit application requirements.* Today's notice establishes requirements for individual permit applications for storm water discharges associated with industrial activity. These application requirements are applicable for all storm water discharges associated with industrial activity, except where the operator of the discharge is participating in a group application or a general permit is issued to cover the discharge and the general permit provides alternative means to obtain permit coverage. Information in individual applications is intended to be used in developing the site-specific conditions generally associated with individual permits.

Individual permit applications are expected to play an important role in all tiers of the Strategy, even where general permits are used. Although general permits may provide for notification requirements that operate in lieu of the requirement to submit individual permit applications, the individual permit applications may be needed under several circumstances. Examples include: where a general permit requires the submission of a permit application as the notice of intent to be covered by the permit; where the owner or operator authorized by a general permit requests to be excluded from the coverage of the general permit by applying for a permit (*see* 40 CFR 122.28(b)(2)(iii) for EPA issued general permits); and where the Director requires an owner or operator authorized by a general permit to apply for an individual permit (*see* 40 CFR 122.28(b)(2)(ii) for EPA issued general permits).

b. *Group applications.* Today's rule also promulgates requirements for group applications for storm water discharges associated with industrial activity. These applications provide participants of groups with sufficiently similar storm water discharges an alternative mechanism for applying for permit coverage.

The group application requirements are primarily intended to provide information for developing industry specific general permits. (Group applications can also be used to issue individual permits in authorized NPDES States without general permit authority or where otherwise appropriate). As such, group application requirements correlate well with the Tier III permitting activities identified in the long-term permitting Strategy.

c. *Case-by-case requirements.* 40 CFR 122.21(a) excludes persons covered by general permits from requirements to submit individual permit applications. Further, the general permit regulations at 40 CFR 122.28 do not address the issue of how a potential permittee is to apply to be covered under a general permit. Rather, conditions for notification of intent (NOI) to be covered by the general permit are established in the permits on a case-by-case basis, and operate in lieu of permit application requirements. Requirements for submitting NOIs to be covered by a general permit can range from full applications (this would be Form 1 and Form 2F for most discharges composed entirely of storm water discharges associated with industrial activity), to no notice. EPA recommends that the NOI requirements established in a general permit for storm water discharges associated with industrial activity be commensurate with the needs of the permit writer in establishing the permit and the permit program. The baseline general permit described in Tier I is intended to support the development of controls for storm water discharges associated with industrial activity that can be supported by the limited resources of the permitting Agency. In this regard, the burdens of receiving and reviewing NOI's from the large number of facilities covered by the permit should also be considered when developing NOI requirements. In addition, NOI requirements should be developed in conjunction with permit conditions establishing reporting requirements during the term of the permit.

NOI requirements in general permits can establish a mechanism which can be used to establish a clear accounting of the number of permittees covered by the general permit, the nature of operations at the facility generating the discharge, their identity and location. The NOI can be used as an initial screening tool to determine discharges where individual permits are appropriate. Also, the NOI can be used to identify classes of discharges appropriate for more specific general permits, as well as provide information needed to notify such dischargers of the issuance of a more specific general permit. In addition, the NOI can provide for the identification of the permittee to provide a basis for enforcement and compliance monitoring strategies. EPA will further address this issue in the context of specific general permits it plans to issue in the near future.

Today's rule requires that individual permit applications for storm water discharges associated with industrial activity be submitted within one year from the date of publication of this notice. EPA is considering issuing general permits for the majority of storm water discharges associated with industrial activity in those States and territories that do not have authorized State NPDES programs (MA, ME, NH, FL, LA, TX, OK, NM, SD, AZ, AK, ID, District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and the Trust Territory of the Pacific Islands) before that date to enable industrial dischargers of storm water to ascertain whether they are eligible for coverage under a general permit (and subject to any alternative notification requirements established by the general permit in lieu of the individual permit application requirements of today's rule) or whether they must submit an individual permit application (or participate in a group application) before the regulatory deadlines for submitting these applications passes. Storm water application deadlines are discussed in further detail below.

E. Storm Water Discharge Sampling

Storm water discharges are intermittent by their nature, and pollutant concentrations in storm water discharges will be highly variable. Not only will variability arise between given events, but the flow and pollutant

concentrations of such discharges will vary with time during an event. This variability raises two technical problems: how best to characterize the discharge associated with a single storm event; and how best to characterize the variability between discharges of different events that may be caused by seasonal changes and changes in material management practices, for example.

Prior to today's rulemaking, 40 CFR 122.21(g)(7) required that applicants for NPDES permits submit quantitative data based on one grab sample taken every hour of the discharge for the first four hours of discharge. EPA has modified this requirement such that, instead of collecting and analyzing four grab samples individually, applicants for permits addressing storm water discharges associated with industrial activity will provide data as indicators of two sets of conditions: data collected during the first 30 minutes of discharge and flow-weighted average storm event concentrations. Large and medium municipalities will provide data on flow-weighted average storm event concentrations only.

Data describing pollutants in a grab sample taken during the first few minutes of the discharge can often be used as a screen for non-storm water discharges to separate storm sewers because such pollutants may be flushed out of the system during the initial portion of the discharge. In addition, data from the first few minutes of a discharge are useful because much of the traditional structural technology used to control storm water discharges, including detention and retention devices, may only provide controls for the first portion of the discharge, with relatively little or no control for the remainder of the discharge. Data from the first portion of the discharge will give an indication of the potential usefulness of these techniques to reduce pollutants in storm water discharges. Also, such discharges may be primarily responsible for pollutant shocks to the ecosystem in receiving waters.

Studies such as NURP have shown that flow-weighted average concentrations of storm water discharges are useful for estimating pollutant loads and for evaluating certain concentration-based water quality impacts. The use of flow-weighted composite samples are also consistent with comments raised by various industry representatives during previous Agency rulemakings that continuous monitoring of discharges from storm events is necessary to adequately characterize such discharges.

EPA requested comment on the feasibility of the proposed modification of sampling procedures at § 122.21(g)(7) and the ability to characterize pollutants in storm water discharges with an average concentration from the first portion of the discharge compared to collecting and separately analyzing four grab samples. It was proposed that an event composite sample be collected, as well as a grab sample collected during the first 20 minutes of runoff. Comments were solicited as to whether or not this sampling method would provide better definition of the storm load for runoff characterization than would the requirement to collect and separately analyze four grab samples.

Many commenters questioned the ability to obtain a 20 minute sample in the absence of automatic samplers. Some believed that pollutants measured by such a sample can be accounted for in the event composite sample. Others argued that this is an unwarranted sampling effort if municipal storm water management plans are to be geared to achieving annual pollutant load reductions. Many commenters advised that problems accessing sampling stations and mobilizing sampling crews, particularly after working hours, made sampling during the first 20 minutes impractical. These comments were made particularly with respect to municipalities, where the geographical areas could encompass several hundred square miles. Several alternatives were suggested including: the collection of a sample in the first hour, and representative grab sampling in the next three hours, one per hour; or perform time proportioned sampling for up to four hours.

Because of the logistical problems associated with collecting samples during the first few minutes of discharge from municipal systems, EPA will only require such sampling from industrial facilities. Municipal systems will be spread out over many square miles with sampling locations potentially several miles from public works departments or other responsible government agencies. Reaching such locations in order to obtain samples during the first few minutes of a storm event may prove impossible. For essentially the same reasons, the requirement has been modified to encompass the first 30 minutes of the discharge, instead of 20 minutes, for industrial discharges. The rule also clarifies that the sample should be taken during the first 30 minutes or as soon thereafter as practicable. Where appropriate, characterization of this portion of the discharge from selected outfalls or sampling points may be a condition to permits issued to municipalities. With regard to protocols for the collection of sample aliquots for flow-weighted composite samples, § 122.21(g)(7) provides that municipal applicants may collect flow-weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director or Regional Administrator. In other words, the period may be extended from 15 minutes to 20 or 25 minutes between sample aliquots, or decreased from 15 to 10 or 5 minutes.

Other comments raised issues that apply both to the impact of runoff characterization and the first discharge representation. These primarily pertained to regions that have well defined wet and dry seasons. Comments questioned whether or not it is fair to assume that the initial storm or two of a wet season, which will have very high pollutant concentrations, are actually representative of the runoff concentrations for the area.

In response, EPA believes that it is important to represent the first part of the discharge either separately or as a part of the event composite samples. This loading is made up primarily of the mass of unattached fine particulates and readily soluble surface load that accumulates between storms. This load washes off of the basin's directly connected paved surfaces when the runoff velocities reach the level required for entrainment of the particulate load into the surface flow. It should be noted that for very fine particulates and solubles, this can occur very soon after the storm begins and much sooner than the peak flow. The first few minutes of discharge represents a shock load to the receiving water, in terms of concentration of pollutants, because for many constituents the highest concentrations of the event will occur during this initial period. Due to the need to properly quantify this load, it is not necessary to represent the first discharge from the upper reaches of the outfall's tributary area. In runoff characterization basins, the assumption is that the land use in the basin is homogeneous, or nearly so, and that the first discharge from the lower reaches for all intents and purposes is representative of the entire basin. If a sample is taken during the first 30 minutes of the runoff, it will be composed primarily of first discharge. If the sample is taken at the outfall an hour into the event, it may contain

discharge from the remote portions of the basin. It will not be representative of the discharge because it will also contain later washoff from the lower reaches of the basin, resulting in a low estimation of the first discharge load of most constituents. Conversely, larger suspended particulates that normally are not present in first discharge due to inadequate velocities will appear in this later sampling scenario because of the influence of higher runoff rates in the lower basin. Many commonly used management practices are designed based on their ability to treat a volume of water defined by the first discharge phenomenon. It is important to characterize the first discharge load because most management practices effectively treat only, or primarily, this load.

It should be noted that first discharge runoff is sometimes contaminated by non-storm water related pollutants. In many urban catchments, contaminants that result from illicit connections and illegal dumping may be stored in the system until "flushed" during the initial storm period. This does not negate the need for information on the characteristic first discharge load, but does indicate that the first phase field screen results for illicit connections should be used to help define those outfalls where this problem might exist.

Several methods can be used to develop an event average concentration. Either automatic or manual sampling techniques can be used that sample the entire hydrograph, or at least the first four hours of it, that will result in several discrete samples and associated flow rates that represent the various flow regimes of an event. These procedures have the potential for providing either an event average concentration, an event mean concentration, or discrete definition of the washoff process. Automatic sampling procedures are also available that collect a single composite sample, either on a time-proportioned or flow proportioned basis.

When discrete samples are collected, an event average composite sample can be produced by the manual composite of the discrete samples in equal volumes. Laboratory analysis of time proportioned composite samples will directly yield the event average concentration. Mathematical averaging of discrete sample analysis results will yield an event average concentration.

When discrete samples are collected, a flow-weighted composite sample can be produced based on the discharge record. This is done by manually flow proportioning the volumes of the individual samples. Laboratory analysis of flow weighted composite samples will directly yield an event mean concentration. Mathematical integration of the change in concentrations and mass flux of the discharge for discrete sample data can produce an event mean concentration. This procedure was used during the NURP program.

EPA wishes to emphasize that the reason for sampling the type of storm event identified in § 122.21(g)(7) is to provide information that represents local conditions that will be used to create sound storm water management plans. Based on the method to be used to generate system-wide estimates of pollutant loads, either method, discrete or event average concentrations, may be preferable to the other. If simulation models will be used to generate loading estimates, analysis of discrete samples will be more valuable so that calibration of water quality and hydrology may be performed. On the other hand, simple estimation methods based on event average or event mean concentrations may not justify the additional cost of discrete sample analysis.

EPA believes that the first discharge loading should be represented in the permit application from industrial facilities and, if appropriate, permitting authorities may require the same in the discharge characterization component of permits issued to municipalities. The first discharge load should also be represented as part of an event composite sample. This requirement will assist industries in the development of effective storm water management plans.

EPA requested comments on the appropriateness of the proposed rules and of proposed amendments to the rules regarding discharge sampling. Comments were received which addressed the appropriateness of imposing uniform national guidelines. Several commenters are concerned that uniform national guidelines may not be appropriate due to the geographic variations in meteorology, topography, and pollutant sources. While some assert that a uniform guideline will provide consistency of the sample results, others prefer a program based on regional or State guidelines that more specifically address their situation.

Several commenters, addressing industrial permit application requirements, preferred that the owner/operator be allowed to set an individual sampling protocol with approval of the permit writer. Some commenters were concerned that one event may not be sufficient to characterize runoff from a basin as this may result in gross over-estimation or underestimation of the pollutant loads. Others indicated confusion with regard to sampling procedures, lab analysis procedures, and the purpose of the program.

In response, today's regulations establish certain minimum requirements. Municipalities and industries may vary from these requirements to the extent that their implementation is at least as stringent as outlined in today's rule. EPA views today's rule as a means to provide assurance as to the quality of the data collected; and to this end, it is important that the minimum level of sampling required be well defined.

In response to EPA's proposal that the first discharge be included in "representative" storm sampling, several commenters made their concerns known about the possible equipment necessary to meet this requirement. Several commenters are concerned that in order to get a first discharge sample, automatic sampling equipment will be required. Concerns related to the need for this equipment surfaced in the comments frequently; most advised that the equipment is expensive and that the demand on sampling equipment will be too large for suppliers and manufacturers to meet. Although equipment can be leased, some commenters maintained that not enough rental equipment is available to make this a viable option in many instances.

EPA is not promoting or requiring the use of automated equipment to satisfy the sampling requirements. A community may find that in the long run it would be more convenient to have such equipment since sampling is required not only during preparation of the application, but also may be required during the term of the permit to assure that the program goals are being met. Discharge measurement is necessary in order for the sample data to have any meaning. If unattended automatic sampling is to be performed, then unattended flow measurement will be required too.

EPA realizes that equipment availability is a legitimate concern. However, there is no practical recommendation that can be made relative to the availability of equipment. If automatic sampling equipment is not available, manual sampling is an appropriate alternative.

F. Storm Water Discharges Associated With Industrial Activity

1. Permit Applicability

a. *Storm water discharges associated with industrial activity to waters of the United States.* Under today's rule dischargers of storm water associated

with industrial activity are required to apply for an NPDES permit. Permits are to be applied for in one of three ways depending on the type of facility: Through the individual permit application process; through the group application process; or through a notice of intent to be covered by general permit.

Storm water discharges associated with the industrial activities identified under § 122.26(b)(14) of today's rule may avail themselves of general permits that EPA intends to propose and promulgate in the near future. The general permit will be available to be promulgated in each non-NPDES State, following State certification, and as a model for use by NPDES States with general permit authority. It is envisioned that these general permits will provide baseline storm water management practices. For certain categories of industries, specific management practices will be prescribed in addition to the baseline management practices. As information on specific types of industrial activities is developed, other, more industry-specific general permits will be developed.

Today's rule requires facilities with existing NPDES permits for storm water discharges to apply for individual permits under the individual permit application requirements found at 122.26(c) 180 days before their current permit expires. Facilities not eligible for coverage under a general permit are required to file an individual or group permit application in accordance with today's rule. The general permits to be proposed and promulgated will indicate what facilities are eligible for coverage by the general permit.

b. *Storm water discharges through municipal storm sewers.* As discussed above, many operators of storm water discharges associated with industrial activity are not required to apply for an individual permit or participate in a group application under § 122.26(c) of today's rule if covered by a general permit. Under the December 7, 1988, proposal, dischargers through large and medium municipal separate storm sewer systems were not required, as a general rule, to apply for an individual permit or as a group applicant. Today's rule is a departure from that proposal. Today's rule requires all dischargers through municipal separate storm sewer systems to apply for an individual permit, apply as part of a group application, or seek coverage under a promulgated general permit for storm water discharges associated with industrial activity.

Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system. It is anticipated that general or individual permits covering industrial storm water dischargers to these municipal separate storm sewer systems will require industries to comply with the terms of the permit issued to the municipality, as well other terms specific to the permittee.

c. *Storm water discharges through non-municipal storm sewers.* Under today's rulemaking all operators of storm water discharges associated with industrial activity that discharge into a privately or Federally owned storm water conveyance (a storm water conveyance that is not a municipal separate storm sewer) will be required to be covered by an NPDES permit (*e.g.* an individual permit, general permit, or as a co-permittee to a permit issued to the operator of the portion of the system that directly discharges to waters of the United States). This is a departure from the "either/or" approach that EPA requested comments on in the December 7, 1988, notice. The "either/or" approach would have allowed either the system discharges to be covered by a permit issued to the owner/operator of the system segment that discharged to waters of the United States, or by an individual permit issued to each contributor to the non-municipal conveyance.

EPA requested comments on the advantages and disadvantages of retaining the "either/or" approach for non-municipal storm sewers. An abundance of comment was received by EPA on this particular part of the program. A number of industrial commenters and a smaller number of municipalities favored retaining the "either/or" approach as proposed, while most municipal entities, one industry, and one trade association favored requiring permits for each discharger.

Two commenters stated that private owners of conveyances may not have the legal authority to implement controls on discharges through their system and would not want to be held responsible for such controls. EPA agrees that this is a potential problem. Therefore, today's rule will require permit coverage for each storm water discharge associated with industrial activity.

One commenter supported the concept of requiring all the facilities that discharge to a non-municipal conveyance to be co-permittees. EPA agrees that this type of permitting scheme, along with other permit schemes such as area or general permits, is appropriate for discharges from non-municipal sewers, as long as each storm water discharge through the system is associated with industrial activity and thus currently subject to NPDES permit coverage.

One State agency commented that in the interest of uniformity, all industries that discharge to non-municipal conveyances should be required to conform to the application requirements. One industry stated that the rules must provide a way for the last discharger before the waters of the U.S. to require permits for facilities discharging into the upper portions of the system. EPA agrees with these comments. Today's rule provides that each discharger may be covered under individual permits, as co-permittees to a single permit, or by general permit rather than holding the last discharger to the waters of the United States solely responsible.

In response to one commenter, the term "non-municipal" has been clarified to explain that the term refers to non-publicly owned or Federally-owned storm sewer systems.

Some commenters supporting the approach as proposed, noted that industrial storm water dischargers into such systems can take advantage of the group application process. EPA agrees that in appropriate circumstances, such as when industrial facilities discharging storm water to the same system are sufficiently similar, group applications can be used for discharges to non-municipal conveyances. However, EPA believes that it would be inappropriate to approve group applications for those facilities whose only similarity is that they discharge storm water into the same private conveyance system. The efficacy of the group application procedures is predicated on the similarity of operations and other factors. The fact that several industries discharge storm water to the same non-municipal sewer system alone may not make these discharges sufficiently similar for group application approval.

One commenter suggested that EPA has not established any deadlines for submission of permit applications for storm water discharges associated with industrial activity through non-municipal separate storm sewer systems. EPA wants to clarify that industrial storm water dischargers into privately owned or Federally owned storm water conveyances are required to apply for permits in the same time frame as individual or group applicants (or as otherwise provided for in a general permit).

One commenter stated that the operator of the conveyance that accepts discharges into its system has control and police power over those that discharge into the system by virtue of the ability to restrict discharges into the system. This commenter stated that these facilities should be the entity required to obtain the permit in all cases. Assuming that this statement is true in all respects, the larger problem is that one's theoretical ability to restrict discharges is not necessarily tied to the reality of enforcing those restrictions or even detecting problem discharges when they exist. In a similar vein one commenter urged that a private operator will not be in any worse a position than a municipal entity to determine who is the source of pollution up-stream. EPA agrees that from a hydrological standpoint this may be true. However, from the standpoint of detection resources, police powers, enforcement remedies, and other facets of municipal power that may be brought to bear upon problem dischargers, private systems are in a far more precarious position with respect to controlling discharges from other private sources.

In light of the comments received, EPA has decided that the either/or approach as proposed is inappropriate. Operators of non-municipal systems will generally be in a poorer position to gain knowledge of pollutants in storm water discharges and to impose controls on storm water discharges from other facilities than will municipal system operators. In addition, best management practices and other site-specific controls are often most appropriate for reducing pollutants in storm water discharges associated with industrial activity and can often only be effectively addressed in a regulatory scheme that holds each industrial facility operator directly responsible. The either/or approach as proposed is not conducive to establishing these types of practices unless each discharger is discharging under a permit. Also, some non-municipal operators of storm water conveyances, which receive storm water runoff from industrial facilities, may not be generating storm water discharges associated with industrial activity themselves and, therefore, they would otherwise not need to obtain a permit prior to October 1, 1992, unless specifically designated under section 402(p)(2)(E). Accordingly, EPA disagrees with comments that dischargers to non-municipal conveyances should have the flexibility to be covered by their permit or covered by the permit issued to the operator of the outfall to waters to the United States.

2. Scope of "Associated with Industrial Activity"

The September 26, 1984, final regulation divided those discharges that met the regulatory definition of storm water point source into two groups. The term Group I storm water discharges was defined in an attempt to identify those storm water discharges which had a higher potential to contribute significantly to environmental impacts. Group I included those discharges that contained storm water drained from an industrial plant or plant associated areas. Other storm water discharges (such as those from parking lots and administrative buildings) located on lands used for industrial activity were classified as Group II discharges. The regulations defined the term "plant associated areas" by listing several examples of areas that would be associated with industrial activities. However, the resulting definition led to confusion among the regulated community regarding the distinctions between the Group I and Group II classifications.

In amending the CWA in 1987, Congress did not explicitly adopt EPA's regulatory classification of Group I and Group II discharges. Rather, Congress required EPA to address "storm water discharges associated with industrial activity" in the first round of storm water permitting. In light of the adoption of the term "associated with industrial activity" in the CWA, and the ongoing confusion surrounding the previous regulatory definition, EPA has eliminated the regulatory terms "Group I storm water discharge" and "Group II storm water discharge" pursuant to the December 7, 1987, Court remand and has not revived it. In addition, today's notice promulgates a definition of the term "storm water discharge associated with industrial activity" at § 122.26(b)(14) and clarifies the scope of the term.

In describing the scope of the term "associated with industrial activity", several members of Congress explained in the legislative history that the term applied if a discharge was "directly related to manufacturing, processing or raw materials storage areas at an industrial plant." (Vol. 132 Cong. Rec. H10932, H10936 (daily ed. October 15, 1986); Vol. 133 Cong. Rec. H176 (daily ed. January 8, 1987)). Several commenters cited this language in arguing for a more expansive or less expansive definition of "associated with industrial activity." EPA believes that the legislative history supports the decision to exclude from the definition of industrial activity, at § 122.26(b)(14) of today's rule, those facilities that are generally classified under the Office of Management and Budget Standard Industrial Classifications (SIC) as wholesale, retail, service, or commercial activities.

Two commenters recommended that all commercial enterprises should be required to obtain a permit under this regulation. Another commenter recommended that all the facilities listed in the December 7, 1988, proposal, including those listed in paragraphs (xi) through (xvi) on page 49122 of the December 7, 1988, proposal, should be included. EPA disagrees since the intent of Congress was to establish a phased and tiered approach to storm water permits, and that only those facilities having discharges associated with industrial activity should be included initially. The studies to be conducted pursuant to section 402(p)(5) will examine sources of pollutants associated with commercial, retail, and other light business activity. If appropriate, additional regulations addressing these sources can be developed under section 402(p)(6) of the CWA. As further discussed below, EPA believes that the facilities identified in paragraphs (xi) through (xvi) are more properly characterized as commercial or retail facilities, rather than industrial facilities.

Today's rule clarifies the regulatory definition of "associated with industrial activity" by adopting the language used in the legislative history and supplementing it with a description of various types of areas that are directly related to an industrial process (e.g., industrial plant yards, immediate access roads and rail lines, drainage ponds, material handling sites, sites used for the application or disposal of process waters, sites used for the storage and maintenance of material handling equipment, and known sites that are presently or have been used in the past for residual treatment, storage or disposal). The agency has also incorporated some of the suggestions offered by the public in comments.

Three commenters suggested that the permit application should focus only on storm water with the potential to come into contact with industrial-related pollutant sources, rather than focusing on how plant areas are utilized. These commenters suggested that facilities that are wholly enclosed or have their operations entirely protected from the elements should not be subject to permit requirements under today's rule. EPA agrees that these comments have merit with regard to certain types of facilities. Today's rule defines the term "storm water discharge associated with

industrial activity" to include storm water discharges from facilities identified in today's rule at 40 CFR 122.21(b)(14)(xi) (facilities classified as Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221–25) only if:

areas where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery at these facilities are exposed to storm water. Such areas include: material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment; storage or disposal; shipping and receiving areas; manufacturing buildings; material storage areas for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.

The critical distinction between the facilities identified at 40 CFR 122.26(b)(14)(xi) and the facilities identified at 40 CFR 122.26(b)(14)(i)–(x) is that the former are not classified as having "storm water discharges associated with industrial activity" unless certain materials or activities are exposed to storm water. Storm water discharges from the latter set of facilities are considered to be "associated with industrial activity" regardless of the actual exposure of these same materials or activities to storm water.

EPA believes this distinction is appropriate because, when considered as a class, most of the activity at the facilities in § 122.26(b)(14)(xi) is undertaken in buildings; emissions from stacks will be minimal or non-existent; the use of unhoused manufacturing and heavy industrial equipment will be minimal; outside material storage, disposal or handling generally will not be a part of the manufacturing process; and generating significant dust or particulates would be atypical. As such, these industries are more akin or comparable to businesses, such as retail, commercial, or service industries, which Congress did not contemplate regulating before October 1, 1992, and storm water discharges from these facilities are not "associated with industrial activity." Thus, these industries will be required to obtain a permit under today's rule only when the manufacturing processes undertaken at such facilities would result in storm water contact with industrial materials associated with the facility.

Industrial categories in § 122.26(b)(14)(xi) all tend to engage in production activities in the manner described in the paragraph above. Facilities under SIC 20 process foods including meats, dairy food, fruit, and flour. Facilities classified under SIC 21 make cigarettes, cigars, chewing tobacco and related products. Under SIC 22, facilities produce yarn, etc., and/or dye and finish fabrics. Facilities under SIC 23 are in the business of producing clothing by cutting and sewing purchased woven or knitted textile products. Facilities under SIC 2434 and 25 are establishments engaged in furniture making. SIC 265 and 267 address facilities that manufacture paper board products. Facilities under SIC 27 perform services such as bookbinding, plate making, and printing. Facilities under SIC 283 manufacture pharmaceuticals and facilities under 285 manufacture paints, varnishes, lacquers, enamels, and allied products. Under SIC 30 establishments manufacture products from plastics and rubber. Those facilities under SIC 31 (except 311), 323, 34 (except 3441), 35, 36, and 37 (except 373) manufacture industrial and commercial metal products, machinery, equipment, computers, electrical equipment, and transportation equipment, and glass products made of purchased glass. Facilities under SIC 38 manufacture scientific and electrical instruments and optical equipment. Those under SIC 39 manufacture a variety of items such as jewelry, silverware, musical instruments, dolls, toys, and athletic goods. SIC 4221–25 are warehousing and storage activities.

In contrast, the facilities identified by SIC 24 (except and 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373 when taken as a group, are expected to have one or many of the following activities, processes occurring on-site: storing raw materials, intermediate products, final products, by-products, waste products, or chemicals outside; smelting; refining; producing significant emissions from stacks or air exhaust systems; loading or unloading chemical or hazardous substances; the use of unhoused manufacturing and heavy industrial equipment; and generating significant dust or particulates. Accordingly, these are classes of facilities which can be viewed as generating storm water discharges associated with industrial activity requiring a permit. Establishments identified under SIC 24 (except 2434) are engaged in operating sawmills, planing mills and other mills engaged in producing lumber and wood basic materials. SIC 26 facilities are paper mills. Under SIC 28, facilities produce basic chemical products by predominantly chemical processes. SIC 29 describes facilities that are engaged in the petroleum industry. Under SIC 311, facilities are engaged in tanning, currying, and finishing hides and skins. Such processes use chemicals such as sulfuric acid and sodium dichromate, and detergents, and a variety of raw and intermediate materials. SIC 32 manufacture glass, clay, stone and concrete products form raw materials in the form quarried and mined stone, clay, and sand. SIC 33 identifies facilities that smelt, refine ferrous and nonferrous metals from ore, pig or scrap, and manufacturing related products. SIC 3441 identifies facilities manufacturing fabricated structural metal. Facilities under SIC 373 engage in ship building and repairing. The permit application requirements for storm water discharges from facilities in these categories are unchanged from the proposal.

Today's rule clarifies that the requirement to apply for a permit applies to storm water discharges from plant areas that are no longer used for industrial activities (if significant materials remain and are exposed to storm water) as well as areas that are currently being used for industrial activities. EPA would also clarify that all discharges from these areas including those that discharge through municipal separate storm sewers are addressed by this rulemaking.

One commenter questioned the use of the word "or" instead of the word "and" to describe storm water "which is located at an industrial plant 'or' directly related to manufacturing, processing, or raw material storage areas at an industrial plant." The comment expressed the concern that discharges from areas not located at an industrial plant would be subject to permitting by this language and questioned whether this was EPA's intent. EPA agrees that this is a potential source of confusion and has modified this language to reflect the conjunctive instead of the alternative. This change has been made to provide consistency in the rule whereby some areas at industrial plants, such as administrative parking lots which do not have storm water discharges commingled with discharges from manufacturing areas, are not included under this rulemaking.

Two commenters wanted clarification of the term "or process water," in the definition of discharge associated with industrial activity at § 122.26(b)(14). This rulemaking replaces this term with the term "process waste water" which is defined at 40 CFR part 401.

One commenter took issue with the decision to include drainage ponds, refuse sites, sites for residual treatment, storage, or disposal, as areas associated with industrial activity, because it was the commenter's view that such areas are unconnected with industrial activity. EPA disagrees with this comment. If refuse and other sites are used in conjunction with manufacturing or the by-products of manufacturing they are clearly associated with industrial activity. As noted above, Congress intended to include discharges directly related to manufacturing and processing at industrial plants. EPA is convinced that wastes, refuse, and residuals are the direct result or consequence of manufacturing and processing and, when located or stored at the plant that produces them, are directly related to manufacturing and processing at that plant. Storm water drainage from such areas, especially those areas exposed to the elements (*e.g.* rainfall) has a high potential for containing pollutants from materials that were used in the manufacturing process at that facility. One commenter supported the inclusion of these areas since many toxins degrade very slowly and the mere passage of time will not eliminate their effects. EPA agrees and finalizes this part of the definition as proposed. One commenter requested clarification of the term "residual" as used in this context. Residual can generally be defined to include material that is remaining subsequent to completion of an industrial process. One commenter noted that the current owner of a facility may not know what areas or sites at a facility were used in this manner in the past. EPA has clarified the definition of discharge associated with industrial activity to include areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. The Agency believes that the current owner will be in a position to establish these facts.

One commenter suggested including material shipping and receiving areas, waste storage and processing areas, manufacturing buildings, storage areas for raw materials, supplies, intermediates, and finished products, and material handling facilities as additional areas "associated with industrial activity." EPA agrees that this would add clarification to the definition and has incorporated these areas into the definition at § 122.26(b)(14).

One commenter stated that the language "point source located at an industrial plant" would include outfalls located at the facility that are not owned or operated by the facility, but which are municipal storm sewers on easements granted to a municipality for the conveyance of storm water. EPA agrees that if the industry does not operate the point source then that facility is not required to obtain a permit for that discharge. A point source is a conveyance that discharges pollutants into the waters of the United States. If a facility does not operate that point source, then it would be the responsibility of the municipality to cover it under a permit issued to them. However, if contaminated storm water associated with industrial activity were introduced into that conveyance by that facility, the facility would be subject to permit application requirements as is all industrial storm water discharged through municipal sewers.

EPA disagrees with several comments that road drainage or railroad drainage within a facility should not be covered by the definition. Access roads and rail lines (even those not used for loading and unloading) are areas that are likely to accumulate extraneous material from raw materials, intermediate products and finished products that are used or transported within, or to and from, the facility. These areas will also be repositories for pollutants such as oil and grease from machinery or vehicles using these areas. As such they are related to the industrial activity at facilities. However, the language describing these areas of industrial activity has been clarified to include those access roads and rail lines that are "used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility." For the same reasons haul roads (roads dedicated to transportation of industrial products at facilities) and similar extensions are required to be addressed in permit applications. Two industries stated that haul roads and similar extensions should be covered by permits by rule. EPA is not considering the use of a permit by rule mechanism under this regulation, however this issue will be addressed in the section 402(p)(5) reports to Congress and in general permits to be proposed and promulgated in the near future. EPA would note however that facilities with similar operations and storm water concerns that desire to limit administrative burdens associated with permit applications and obtaining permits may want to avail themselves of the group application and/or general permits.

In response to comments, EPA would also like to clarify that it intends the language "immediate access roads" (including haul roads) to refer to roads which are exclusively or primarily dedicated for use by the industrial facility. EPA does not expect facilities to submit permit applications for discharges from public access roads such as state, county, or federal roads such as highways or BLM roads which happen to be used by the facility. Also, some access roads are used to transport bulk samples of raw materials or products (such as prospecting samples from potential mines) in small-scale prior to industrial production. EPA does not intend to require permit applications for access roads to operations which are not yet industrial activities.

EPA does agree with comments made by several industries that undeveloped areas, or areas that do not encompass those described above, should generally not be addressed in the permit application, or a storm water permit, as long as the storm water discharge from these areas is segregated from the storm water discharge associated with the industrial activity at the facility.

Numerous commenters stated that maintenance facilities, if covered, should not be included in the definition. EPA disagrees with this comment. Maintenance facilities will invariably have points of access and egress, and frequently will have outside areas where parts are stored or disposed of. Such areas are locations where oil, grease, solvents and other materials associated with maintenance activities will accumulate. In response to one commenter, such areas are only regulated in the context of those facilities enumerated in the definition at § 122.26(b)(14), and not similar areas of retail or commercial facilities.

Another commenter requested that "storage areas" be more clearly defined. EPA disagrees that this term needs further clarification in the context of this section of the rule. However, in response to one comment, tank farms at industrial facilities are included. Tank farms are in existence to store products and materials created or used by the facility. Accordingly they are directly related to manufacturing processes.

Regarding storage areas, one commenter stated that the regulations should emphasize that only facilities that are not totally enclosed are required to submit permit applications. EPA does not agree with this interpretation since use of the generic term storage area indicates no exceptions for certain physical characteristics. Thus discharges from enclosed storage areas are also covered by today's rule (except as discussed above). EPA also disagrees with one

comment asserting that small outside storage areas of finished products at industrial facilities should be excluded under the definition of associated with industrial activity. EPA believes that such areas are areas associated with industrial activity which Congress intended to be regulated under the CWA. As noted above, the legislative history refers to storage areas, without reference to whether they are covered or uncovered, or of a certain size.

The same language, in the legislative history cited above, was careful to state that the term "associated with industrial activity" does not include storm water "discharges associated with parking lots and administrative and employee buildings." To accommodate legislative intent, segregated storm water discharges from these areas will not be required to obtain a permit prior to October 1, 1992. Many commenters stated that this was an appropriate method in which to limit the scope of "associated with industrial activity." However, if a storm water discharge from a parking lot at an industrial facility is mixed with a storm water discharge "associated with industrial activity," the combined discharge is subject to permit application requirements for storm water discharges associated with industrial activity. EPA disagrees with some commenters who urged that office buildings and administrative parking lots should be covered if they are located at the plant site. EPA agrees with one commenter that inclusion of storm water discharge from these areas would be overstepping Congressional intent unless such are commingled with storm water discharges from the plant site. Several commenters requested that language be incorporated into the rule which establishes that storm water discharges from parking lots and administrative areas not be included in the definition of associated with industrial activity. EPA agrees and has retained language used in the proposal which addresses this distinction.

Storm water discharges from parking lots and administrative buildings along with other discharges from industrial lands that do not meet the regulatory definition of "associated with industrial activity" and that are segregated from such discharges may be required to obtain an NPDES permit prior to October 1, 1992, under certain conditions. For example, large parking facilities, due to their impervious nature may generate large amounts of runoff which may contain significant amounts of oil and grease and heavy metals which may have adverse impacts on receiving waters. The Administrator or NPDES State has the authority under section 402(p)(2)(E) of the amended CWA to require a permit prior to October 1, 1992, by designating storm water discharges such as those from parking lots that are significant contributors of pollutants or contribute to a water quality standard violation. EPA will address storm water discharges from lands used for industrial activity which do not meet the regulatory definition of "associated with industrial activity" in the section 402(p)(5) study to determine the appropriate manner to regulate such discharges.

Several commenters requested clarification that the definition does not include sheet flow or discharged storm water from upstream adjacent facilities that enters the land or comingles with discharge from a facility submitting a permit application. EPA wishes to clarify that operators of facilities are generally responsible for its discharge in its entirety regardless of the initial source of discharge. However, where an upstream source can be identified and permitted, the liability of a downstream facility for other storm water entering that facility may be minimized. Facilities in such circumstances may be required to develop management practices or other run-on/run-off controls, which segregates or otherwise prevents outside runoff from comingling with its storm water discharge. Some commenters expressed concern about other pollutants which may arrive on a facility's premises from rainfall. This comment was made in reference to runoff with a high or low pH. If an applicant has reason to believe that pollutants in its storm water discharge are from such sources, then that needs to be addressed in the permit application and brought to the attention of the permitting authority, which can draft appropriate permit conditions to reflect these circumstances.

EPA requested comments on clarifying the types of facilities that involve industrial activities and generate storm water. EPA preferred basing the clarification, in part, on the use of Standard Industrial Classification (SIC) codes, which have been suggested in comments to prior storm water rulemakings because they are commonly used and accepted and would provide definitions of facilities involved in industrial activity. Several commenters supported the use by EPA of Standard Industrial Classifications for the same reasons identified by EPA as a generally used and understood form of classification. It was also noted that using such a classification would allow targeting for special notification and educational mailings. Three municipalities and three State authorities commented that SICs were appropriate and endorsed their use as a sound basis for determining which industries are covered.

One municipality questioned how SIC classifications will be assigned to particular industries. SICs have descriptions of the type of industrial activity that is engaged in by facilities. Industries will need to assess for themselves whether they are covered by a listed SIC and submit an application accordingly. Another commenter questioned if Federal facilities that do not have an SIC code identification are required to file a permit application. Federal facilities will be required to submit a permit application if they are engaged in an industrial activity that is described under § 122.26(b)(14). The definition of industrial activity incorporates language that requires Federal facilities to submit permit applications in such circumstances. The language has been further clarified to include State and municipal facilities.

EPA requested comments on the scope of the definition (types of facilities addressed) as well as the clarity of regulation. EPA identified the following types of facilities in the proposed regulation as those facilities that would be required to obtain permits for storm water discharges associated with industrial activity:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are also identified under category (xi) of this paragraph). One commenter (a municipality) agreed with EPA that these industries should be addressed in this rulemaking. No other comments were received on this category. EPA agrees with this comment since these facilities are those that Congress has required EPA to examine and regulate under the CWA with respect to process water discharges. The industries in these categories have generally been identified by EPA as the most significant dischargers of process wastewaters in the country. As such, these facilities are likely to have storm water discharges associated with industrial activity for which permit applications should be required.

One commenter stated that because oil and gas producers are subject to effluent guidelines, EPA is disregarding the intent of Congress to exclude

facilities pursuant to section 402(1). EPA disagrees with this comment. EPA is not prohibited from requiring permit applications from industries with storm water discharge associated with industrial activity. EPA is prohibited only from requiring a permit for oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water that is not contaminated by contact with or has not come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations such discharges. In keeping with this requirement, EPA is requiring permit applications from oil and gas exploration, production, processing, or treatment operations, or transmission facilities that fall into a class of dischargers as described in § 122.26(c)(iii).

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3411, 373 and *(xi). Facilities classified as Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221–25.* One large municipality and one industry agreed with EPA that facilities covered by these SICs should be covered by this rulemaking. Many commenters, however, took exception to including all or some of these industries. However as noted elsewhere these facilities are appropriate for permit applications.

One commenter stated that within certain SICs industries, such as textile manufacturers use few chemicals and that there is little chance of pollutants in their storm water discharge. EPA agrees that some industries in this category are less likely than others to have storm water discharges that pose significant risks to receiving water quality. However, there are many other activities that are undertaken at these facilities that may result in polluted storm water. Further, the CWA is clear in its mandate to require permit applications for discharges associated with industrial activity. Excluding any of the facilities under these categories, except where the facility manufacturing plant more closely resembles a commercial or retail outlet would be contrary to Congressional intent.

One State questioned the inclusion of facilities identified in SIC codes 20–39 because of their temporary and transient nature or ownership. Agency disagrees that simply because a facility may transfer ownership that storm water quality concerns should be ignored. If constant ownership was a condition precedent to applying for and obtaining a permit, few if any facilities would be subject to this rulemaking.

One State estimated that the proposed definition would lead to permits for 18,000 facilities in its State. Consequently this commenter recommended that the facilities under SIC 20–39 should be limited to those facilities that have to report under section 313 of title III, Superfund Amendments and Reauthorization Act. However, as noted by another commenter, limiting permit requirements to these facilities would be contrary to Congressional intent. While use of chemicals at a facility may be a source of pollution in storm water discharges, other every day activities at an industrial site and associated pollutants such as oil and grease, also contribute to the discharge of pollutants that are to be addressed by the CWA and these regulations. While the number of permit applications may number in the thousands, EPA intends for group applications and general permits to be employed to reduce the administrative burdens as greatly as possible.

Two commenters felt the permit applications should be limited to all entities under SIC 20–39. EPA disagrees that all the industrial activities that need to be addressed fall within these SICs. Discharges from facilities under paragraphs (ii) through (xi) such as POTWs, transportation facilities, and hazardous waste facilities, are of an industrial nature and clearly were intended to be addressed before October 1, 1992.

Two commenters stated that SIC 241 should be excluded in that logging is a transitory operation which may occur on a site for only 2–3 weeks once in a 20–30 year period. It was perceived that delays in obtaining permits for such operations could create problems in harvest schedule and mill demand. This commenter stated that runoff from such operations should be controlled by BMPs in effect for such industries and that such a permit would not be practical and would be cost prohibitive.

EPA agrees with the commenter that this provision needs clarification. The existing regulations at 40 CFR 122.27 currently define the scope of the NPDES program with regard to silvicultural activities. 40 CFR 122.27(b)(1) defines the term "silvicultural point source" to mean any discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States. Section 122.27(b)(1) also excludes certain sources. The definition of discharge associated with industrial activity does not include activities or facilities that are currently exempt from permitting under NPDES. EPA does not intend to change the scope of 40 CFR 122.27 in this rulemaking. Accordingly, the definition of "storm water discharge associated with industrial activity" does not include sources that may be included under SIC 24, but which are excluded under 40 CFR 122.27. Further, EPA intends to examine the scope of the NPDES silvicultural regulations at 40 CFR 122.27 as it relates to storm water discharges in the course of two studies of storm water discharges required under section 402(p)(5) of the CWA.

In response to one comment, EPA intends that the list of applicable SICs will define and identify what industrial facilities are required to apply. Facilities that warehouse finished products under the same code at a different facility from the site of manufacturing are not required to file a permit application, unless otherwise covered by this rulemaking.

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990 and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations. Several commenters urged that Congress intended to require permits or permit applications only for the manufacturing sector of the oil and gas industry (or those activities that designated in SIC 20 through 39). EPA disagrees with this argument. The fact that Congress used the language cited above and not the appropriate the SIC definition explicitly does not indicate that a broader definition or less exclusive definition was contemplated. According to these comments, all storm water discharges from oil and gas

exploration and production facilities would be exempt from regulation. However, EPA is convinced that a facility that is engaged in finding and extracting crude oil and natural gas from subsurface formations, separating the oil and gas from formation water, and preparing that crude oil for transportation to a refinery for manufacturing and processing into refined products, will have discharges directly relating to the processing or raw material storage at an industrial plant and are therefore discharges associated with industrial activity.

For further clarification EPA is intending to focus only on those facilities that are in SIC 10-14. Furthermore, in response to several comments, this rulemaking will require permit applications for storm water discharges from currently inactive petroleum related facilities within SIC codes 10-14, if discharges from such facilities meet the requirements as described in section VI.F.7.a. and § 122.26(c)(1)(iii). Inactive facilities will have storm water associated with industrial activity irrespective of whether the activity is ongoing. Congress drew no distinction between active and inactive facilities in the statute or in the legislative history.

(iv) Hazardous waste treatment, storage, or disposal facilities that are operating under interim status or a permit under Subtitle C of the Resource, Conservation and Recovery Act. One commenter believed that all RCRA and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) facilities should be specifically identified using SIC codes for further clarification. EPA considers this to be unnecessarily redundant, since the RCRA/CERCLA identification is sufficient.

Several industries asserted that storm water discharge from landfills, dumps, and land application sites, properly closed or otherwise subject to corrective or remedial actions under RCRA, should not be included in the definition. One commenter noted that the runoff from these areas is like runoff from undeveloped areas. One commenter also concluded that landfills, dumps, and land application sites should also be excluded if they are properly maintained under RCRA.

One commenter also rejected the idea of requiring permits from all active and inactive landfills and open dumps that have received any industrial wastes, and subtitle C facilities. This commenter felt that these facilities were already adequately covered under RCRA.

Two industry commenters felt that it would be redundant to have hazardous waste facilities regulated by RCRA and the NPDES storm water program. One felt this was especially so if there are current pretreatment standards.

The Agency disagrees that all activities that may contribute to storm water discharges at RCRA subtitle C facilities are being fully controlled and that requiring NPDES permits for storm water discharges at RCRA subtitle C facilities is redundant. First, the vast majority of permitted hazardous waste management facilities are industrial facilities involved in the manufacture or processing of products for distribution in commerce. Their hazardous waste management activities are incidental to the production-related activities. While RCRA subtitle C regulations impose controls in storm water runoff from hazardous waste management units and require cleanup of releases of hazardous wastes, they generally do not control non-systematic spills or process. These releases, from the process itself or the storage of raw materials or finished products are a potential source of storm water contamination. In addition, RCRA subtitle C (except via corrective action authority) does not address management of "non hazardous" industrial wastes, which nevertheless could also potentially contaminate storm water runoff.

Second, at commercial hazardous waste management facilities, the RCRA subtitle C permitting requirements and management standards do not control all releases of potentially toxic materials. For example, some permitted commercial treatment facilities may store and use chemicals in the treatment of RCRA hazardous wastes. Releases of these treatment chemicals from storage areas are a potential source of storm water contamination.

Finally, many RCRA subtitle C facilities have inactive Solid Waste Management Units (SWMU's) on the facility property. These SWMU's may contain areas on the land surface that are contaminated with hazardous constituents. RCRA requires that hazardous waste management facilities must investigate these areas of potential contamination, and then perform corrective action to remediate any SWMU's that are of concern. However, the corrective action process at these facilities will not be completed for a number of years due to the complexity of the cleanup decisions, and due to the fact that many hazardous waste management facilities do not yet have RCRA permits. Until corrective action has been completed at all such subtitle C facilities, SWMU's are a potential source of storm water contamination that should be addressed under the NPDES program. Finally, under section 1004(27) of RCRA, all point source discharges, including those at RCRA regulated facilities, are to be regulated by the NPDES program. Thus, there is no concern of regulatory overlap, and to the extent that the storm water regulations are effectively implemented, it will help address these units in a way that alleviates the need for expensive corrective action in the future.

(v) Landfills, land application sites, and open dumps that receive or have received industrial wastes and that are subject to regulation under subtitle D of RCRA. EPA received numerous comments supporting the regulation of municipal landfills which receive industrial waste and are subject to regulation under subtitle D of RCRA. EPA agrees with these comments. These industries have significant potential for storm water discharges that can adversely affect receiving water.

Two States argued that landfills should be addressed under the non-point source program. EPA disagrees that the non-point source program is sufficient for addressing these facilities. Further, addressing a class of facilities under the non-point source program does not exempt storm water discharges from these facilities from regulation under NPDES. The CWA requires EPA to promulgate regulations for controlling point source discharges of storm water from industrial facilities. Point sources from landfills consisting of storm water are such discharges requiring an NPDES permit. Several commenters argued that these discharges are adequately addressed by RCRA and that regulating them under this storm water rule would be redundant. However, as discussed above, RCRA expressly does not regulate point source discharges subject to NPDES permits. Given the nature of these facilities and of the material stored or disposed, EPA believes storm water permits are necessary. Similarly EPA rejects the comment that storm water discharges from these facilities are already adequately regulated by State authority. Congress has mandated that storm water discharges associated with industrial activity have an NPDES permit.

One commenter wanted EPA to define by size what landfills are covered. In response, it is the intent of these regulations to require permit applications from all landfills that receive industrial waste. Storm water discharges from such facilities are addressed because of the nature of the material with which the storm water comes in contact. The size of facility

will not dictate what type of waste is exposed to the elements.

One commenter requested that the definition of industrial wastes be clarified. For the purpose of this rule, industrial waste consists of materials delivered to the landfill for disposal and whose origin is any of the facilities described under § 122.26(b)(14) of this regulation.

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classifed as Standard Industrial Classification 5015 and 5093. One commenter suggested that the recycling of materials such as paper, glass, plastics, etc., should not be classified as an industrial activity. EPA disagrees that such facilities should be excluded on that basis. These facilities may be considered industrial, as are facilities that manufacture such products absent recycling.

Other facilities exhibit traits that indicate industrial activity. In junkyards, the condition of materials and junked vehicles and the activities occurring on the yard frequently result in significant losses of fluids, which are sources of toxic metals, oil and grease and polychlorinated aromatic hydrocarbons. Weathering of plated and non-plated metal surfaces may result in contributions of toxic metals to storm water. Clearly such facilities cannot be classified as commercial or retail.

One municipality felt that "significant recycling" should be defined or clarified. EPA agrees that the proposed language is ambiguous. It has been clarified to require permit applications from facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093. These SIC codes describe facilities engaged in dismantling, breaking up, sorting, and wholesale distribution of motor vehicles and parts and a variety of other materials. The Agency believes these SIC codes clarify the term significant recycling.

One municipality stated that regulation of these facilities under NPDES would be duplicative if they are publicly owned facilities. One State expressed the view that automobile junkyards, salvage yards could not legitimately be considered industrial activity. As noted above, EPA disagrees with these comments. Facilities that are actively engaged in the storage and recycling of products including metals, oil, rubber, and synthetics are in the business of storing and recycling materials associated with or once used in industrial activity. These activities are not commercial or retail because they are engaged in the dismantling of motors for distribution in wholesale or retail, and the assembling, breaking up, sorting, and wholesale distribution of scrap and waste materials, which EPA views as industrial activity. Further, being a publicly owned facility does not confer non-industrial status.

(vii) Steam electric power generating facilities, including coal handling sites, and onsite and offsite ancillary transformer storage areas. Most of the comments were against requiring permit applications for onsite and offsite ancillary transformer facilities. One commenter stated that these transformers did not leak in storage and if there were leakage problems in handling transformers, such leaks were subject to Federal and State spill clean-up procedures. The same commenter suggested that if EPA required applications from such facilities that it exclude those that have regular inspections, management practices in place, or those that store 50 transformers at any one time.

EPA agrees that such facilities should not be covered by today's rule. As one commenter noted, the Toxic Substances Control Act (TSCA) addresses pollutants associated with transformers that may enter receiving water through storm water discharges. EPA has examined regulations under TSCA and agrees that regulation of storm water discharges from these facilities should be the subject of the studies being performed under section 402(p)(5), rather than regulations established by today's rule. Under TSCA, transformers are required to be stored in a manner that prevents rain water from reaching the stored PCBs or PCB items. 40 CFR 761.65(b)(1)(i). EPA considers transformer storage to be more akin to retail or other light commercial activities, where items are inventoried in buildings for prolonged periods for use or sale at some point in the future, and where there is no ongoing manufacturing or other industrial activity within the structure.

One commenter stated that this category of industries should be loosened so that all steam electric facilities are addressed—oil fired and nuclear. EPA believes that the language as proposed broadly defines the type of industrial activity addressed without specifying each mode of steam electric production. One commenter noted that the EPA has no authority under the CWA (*Train v. CPIR, Inc.*, 426 U.S. 1 (1976)) to regulate the discharge of source, special nuclear and by-product materials which are regulated under the Atomic Energy Act. EPA agrees permit applications may not address those aspects of such facilities, however the facility in its entirety may not necessarily be exempt. A permit application will be appropriate for discharges from non-exempt categories.

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, material handling facilities, equipment cleaning operations or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or which are identified in another subcategory of facilities under EPA's definition of storm water discharges associated with industrial activity. One commenter requested clarification of the terms "vehicle maintenance." Vehicle maintenance refers to the rehabilitation, mechanical repairing, painting, fueling, and lubricating of instrumentalities of transportation located at the described facilities. EPA is declining to write this definition into the regulation however since "vehicle maintenance" should not cause confusion as a descriptive term. One commenter wanted railroad tracks where rail cars are set aside for minor repairs excluded from regulation. In response, if the activity involves any of the above activities then a permit application is required. Train yards where repairs are undertaken are associated with industrial activity. Train yards generally have trains which, in and of themselves, can be classified as heavy industrial equipment. Trains, concentrated in train yards, are diesel fueled, lubricated, and repaired in volumes that connote industrial activity, rather than retail or commercial activity.

One commenter argued that if gasoline stations are not considered for permitting, then all transportation facilities should be exempt. EPA disagrees with the thrust of this comment. Transportation facilities such as bus depots, train yards, taxi stations, and airports are generally larger than individual repair shops, and generally engage in heavier more expansive forms of industrial activity. In keeping with Congressional intent to cover all industrial facilities, permit applications from such facilities are appropriate. In contrast, EPA views gas stations as retail commercial facilities not covered

by this regulation. It should be noted that SIC classifies gas stations as retail.

(ix) POTW lands used for land application treatment technology/ sludge disposal, handling or processing areas, and chemical handling and storage areas. One commenter wanted more clarification of the term POTW lands. Another commenter requested clarification of the terms sludge disposal, sludge handling areas, and sludge processing areas. One State recommended that a broader term than POTW should be used. EPA notes that on May 2, 1989, it promulgated NPDES Sewage Sludge Permit Regulations; State Sludge Management Program Requirements at 40 CFR part 501. This regulation identified those facilities that are subject to section 405(f) of the CWA as "treatment works treating domestic sewage."

In response to the above comments, EPA has decided to use this language to define what facilities are required to apply for a storm water permit. Under this rulemaking "treatment works treating domestic sewage," or any other sewage sludge or wastewater treatment device or system used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge, with a design flow of 1.0 mgd or more, or facilities required to have an approved pretreatment program under 40 CFR part 403, will be required to apply for a storm water permit. However, permit applications will not be required to address land where sludge is beneficially reused such as farm lands and home gardens or lands used for sludge management that are not physically located within the confines (offsite facility) of the facility or where sludge is beneficially reused in compliance with section 405 of the Clean Water Act (proposed rules were published on February 6, 1989, at 54 FR 5746). EPA believes that such activity is not "industrial" since it is agricultural or domestic application (non-industrial) unconnected to the facility generating the material.

EPA received many comments on the necessity and appropriateness of requiring permit applications for storm water discharges from POTW lands. It was anticipated by numerous commenters that the above cited sludge regulations would adequately address storm water discharges from lands where sludge is applied. However, the sewage sludge regulations do not directly address NPDES permit requirements for storm water discharges from POTW lands and related areas to the extent required by today's rulemaking; the regulations cover only permits for use or disposal of sludge. Also, the regulations proposed on February 4, 1989, cover primarily the technical standards for the composition of sewage sludge which is to be used or disposed. They do not include detailed permitting requirements for discharges of storm water from lands where sludge has been applied to the land. To that extent, EPA is not persuaded by these commenters that POTWs and POTW lands should be excluded from these storm water permit application requirements.

Two commenters noted that some States already regulate sludge use or disposal activities substantially and that EPA should refrain from further regulation. EPA disagrees that this is a basis for excluding facilities from Federal requirements. Notwithstanding regulations in existence under State law, EPA is required by the CWA to promulgate regulations for permit application for storm water associated with industrial activity. Under the NPDES program, States are able to promulgate more rigorous requirements. However a minimum level of control is required under Federal law. One commenter also indicated that a State's sludge land application sites must follow a well defined plan to ensure there is no sludge related runoff. Notwithstanding that a State may require storm water controls for sludge land applications, as noted above, EPA is required to promulgate regulations requiring permit applications from appropriate facilities. EPA views facilities such as waste treatment plants that engage in on-site sludge composting, storage of chemicals such as ferric chloride, alum, polymers, and chlorine, and which may experience spills and bubbleovers are suitable candidates for storm water permits. Facilities using such materials are not characteristic of commercial or retail activities. Use and storage of chemicals and the production of material such as sludge, with attendant heavy metals and organics, is activity that is industrial in nature. The size and scope of activities at the facility will determine the extent to which such activities are undertaken and such materials used and produced at the facility. Accordingly, EPA believes limiting the facilities covered under this category to those of 1.0 mgd and those covered under the industrial pretreatment program is appropriate.

To the extent that permit applicants are already required to employ certain management practices regarding storm water, these may be incorporated into permits and permit conditions issued by Federal and State permitting authorities. EPA has selected facilities identified under 40 CFR part 501 (*i.e.* those with a design flow of 1.0 mgd or more or those required to have an approved pretreatment program) since these facilities will have largest contribution of industrial process discharges. Sludge from such facilities will contain higher concentrations of heavy metal and organic pollutants.

One commenter stated that sludge disposal is a public activity that should be addressed in a public facility's storm water management program under a municipal storm water management program. EPA disagrees. Industrial facilities, whether publicly owned or not, are required to apply for and obtain permits when they are designated as industrial activity.

Another comment stated that a permit should not be required for facilities that collect all runoff on site and treat it at the same POTW. EPA believes that a permit application should be required from such facilities. However, the above practice can be incorporated as a permit condition for such a facility. One commenter stated storm water from sludge and chemical handling areas can be routed through the headworks of the POTW. The agency agrees that this may be an appropriate management practice for POTWs as long as other NPDES regulatory requirements are fulfilled with regard to POTWs.

(x) Construction activities, including clearing, grading and excavation activities except operations that result in the disturbance of less than five acre total land area which are not part of a larger common plan of development or sale. EPA addresses whether these facilities should be covered by today's rule in section VI.F.8.

The December 7, 1988, proposal also requested comments on including the following other categories of discharges in the definition of industrial activities: (xii) Automotive repair shops classified as Standard Industrial Classification 751 or 753; (xiii) Gasoline service stations classified as Standard Industrial Code 5541; (xiv) Lands other than POTW lands (offsite facilities) used for sludge management; (xv) Lumber and building materials retail facilities classified as Standard Industrial Classification 5211; (xvi) Landfills, land application sites, and open dumps that do not receive industrial wastes and that are subject to regulation under subtitle D of RCRA; (xvii) Facilities classified as Standard Industrial Classification 46 (pipelines, except natural gas), and 492 (gas production and distribution); (xviii) Major electrical powerline corridors.

EPA received numerous comments on whether to require permit applications for these particular facilities. The December 7, 1988, proposal reflected EPA's intent not to require permits for these facilities, but rather to address these facilities in the two studies required by CWA sections 402(p)(5) and (6). After reviewing the comments on this issue, EPA believes that these facilities should be addressed under these sections of the CWA. Most of these facilities are classified as light commercial and retail business establishments, agricultural, facilities where residential or domestic waste is received, or land use activities where there is no manufacturing. It should be noted that although EPA is not requiring the facilities identified as categories (xii) to (xviii), in the December 7, 1988, proposal to apply for a permit application under this rulemaking, such facilities may be designated under section 402(p)(2)(E) of the CWA.

Three commenters recommended that EPA clarify that non-exempt Department of Energy and Department of Defense facilities should be covered by the storm water regulation. The regulation clearly states that Federal Facilities that are engaged in industrial activity (i.e. those activities in § 122.26(b)(14)(i)–(xi)) are required to submit permit applications. Those applying for permits covering Federal facilities should consult the Standard Industrial Classifications for further clarification.

One commenter questioned how EPA intended to regulate municipal facilities engaged in industrial activities. Municipal facilities that are engaged in the type of industrial activity described above and which discharge into waters of the United States or municipal separate storm sewer systems are required to apply for permits. These facilities will be covered in the same manner as other industrial facilities. The fact that they are municipally owned does not in any way exclude them from needing permit applications under this rulemaking.

One commenter suggested exempting those facilities that have total annual sales less than five million dollars or occupy less than five acres of land. Another commenter thought that all minor permittees should be exempt. EPA believes that the quality of storm water and the extent to which discharges impact receiving water is not necessarily related to the size of the facility or the dollar value of its business. What is important in this regard, is the extent to which steps are taken at facilities to curb the quantity and type of material that may pollute storm water discharges from these facilities. Therefore EPA has not excluded facilities from permitting on such a basis. This same commenter stated that the proposed rules should not address facilities with multiple functions (industrial and retail). EPA disagrees. If a facility engages in activity that is defined in paragraphs (i) through (xi) above, it is required to apply for a permit regardless of the fact that it also has a retail element. Such facilities need only submit a permit application for the industrial portion of the facility (as long as storm water from the non-industrial portion is segregated, as discussed above). This commenter also felt that more studies needed to be undertaken to determine the best way to regulate industries. EPA agrees that storm water problems need further study and for that reason EPA has devoted substantial manpower and resources to complete comprehensive studies under section 402(p)(5), while also addressing industrial sources that need immediate attention under this rulemaking.

One commenter requested that EPA give examples of storm water discharges from each of the facilities that have been designated for submitting permit applications. Agency believes that this is unnecessary and impractical since every facility, regardless of the type of industry, will have different terrain, hydrology, weather patterns, management practices and control techniques. However, EPA intends to issue guidance on filing permit applications for storm water discharges from industrial facilities which details how an industry goes about filing an industrial permit and dealing with storm water discharges.

Today's rulemaking for storm water discharges associated with industrial activity at § 122.26(c)(1)(i) includes special conditions for storm water discharges originating from mining operations, oil or gas operations (§ 122.26(c)(1)(iii)), and from the construction operations listed above (§ 122.26(c)(1)(ii)). These requirements are discussed in more detail in section VI.F.7 and section VI.F.8 of today's notice.

3. Individual Application Requirements

Today's rule establishes individual and group permit application requirements for storm water discharges associated with industrial activity. These requirements will address facilities precluded from coverage under the general permits to be proposed and promulgated by EPA in the near future. EPA considers it necessary to obtain the information required in individual permit applications from certain facilities because of the nature of their industrial activity and because of existing institutional mechanisms for issuing and tracking NPDES permits. Furthermore, some States will not have general permitting authority. Facilities located in such States will be required to submit individual applications or participate in a group application. The following response to comments received on these requirements pertains to these facilities.

Under the September 26, 1984, regulation operators of Group I storm water discharges were required to submit NPDES Form 1 and Form 2C permit applications. In response to post-regulation comments received on that rule, EPA proposed new permit application requirements (March 7, 1985, (50 FR 9362) and August 12, 1985, (50 FR 32548)) which would have decreased the analytical sampling requirements of the Form 2C and provided procedures for group applications. Passage of the WQA in 1987 gave the EPA additional time to consider the appropriate permit application requirements for storm water discharges. On December 7, 1988, application requirements were proposed and numerous comments were received. Based upon these comments, modifications and refinements have been made to the industrial storm water permit application.

Some commenters expressed the view that the permit application requirements are too burdensome, require too much paperwork, are of dubious utility, and focus too greatly on the collection of quantitative data. EPA disagrees. In comparison to prior approaches for permitting storm water discharges and other existing permitting programs, EPA has streamlined the permit application process, limited the quantitative data requirements, and required narrative information that will be used to determine permit conditions that relate to the quality of storm water discharge. To the extent that EPA needs non-quantitative information to develop appropriate permit conditions, EPA disagrees with the view of some commenters that the information required is excessive. In response to comments on earlier rulemakings and a comment received on the December 7, 1988, proposal (stressing that the emphasis should be on site management, rather than monitoring, sampling, and reporting) EPA has shifted the emphasis of the permit application requirements for storm water discharges associated with industrial activity from the existing requirements for collection of

quantitative data (sampling data) in Form 2C towards collection of less quantitative data supplemented by additional information needed for evaluation of the nature of the storm water discharges.

The permit application requirements proposed for storm water discharges reduce the amount of quantitative data required in the permit application and exempt discharges which contain entirely storm water (*i.e.* contain no other discharge that, without the storm water component, would require an NPDES permit), from certain reporting requirements of Form 2C. The proposed modifications also would exempt applicants for discharges which contain entirely storm water from several non-quantitative information collection provisions currently required in the Form 2C. The proposed modifications would rely more on descriptive information for assessing impacts of the storm water discharge. One commenter proposed that information that the applicant has submitted for other permits be incorporated by reference into the storm water permit application. EPA disagrees that incorporation by reference is appropriate. The permitting authority will need to have this information readily available for evaluating permit application and permit conditions. Furthermore, EPA feels that the applicant is in the best position to provide the information and verify its accuracy. However, if the applicant has such information and it accurately reflects current circumstances, then the applicant can rely on the information for meeting the information requirements of the application. Another commenter suggested that EPA should only require the information in § 122.26(c)(1) (A) and (B) (*i.e.*, the requirement for a topographic map indicating drainage areas and estimate of impervious areas and material management practices). As explained in greater detail below, EPA is convinced that some quantitative data and the other narrative requirements are necessary for developing appropriate permit conditions.

Form 2F addressing permit applications for storm water discharges associated with industrial activity is included in today's final rule. A complete permit application for discharges composed entirely of storm water, will be comprised of Form 2F and Form 1. Operators of discharges which are composed of both storm water and non-storm water will submit, where required, a Form 1, an entire Form 2C (or Form 2D) and Form 2F when applying. In this case, the applicant will provide quantitative data describing the discharge during a storm event in Form 2F and quantitative data describing the discharge during non-storm events in Form 2C. Non-quantitative information reported in the Form 2C will not have to be reported again in the Form 2F.

Under today's rule, Form 2F for storm water discharges associated with industrial activity would not require the submittal of all of the quantitative information required in Form 2C, but would require that quantitative data be submitted for:

- Any pollutant limited in an effluent guideline for an industrial applicant's subcategory;
- Any pollutant listed in the facility's NPDES permit for its process wastewater;
- Oil and grease, TSS, COD, pH, BOD5, total phosphorus, total Kjeldahl nitrogen; nitrate plus nitrite nitrogen; and
- Any information on the discharge required under 40 CFR 122.21(g)(7) (iii) and (iv).

In order to characterize the discharge(s) sampled, applicants need to submit information regarding the storm event(s) that generated the sampled discharge, including the date(s) the sample was taken, flow measurements or estimates of the duration of the storm event(s) sampled, rainfall measurements or estimates from the storm event(s) which generated the sampled runoff, and the duration between the storm event sampled and the end of the previous storm event. Information regarding the storm event(s) sampled is necessary to evaluate whether the discharge(s) sampled was generally representative of other discharges expected to occur during storm events and to characterize the amount and nature of runoff discharges from the site.

One commenter stated that the quantitative information should be limited to those pollutants that are expected to be known to the applicant. EPA believes this would be inappropriate since there will be no way of determining initially whether these pollutants are present despite the expectations of the applicant. Once the data is provided, permits can be drafted which address specific pollutants. This rulemaking requires that the applicant test for oil and grease, COD, pH, BOD5, TSS, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen and total phosphorus. Oil and grease and TSS are a common component of storm water and can have serious impacts on receiving waters. Oxygen demand (COD and BOD5) will help the permitting authority evaluate the oxygen depletion potential of the discharge. BOD5 is the most commonly used indicator of potential oxygen demand. COD is considered a more inclusive indicator of oxygen demand, especially where metals interfere with the BOD5 test. The pH will provide the permitting authority with important information on the potential availability of metals to the receiving flora, fauna and sediment. Total Kjeldahl nitrogen, nitrate plus nitrite nitrogen and total phosphorus are measures of nutrients which can impact water quality. Because this data is useful in developing appropriate permit conditions, EPA disagrees with the argument made by one commenter that quantitative data requirements should be a permit condition and not part of the application process.

In the proposed rule, the Agency used total nitrogen as a parameter. This has been changed to total Kjeldahl nitrogen and nitrate plus nitrite nitrogen for clarity.

Today's rule defines sampling at industrial sites in terms of sampling for those parameters that have effluent limits in existing NPDES permits, as well as for any other conventional or nonconventional parameter that might be expected to be found at the outfall. Comments on the appropriateness of the defined parameters were solicited by the proposal. Numerous commenters maintained that either the parameter list be made industry specific, or that pollutant categories not detected in the initial screen be exempted from further testing. Some suggested that only conventional pollutants, inorganics, and metals be sampled unless reason for others is found.

In terms of specific water quality parameters, it was recommended that surfactants not be tested for unless foam is visible. One commenter also suggested that fecal coliform sampling is inappropriate for industrial permits applications. One commenter favored testing for TOC instead of VOC. In response, VOC has been eliminated from the list of parameters because it will not yield specific usable data. VOC is not specifically required in any sampling in today's rule, except where priority pollutant scans are required.

Some recommended that procedures be modified to facilitate quicker, less expensive lab analyses. Concern was also raised that industry might be required to collect its own rainfall data if there is no nearby observation station. Some commenters stated that EPA should not allow automatic sampling for either biological or oil and grease sampling due to the potential for contamination in sampling equipment.

In response, EPA believes that the sampling requirements for industry in today's rule are reasonable and not burdensome. These requirements address parameters that have effluent limits in existing NPDES permits, as well as for any other conventional or nonconventional parameter that might be expected to be found at the applicants outfall. Under this procedure both industry-specific and site-specific contaminants are already identified in the existing permit. Whether all these parameters need to be made a part of any discharge characterization plans, under the terms of the permit, will be a case-by-case determination for the permitting authority. EPA maintains that the test for surfactants (if in effluent guidelines or in the facility's NPDES permit for process water) is justifiable even when a foam is not obvious at the outfall. The presence of detergents in storm water may be indicated by foam, but the absence of foam does not indicate that detergents are not present.

EPA requested comments on fecal coliform as a parameter. Fecal coliform was included on the list as an indicator of the presence of sanitary sewage. In large concentrations, fecal coliform may be an effective indicator of sanitary sewage as opposed to other animal wastes. EPA believes that sanitary cross connections will also be found at industrial facilities. Furthermore, the test for fecal coliform is an inexpensive test and its inclusion or exclusion should make little impact financially on the individual application costs. Sampling for volatile organic carbon shall be accomplished when required, as it is an appropriate indicator of industrial solvents and organic wastes.

In response to comments, EPA acknowledges that there are certain pollutants that are capable of leaving residues in automatic sampling devices that will potentially contaminate subsequent samples. In these cases, such as for biological monitoring, if such a problem is perceived to exist and it is expected that the contaminant will render the subsequent samples unusable, manual grab samples may be needed. This would include grab samples for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. EPA is not disallowing the use of automatic sampling because of possible contamination, as this type of sampling may be the best method for obtaining the necessary samples from a selected storm events.

In addition to the conventional pollutants listed above, this final rule requires applicants, when appropriate, to sample other pollutants based on a consideration of site-specific factors. These parameters account for pollutants associated with materials used for production and maintenance, finished products, waste products and non-process materials such as fertilizers and pesticides that may be present at a facility. Applicants must sample for any pollutant limited in an effluent guideline applicable to the facility or limited in the facility's NPDES permit. These pollutants will generally be associated with the facility's manufacturing process or wastes. Other process and non-process related pollutants, will be addressed by complying with the requirements of 40 CFR 122.21(g)(7) (iii) and (iv).

Section 122.21(g)(7)(iii) requires applicants to indicate whether they know or have reason to believe that any pollutant listed in Table IV (conventional and nonconventional pollutants) of appendix D to 40 CFR part 122 is discharged. If such a pollutant is either directly limited or indirectly limited by the terms of the applicant's existing NPDES permit through limitations on an indicator parameter, the applicant must report quantitative data. For pollutants that are not contained in an effluent limitations guideline, the applicant must either report quantitative data or describe the reasons the pollutant is expected to be discharged. With regard to pollutants listed in Table II (organic pollutants) or Table III (metals, cyanide and total phenol) of appendix D, the applicant must indicate whether they know or have reason to believe such pollutants are discharged from each outfall and, if they are discharged in amounts greater than 10 parts per billion (ppb), the applicant must report quantitative data. An applicant qualifying as a small business under 40 CFR 122.21(g)(8), (e.g., coal mines with a probable total annual production of less than 100,000 tons per year or, for all other applicants, gross total annual sales averaging less than $100,000 per year (in second quarter 1980 dollars)), is not required to analyze for pollutants listed in Table II of appendix D (the organic toxic pollutants).

Section 122.21(g)(7)(iv) requires applicants to indicate whether they know or have reason to believe that any pollutant in Table V of appendix D to 40 CFR part 122 (certain hazardous substances) is discharged. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged and report any existing quantitative data it has for the pollutant.

When collecting data for permit applications, applicants may make use of 40 CFR 122.21(g)(7), which provides that "when an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also applies to the substantially identical outfalls." Where the facility has availed itself of this provision, an explanation of why the untested outfalls are "substantially identical" to tested outfalls must be provided in the application. Where the amount of flow associated with the outfalls with substantially identical effluent differs, measurements or estimates of the total flow of each of the outfalls must be provided. Several commenters stated that the time and expense associated with sampling and analysis would be saved if the applicant was able to pick substantially identical outfalls without prior approval of the permitting authority. EPA disagrees that this would be an appropriate devolution of authority to the permit applicant. The permitting authority needs to ensure that these outfalls have been grouped according to appropriate criteria (for example do the outfalls serve similar drainage areas at the facility). Furthermore, EPA is not requiring that the permit applicant engage in sampling to demonstrate that the outfalls are indeed substantially identical, because that would of course defeat the purpose of § 122.21(g)(7). The procedure for establishing identical outfalls is not that onerous and provides a means for industry to save substantially on time and resources for sampling.

EPA proposed and requested comment on a requirement that the facility must sample a storm event that is typical for the area in terms of duration and severity. The storm event must be greater than 0.1 inches and must be at least 96 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. In general, variance of the parameters (such as the duration of the event and the total rainfall of the event) should not exceed 50 percent from the parameters of the average rainfall event in that area. EPA also requested comments on addressing snow melt events under this definition.

Commenters stated that: median or average rainfall is not an acceptable approach; the minimum depth and duration of rainfall must be specified; the allowable 50% variation is questionable; the total depth of the storm is irrelevant; and the storm should be viewed based on the average intensity of the storm. One commenter

suggested that using the median rainfall event would be a better approach than the average rainfall event.

Others insisted that "representative" or typical storms do not exist in semi-arid climates and that representative rainfall must be site-specific (regional) and seasonal. Several commenters contended that the requirement for 96 dry hours between events is not acceptable, with 48 and 72 hours identified as possible alternatives.

One commenter believed that a typical standard design storm, such as the 1-year, 24-hour, or 10-year, 1-hour, would be preferable. Another commenter felt that the storm event should be based on the rainfall required to generate a minimum discharge level. One commenter questioned whether the storm is to be sampled at all sites simultaneously.

To clarify its decision on what storm event should be sampled, EPA notes that its selection of the storm event considers both regional and seasonal variation of precipitation. This is evidenced in the rule with regard to sites in the municipal application (three events sampled), and in the requirements for industrial group applications (a minimum of two applicants, or one applicant in groups of less than 10, to be represented in each precipitation zone (*see* section VI.F.4 below).

The definition of a 0.1 inch minimum was determined by NURP and other studies to be the minimum rainfall depth capable of producing the rainfall/runoff characteristics necessary to generate a sufficient volume of runoff for meaningful sample analysis. EPA believes by requiring the average storm to be used as the basis for sampling that depth, duration, and therefore average rainfall intensity are being regionally defined. The Agency has also added the option of using the median rainfall event instead of the average. The potential for monitoring events that may not meet this specification should be minimized by allowing the proposed 50 percent variation in rainfall depth and/or duration from event statistics. However, the 50 percent variation need only be met when possible. Further, there is flexibility in the rule where the Director may allow or establish site specific requirements such as the minimum duration between the previous measurable storm event and the storm event sampled, the amount of precipitation from the storm event to be sampled, and the form of precipitation sampled (snowmelt or rainfall). If data is obtained from a rain event that does not meet the criteria above, the Director has the discretion to accept the data as valid.

The December 7, 1988, proposal called for a 96-hour period between events of measurable rainfall, here defined as 0.1 inch, which provided a four day minimum for the accumulation of pollutants on the surface of the outfalls' tributary areas. The key word in the definition is "measurable", which means that the 96-hour period did not necessarily have to be dry, only that no cleansing rainfall (*i.e.* 0.1 inch rain event) has occurred. However, after reviewing comments on this issue EPA has decided to change the period to 72 hours. Many commenters indicated that 96 hours is too restrictive and that securing a sample under such circumstances would be unnecessarily difficult. EPA agrees that the quality or representativeness of the sample would not be adversely affected by this change.

EPA does not agree with comments that the requirement of a particular "design" storm would be appropriate. Many commenters have expressed concern that they might sample an event not meeting the requirements for industrial group applications as defined. Because there is no way to know with sufficient certainty beforehand that an upcoming event will approximate a one-year, twenty-four hour storm, many events would be unnecessarily sampled before this event is realized.

EPA does not intend that a municipality or industry be required to sample all required outfalls for a single storm. This would represent a unmanageable investment in equipment and manpower. In some areas, it may be necessary to sample multiple sites for a single event due to the irregularity of rainfall, but not all sites.

EPA described parameters for selecting storm events for sampling of municipal and industrial outfalls in the December 7, 1988, proposal. EPA has received several comments regarding the problems that rainfall measurement in general presents. A recurring comment relative to reporting rainfall, and in verifying that the storm itself is representative, deals with the spatial distribution of rainfall. The rainfall measured at an airport does not always represent rainfall at the site, particularly in summer months when thunderstorms are prevalent. One commenter stated that it would be easier to base the selected storm on either a minimum discharge, or on a discharge duration other than on the total precipitation, because these parameters are easily measured at the site and are not dependent on the airport gauges receiving the same rainfall as the site. A few commenters questioned how to determine typical storm characteristics. One commenter advised that NOAA rainfall reporting stations provide data that represent only daily rainfall totals, not storm event data. One commenter pointed out that the time frame of the sampling requirement does not consider that a particular region may be in the midst of a multi-year drought cycle, and that what little rainfall occurs may have uncharacteristically high levels of pollutants.

The type of rain event sampled is an important parameter in any attempt to characterize system-wide loads based on the sampling results. Rainfall gauges that report only event total depth will provide the information necessary to characterize most events, provided that a reasonable estimate of the event duration can be made. If simulation models are to be used in estimating system-wide loads, rainfall measurement based on time and depth of rainfall will be needed. If the recording stations are not believed to accurately reflect this distribution, then the data will need to be collected by the applicant at a location central to the tributary area of the outfall.

The rainfall data collected by NOAA are in most cases available in the form of hourly rainfall depths. This information can be analyzed to develop characteristic storm depths and durations. In some cases, this information has already been analyzed for many long term reporting stations by various municipalities, states, and universities. The results of these investigations should be available to the applicants.

EPA realizes that prolonged rainless periods occur for both semi-arid areas and areas experiencing droughts and that the first storm after a prolonged dry period may well not be representative of "normal" runoff conditions. In order for the appropriate system-wide characterization of loads to be made, data must be collected. With regard to the municipal permit application, today's rule states that runoff characterization data will be collected during three events at from five to ten sites. The rule gives the Director the flexibility of modifying these requirements.

EPA has defined the parameters for selecting the storm event to be sampled such that at the discretion of the Director, seasonal, including winter, sampling might be required. EPA has received several comments regarding the problems that snow melt sampling may present. Several commenters are

opposed to monitoring of snowmelt events. The reasons cited include equipment problems and the unreasonableness of expecting this sampling, because of temperatures and the time required for personnel to be waiting for events. A few comments addressed the issues of snow pack depth, ambient temperature, and solar radiation levels, and that the snow pack may filter suspended solids or refreeze such that final melting is uncharacteristically over-polluted relative to normal conditions. Another commenter contended that it is impossible to manage the melting process and therefore unreasonable to expect controls to be implemented relative to snowmelt. In essence, it is contended that there is no first discharge unless the snow pack depth is low and melts quickly.

A few commenters favor monitoring snowmelt, for precisely the same reason that most oppose it: that the runoff from snowmelt is the most polluted runoff generated in some areas on an annual basis. Where this is the case, sampling snowmelt should be undertaken in order to accurately assess impacts to receiving streams. EPA is confident that in areas where automated sampling cannot be relied upon, grab sampling can probably be performed because the nature of the snowmelt process tends to make the timing of samples less of a problem when compared to typical rainfall events. EPA disagrees that management practices, either at industrial facilities or with regard to municipalities, cannot address snowmelt. Some areas may need to reassess their salt application procedures. In addition retention and detention devices may address snowmelt, as well as erosion controls at construction sites. Thus, obtaining samples of snowmelt is appropriate to allow development of such permit conditions.

Today's rule also modifies the Form 2C requirements by exempting applicants from the requirements at § 122.21(g)(2) (line drawings), (g)(4) (intermittent flows), (g)(7) (i), (ii), and (v) (various sampling requirements to characterize discharges) if the discharge covered by the application is composed entirely of storm water. Permit applications for discharges containing storm water associated with industrial activity would require applicants to provide other non-quantitative information which will aid permit writers to identify which storm water discharges are associated with industrial activity and to characterize the nature of the discharge.

Numerous comments were received regarding the requirement to submit a topographic map and site drainage map. Many of these comments offered alternatives to EPA's proposal. Two commenters suggested that a simple sketch of the site would be sufficient. Two commenters stated that one or the other should be adequate. One commenter believed that the drainage map was a good idea, but that the topographic map should be optional. Several commenters submitted that a topographic map was sufficient and that only SPCC plans or SARA submittals should supplement that. Another commenter argued that information relating to the location of the nearest surface water or drinking wells would be sufficient. Other commenters believed that a drainage map alone would indicate all relevant site specific information. Numerous commenters expressed concern that the drainage area map would be too detailed and that one which depicts the general direction of flow should be sufficient. Clarification was requested on whether the final rule would require the location of any drinking water wells. One commenter stated that a U.S.G.S. 7.5 quadrangle map will not illustrate drainage systems in all cases, and that therefore the requirement should be optional.

Several commenters agreed with EPA's proposal. One commenter maintained that drainage maps should be required from developments greater than three acres and from all individual applicants. Several commenters agreed with EPA's proposal that both maps should be provided, with arrows indicating site drainage and entering and leaving points. It was advised that drainage maps are useful in locating sources of storm water contamination, and it is useful to identify areas and activities which require source controls or remedial action. One commenter recommended that the map should extend far enough offsite to demonstrate how the privately owned system connects to the publicly owned system.

After considering the merits of all the comments and the reasons supporting EPA's proposal, EPA is convinced that a topographic map and a site drainage map are necessary components of the industrial application. Existing permit application regulations at 40 CFR 122.21(f)(7) require all permit applicants to submit as part of Form 1 a topographic map extending one mile beyond the property boundaries of the source depicting: the facility and each intake and discharge structure; each hazardous waste treatment, storage, or disposal facility; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in the map area in public records or otherwise known to the applicant within one-quarter mile of the facility property boundary. (*See* 47 FR 15304, April 8, 1982.) However, as indicated by the comments the information provided under § 122.21(f)(7) is generally not sufficient by itself for evaluating the nature of storm water discharges associated with industrial activity.

As stated in comments, a drainage map can provide more important site specific information for evaluating the nature of the storm water discharge in comparison to existing requirements, which require a larger map with only general information. The volume of storm water discharge and the pollutants associated with it will depend on the configuration and activities occurring at the industrial site. One commenter suggested that it would be appropriate to submit an aerial photograph of the site with all the topographic and drainage information superimposed on the photograph. EPA agrees that this may be an appropriate method of providing this information. EPA is not requiring a specific format for submitting this information.

EPA is also requiring that a narrative description be submitted to accompany the drainage map. The narrative will provide a description of on-site features including: existing structures (buildings which cover materials and other material covers; dikes; diversion ditches, etc.) and non-structural controls (employee training, visual inspections, preventive maintenance, and housekeeping measures) that are used to prevent or minimize the potential for release of toxic and hazardous pollutants; a description of significant materials that are currently or in the past have been treated, stored or disposed outside; and the method of treatment, storage or disposal used. The narrative will also include: a description of activities at materials loading and unloading areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; a description of the soil; and a description of the areas which are predominately responsible for first flush runoff. This requirement is unchanged from the proposal.

Some commenters believed that information on pesticides, herbicides, and fertilizers and similar products is irrelevant, incidental to the facility's production activities, and should not be

addressed by this rulemaking. EPA disagrees. As these materials are applied outside and hence subject to storm events, they are significant sources of pollutants in storm water discharges whether applied in residential or industrial settings. By providing this information in the permit application the permit writer will be able to determine whether such activity is associated with industrial activity and the subject of appropriate permit conditions. Nominal or incidental application of these materials at industrial facilities and non-detects in sampling of storm water discharges for the permit application will result, in most cases, in these materials not being addressed specifically in storm water permits.

Today's rule also requires that permit applicants for storm water discharges associated with industrial activity certify that all of the outfalls covered in the permit application have been tested or evaluated for non-storm water discharges which are not covered by an NPDES permit. (The applicant need not test for nonstorm water if the certification of the plant storm water discharges can be evaluated through the use of schematics or other adequate method). Section 405 of the WQA added section 402(p)(3)(B)(ii) to the CWA to require that permits for municipal separate storm sewers effectively prohibit non-storm water discharges to the storm sewer system. As discussed in part VI.F.7.b of today's preamble, untreated non-storm water discharges to storm sewers can create severe, widespread contamination problems and removing such discharges presents opportunities for dramatic improvements in the quality of such discharges. Although section 402(p)(3)(B)(ii) specifically addresses municipal separate storm sewers, EPA believes that illicit non-storm water discharges are as likely to be mixed with storm water at a facility that discharges directly to the waters of the United States as it is at a facility that discharges to a municipal storm sewer. Accordingly, EPA feels that it is appropriate to consider potential non-storm water discharges in permit applications for storm water discharges associated with industrial activity. The certification requirement would not apply to outfalls where storm water is intentionally mixed with process waste water streams which are already identified in and covered by a permit.

This rulemaking requires applicants for individual permits to submit known information regarding the history of significant spills at the facility. Several commenters indicated that the extent to which this information is required should be modified. One commenter stated that the requirement should be limited to those spills that resulted in a complaint or enforcement action. EPA disagrees. EPA believes that significant spills at a facility should generally include releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (see 40 CFR 110.10 and 40 CFR 117.21) or section 102 of CERCLA (see 40 CFR 302.4). Such a requirement is consistent with these regulations and the perception that such spills are significant enough to mandate the reporting of their occurrence. Some commenters stated that industries have already submitted this information in other contexts and should not be required to have to do it again. For the same reason another commenter felt that submittal of this information represents a waste of manpower and resources. EPA disagrees that requiring this information is unduly burdensome. If this information has already been provided for another purpose it follows that it is readily available to the industrial applicant. Thus, the burden of providing this information cannot be considered undue. Furthermore, the permit authority will need to have this available in order to determine which drainage areas are likely to generate storm water discharges associated with industrial activity, evaluate pollutants of concern, and develop appropriate permit conditions. However, to keep this information requirement within reasonable limits and limited to information already available to individual facilities, EPA has declined to expand the reporting requirements to spills of other materials, such as food as one commenter has suggested. However, EPA has decided to add raw materials used in food processing or production to the list of significant materials. Materials such as these may find their way into storm water discharges in such quantities that serious water quality impacts occur. These materials may find there way into storm water from transportation vehicles carrying materials into the facility, loading docks, processing areas, storage areas, and disposal sites.

One commenter urged that any information requested should be limited to a period of three years, which is the general NPDES records retention requirement under 40 CFR 122.21(p) and 40 CFR 112.7(d)(8). EPA agrees with this comment and has limited historical information requirements to the 3 years prior to the date the application is submitted. In this manner this regulation will be consistent with records keeping practices under the NPDES and Oil Spill Prevention programs, except sludge programs.

The December 7, 1988, proposal required the applicant to submit a description of each past or present area used for outdoor storage or disposal of significant materials. One commenter felt that the definition of significant material was too imprecise. EPA disagrees that the language should be made more precise by delineating every conceivable material that may add pollutants to storm water. Rather the definition is broad, to encourage permit applicants to list those materials that have the potential to cause water quality impacts. Stating what materials are addressed in meticulous detail may result in potentially harmful materials remaining unconsidered in permits. However, EPA has decided to add "fertilizers, pesticides, and raw materials used in the production or processing of food" to the definition in response to the comment of one State authority that such materials need to be accounted for due to their potential danger to storm water discharge quality. This same commenter recommended that "hazardous chemicals" should be added. EPA agrees, and will delineate those chemicals as "hazardous substances" which are designated under section 101(14) of CERCLA. Further clarification has been added by requiring the listing of any chemical the facility is required to report pursuant to section 313 of title III of SARA.

Another commenter felt that EPA should not require information of past storage of significant materials. EPA agrees that this proposed requirement is overbroad and has limited the time frame to those materials that were stored in areas 3 years or fewer from the date of the permit application. The 3-year limit is consistent with other Agency reporting requirements as discussed above.

One commenter questioned EPA's proposal not to provide for a waiver from the requirement to submit quantitative data if the applicant can demonstrate that it is unnecessary for permit issuance. Another commenter said that a waiver is inappropriate. EPA believes relevant quantitative data are essential to the process, but in this rulemaking the number of pollutants that must be sampled and analyzed is reduced compared to previous regulations. The proposed requirements for quantitative data are limited to pollutants that are appropriate for given

site-specific operations, thereby making a waiver unnecessary.

Although the concept of a waiver is attractive because of the perceived potential reduction in burdens for applicants, EPA believes that because the storm water discharge testing requirements have already been streamlined, a waiver would not in practice provide significant reductions in burden for either applicants or permit issuing authorities. Requirements to provide and verify data demonstrating that a waiver is appropriate for a storm water discharge may prove to be more of a burden to the applicant and the permitting authorities. Establishing such a waiver procedure would be administratively complex and time-consuming for both EPA and the applicants, without any justifiable benefit. Therefore, this rulemaking does not include a waiver provision.

In response to one commenter, EPA wishes to emphasize that if a facility has zero storm water discharge because it is discharging to a detention pond only, a permit application is not required. Only those discharges to the waters of the United States or municipal systems need submit notifications, individual or group permit applications, or notices of intent where applicable. However, if the detention pond overflows or the discharger anticipates that it may overflow, then a permit application should be submitted.

Two commenters agreed with EPA's proposed requirement to have a description of past and present material management practices and controls. EPA believes that this is important information directly relating to the quality of storm water that can be expected at a particular facility and this requirement is retained in today's rule. However, as with other historical information requirements, EPA is limiting past practices to those that occurred within three years of the date that the application is submitted. One commenter argued that past practices should not be considered unless there is evidence that past practices cause current storm water quality problems. EPA anticipates that the information submitted by the applicant will be used to make this determination and that appropriate permit conditions can be developed accordingly.

One commenter requested clarification on the certification requirement that the data and information in the application is true and complete to the best of the certifying officer's knowledge. This is a fundamental and integral part of all NPDES permit applications. It essentially requires the signatory to assure the permit writer, based upon his or her personal knowledge, that the information has been submitted without a negligent, reckless, or purposeful misrepresentation. EPA intends to interpret this requirement in the same manner for storm water applications as other applications.

4. Group Applications

Today's final rule provides some industries with the option of participating in a group application, in lieu of submitting individual permits. There are several reasons for the group application. First, the group application procedure provides adequate information for issuing permits for certain classes of storm water discharges associated with industrial activity. Second, numerous commenters supported the concept of the group application as a way to reduce the costs and administrative burdens associated with storm water permit applications. Third, group applications will reduce the burden on the regulated community by requiring the submission of quantitative data from only selected members of the group. Fourth, the group application process will reduce the burden on the permit issuing authority by consolidating information for reviewing permit applications and for developing general permits suited to certain industrial groups. Where general permits are not appropriate or cannot be issued, a group application can be used to develop model individual permits, which can significantly reduce the burden of preparing individual permits.

As noted above in today's preamble, EPA intends to promulgate a general permit that will cover many types of industrial activity. Industrial dischargers eligible for such permits will generally be required to seek coverage by submittal of a notice of intent. Facilities that are ineligible for coverage under the general permit will be required to submit an individual permit application or submit a group application. The group application process promulgated today will serve as an important component to implement Tier III of EPA's industrial storm water permitting strategy discussed above. The general permit which EPA intends to promulgate in the near future shall set forth what types of facilities are eligible for coverage.

Some commenters criticized the group application procedure as an abdication of EPA's responsibility to effectively deal with pollutants in storm water discharges. One commenter stated that every facility subject to these regulations should be required to submit quantitative data. In response EPA believes, as do numerous commenters, that the group application procedure is a legitimate and effective way of dealing with a large volume of currently uncontrolled discharges. The only difference between the group application procedure and issuing individual permits based on individual applications is that the quantitative data requirements from individual facilities will be less if certain procedures are followed. EPA is convinced that marked improvements in the process of issuing permits will be achieved when these procedures are followed. Where the storm water discharge from a particular facility is identified as posing a special environmental risk, it can be required to submit individual applications and therefore separate quantitative data. It should also be noted that submittal of a group application does not exempt a facility from submitting quantitative data on its storm water discharge during the term of the permit.

The final rule refines and clarifies some of the requirements of the group application approach set forth in the December 7, 1988 proposal. Several commenters requested that EPA add a provision which would allow a facility that becomes subject to the regulations to "add on" to a group application after that group application has already been submitted. One commenter indicated that some trade associations are prohibited from engaging in an activity which would not apply to all its members, and that an "add on" provision was needed in the event such a prohibition was invoked. Another commenter noted that where a group is particularly large, for example one that consists of several thousand members, that it would be a logistical feat to ensure that all facilities eligible as members of the group are properly identified and listed on the application within the 120 day deadline for submitting part 1A of the application.

EPA believes that a group applicant should have a limited ability to add facilities to the group after part 1A has been submitted and that a provision which allows a group or group representative an unbridled ability to "add on" is impractical for a number of reasons. First, 10% of the facilities must submit quantitative data. Adding facilities after the group has been formed and approved would change the number of facilities that have to submit quantitative data on behalf of the group. This would result in an unwarranted administrative burden on the reviewing authority, which is in the position of having to examine the quantitative data and determine the appropriateness of group members (and those that are

required to submit quantitative data) within 2 months of receiving part 1 of the group application. Further, during the permit application process permitting authorities will be developing permit conditions for an identified and pre-determined group of facilities. Allowing potentially significant numbers of permit applicants to suddenly inject themselves into a group application could unnecessarily hamper or disrupt the timely development of general and model permits. In addition, if a facility were "added on" the number of facilities having to submit quantitative data may drop below 10%. Thus the facility desiring to "add on" may be put in the position of having to submit the quantitative data themselves, which would clearly defeat the purpose of being a part of the group application.

Nevertheless, EPA has added a provision to 122.26(e) which enables facilities to add on to a group application at the discretion of the EPA's Office of Water Enforcement and Permits, and upon a showing of good cause by the group applicant. For the reasons noted above, EPA anticipates this provision will be invoked only in limited cases where good cause is shown. Facilities not properly identified in the group application, and which cannot meet the good cause test will be required to submit individual permit applications. EPA will advise such facilities within 30 days of receiving the request as to whether the facility may add on.

However, the "add on" facility must meet the following requirements: The application for the additional facility is made within 15 months of the final rule; and the addition of the facility does not reduce the percentage of the facilities that are required to submit quantitative data to below 10% unless there are over 100 facilities that are submitting quantitative data. Approval to become part of a group application is obtained from the group or the trade association and is certified by a representative of the group; approval for adding on to a group is obtained from the Office of Water Enforcement and Permits.

Several commenters stated that the application requirements for groups are so burdensome that the advantages of the process are undermined. These concerns are addressed in greater detail below. Among the requirements which commenters objected are the requirements to list every group member's company by name and address. EPA is convinced that a condition precedent to approving a group application is at least identifying the members of the group. Without such information it would be impossible to determine if all the facilities are sufficiently similar. EPA disagrees that industries will be dissuaded from using the group application process because the advantages of the process are undermined. Although commenters perceived many burdens associated with individual permit applications, by far the most significant burden identified by the comments is the requirement for obtaining and submitting quantitative data. The group application significantly reduces this burden by requiring only 10% of the facilities to submit quantitative data if the number in the group is over 100. If the number in the group is over 1000, then only 100 of the facilities need submit quantitative information. If group applicants develop cost sharing procedures to reduce the financial and administrative burdens of submitting quantitative data, it is evident that utilizing the group application could save industries as much as 90% on the most economically burdensome aspect of the application.

Several commenters perceived that the group application procedure did not offer them significant savings because under the proposal their particular industry would only be required to test for COD, BOD5, pH, TSS, oil and grease, nitrogen, and phosphorous. These commenters stated that sampling for these pollutants is not particularly expensive. EPA believes that even if a group is required only to submit minimal quantitative data on particular pollutants, substantial savings can accrue to a particular industry if the group has many members. This is particularly true when the number of outfalls to be sampled, the information on storm events, and flow measurements are factored into the cost analysis. An additional benefit for members of the group as well as for permit issuing agencies is that the process of developing a permit, including drafting and responding to public comments on the permit, is consolidated by the group application process. Accordingly, it is less resource intensive for the group to work with permit issuance authorities to develop well founded permit conditions.

One commenter raised a concern about the situation where one of the facilities that is designated for submitting quantitative data drops out of the group. If this happened, then another facility would have to submit quantitative data. In response, EPA notes that one approach would be for the group to have one or two more facilities submit quantitative data than needed to avoid problems from such a departure or to account for new additions to the group. Certainly this issue goes directly to the facility selection process which is a critical component of the group application; the facilities need to be carefully selected and reviewed by the group to prevent such difficulties.

Several comments indicated a confusion over what facilities are eligible to take advantage of the group application procedure. Any industry or facility that is required to submit a storm water permit application under these regulations is eligible to participate in a group application. However, whether a facility can obtain a storm water permit under a group application procedure will depend upon whether that facility is a member of the same effluent guideline subcategory, or is sufficiently similar to other members of the group to be appropriate for a general permit or individual permit issued pursuant to the group application. Accordingly, group applications are not limited to national trade associations. The agency believes that the language in § 122.26(c)(2) adequately addresses these concerns. The process does not prohibit a particular company with multiple facilities from filing a group application as long as those facilities are sufficiently similar.

One commenter expressed concern that a single company would not be able to take advantage of the group application benefits unless the company had more than ten facilities. Under such circumstances the company would have to become integrated with a larger group of facilities owned by other companies in order to take advantage of the benefits afforded by the group application procedure. In response, the Agency is providing for a group application of between four and ten members, however at least half the facilities must submit data. One commenter stated that the number of facilities required to submit quantitative data should be determined on a case by case basis. EPA believes that 10 percent for groups with over ten members will be easiest to implement for both industry and EPA, and will ensure that adequate representative quantitative data are obtained so that meaningful determinations of facility similarity can be made and appropriate permit conditions in general or model permits can be developed.

Another commenter suggested that one facility with a multitude of storm water discharge points should be able to use the group permit application to reduce the amount of quantitative data

that it is required to submit. This is an accurate observation but only to the extent that the facility combines with several other facilities to form a group, in which case only 10% of the facilities need submit quantitative data. The group application procedure in today's rule is designed for use by multiple facilities only. However, if an individual facility has 10 outfalls with ten substantially identical effluents the discharger may petition the Director to sample only one of the outfalls, with that data applying to the remaining outfalls. See § 122.21(g)(7). Thus, existing authority already allows for a "group-like" process for sampling a subset of storm water outfalls at a single facility.

Concern was expressed that the spill reporting requirement from each facility in part 1B would preclude any group from demonstrating that the facilities sampled are "representative," because the incidence of past spills is very site-specific. EPA notes that since it has dropped the part 1B requirements for other reasons discussed below, this comment is now moot.

Numerous commenters noted that if a facility is part of a group application and is subsequently rejected as a group applicant, such an entity would not have a full year to submit an individual permit application. EPA agrees that this is a significant concern. Accordingly, those facilities that apply as a member of a group application will be afforded a full year from the time they are notified of their rejection as a member of the group to file an individual application. EPA notes that it intends to act on group application requests within 60 days of receipt; thus this approach will only provide facilities that are rejected from a group application a short extension of the deadline for other individual applications.

One commenter complained that the cost of defending a group's choice of representative facilities may exceed the cost of submitting an individual permit application, thereby reducing the incentive to apply as group. The agency anticipates that the selection process will be one open to negotiation between the affected parties and one that will end in a mutually satisfactory group of facilities. It is the intent of EPA to reduce the costs of submitting a permit application as much as possible, while providing adequate information to support permitting activities.

Another commenter argued that the use of model permits will create a disincentive for participating in a group because model permits may be used by the permit issuing authority to issue individual permits for discharges from similar facilities that did not participate in the group application. EPA does not agree. The benefit of applying as a group applicant is to take advantage of reduced representative quantitative data requirements. This incentive will exist regardless of whether or how model permits are used. Further, technology transfer can occur during the development of permits based on individual applications as well as those based on group applications.

One commenter suggested moving some of the facility specific information requirements of part 1 of the group application to part 2 of the group application in order to provide more incentive to apply as a group. EPA has considered this and believes such a change would be inappropriate. Part 1 information will be used to make an informed decision about whether individual facilities are appropriate as group members and appropriate for submitting representative quantitative data. Furthermore, information burdens from providing site specific factors in part 1 is relatively minimal, and the information requirements in the proposed part 1B application have been eliminated.

One commenter suggested that trade associations develop model permits since they have the most knowledge about the characteristics of the industries they represent. As noted above, EPA expects that the industries and trade associations will have input, through the permit application process, as to how permit conditions for storm water discharges are developed. While the applicant can submit proposed permit conditions with any type of application, EPA however cannot delegate the drafting of model permits to the permittees. EPA is developing and publishing guidance in conjunction with this rulemaking for developing permit conditions.

One commenter suggested that new dischargers should be able to take advantage of general permits developed pursuant to group applications. As with other general permits, EPA anticipates that such discharges will be able to fall within the scope of a general permit based on a group application where appropriate.

One commenter stated that the group application does not benefit municipalities since there is no requirement for industrial discharges through municipal sewers to apply for a permit. As noted in a previous discussion, industrial discharges through municipal sewers must be covered by an NPDES permit. Such facilities may avail themselves of the group application procedure. Also, municipalities are not precluded from developing a group application procedure under their management plan for industries that discharge into their municipal system, in order to streamline developing controls for such industries.

One industry wanted clarification that facilities located within a municipality would be eligible to participate in a group application. All industrial activities required to submit an individual permit are entitled to submit as part of group application, except those with existing NPDES permits covering storm water. Those facilities that discharge through a municipal separate storm sewer systems required to submit an individual application (because they do not fall within a general permit) are not precluded from using the group application procedure if appropriate.

Other municipalities expressed confusion over the industrial group application concept. The following responds to these comments. First, municipalities are not eligible for participation in a group application because the group application process is designed for industrial activities. Sampling requirements for municipal permit applications are already limited to a small subset of the outfalls from the system, as discussed below. Furthermore, permits for municipal separate storm sewer systems will be issued on a system-wide or jurisdiction-wide basis, rather than individually for each outfall. Thus, today's regulation already incorporates a "grouplike" permit application process for municipalities. Furthermore, it is highly unlikely that various municipal storm sewer systems would be "substantially similar" enough to justify group treatment in the same way as industrial facilities. In response to another comment, this regulation does not directly give the municipality enforcement power over members of an industrial group who may be discharging through its system. Only the permitting authority and private citizens and organizations (including the municipality acting in such a capacity) will have enforcement power over members of the group once permits are issued to those members.

One commenter believed that the States with authorized NPDES programs rather than EPA should establish permit terms for permits based on group applications. In response to this comment, EPA wishes to clarify its role in the group application process. Group applications will be submitted to EPA headquarters where they will be reviewed and summarized. The

summaries of the group application will be distributed to authorized NPDES States. EPA wishes to emphasize that NPDES States are not bound by draft model permits developed by EPA. States may adopt model permits for use in their particular area, making adjustments for local water quality standards and other regional characteristics. Where general permit coverage is believed to be inappropriate, facilities may be required to apply for individual permits. One commenter objected to the group application procedure because it is not consistent with existing Federal permitting procedures, which will lead to confusion in the regulated community. The agency disagrees with this assessment. The group application is a departure from established NPDES program procedures. However, the comments, when viewed in their entirety, reflect widespread support from the regulated community for a group application procedure. Further, the comments reflect that those affected by this rulemaking understand the components of the group application and the procedures under which permits will be obtained pursuant to the group application.

One commenter expressed concern regarding how BAT limits for groups of similar industries will be developed. Technology based limits will be developed based on the information received from the group applicants. If the group applicants possess similar characteristics in terms of their discharge, BAT/BCT limitations and controls will be developed accordingly for those members of the group. If the discharge characteristics are not similar then applying industries are not appropriate for the group.

One commenter has suggested that the proposed group application is too complex with regard to the part 1A, part 1B, and part 2 group application requirements and that EPA should repropose these provisions. As discussed below, EPA has simplified the industrial group application requirements by eliminating the part 1B application. Thus, reproposal is unnecessary.

One commenter criticized the group application concept as not achieving any type of reduction in administrative burden for NPDES States. EPA disagrees with this assessment. If industries take advantage of the group application procedure, EPA will have an opportunity to review information describing a large number of dischargers in an organized manner. EPA will perform much of the initial review and analysis of the group application, and provide NPDES States with summaries of the applications thereby reducing the burden on the States. Furthermore, the procedure encourages a potentially large number of facilities to be covered by a general permit, which will clearly reduce the administrative burden of issuing individual permits.

The final rule establishes a regulatory procedure whereby a representative entity, such as a trade association, may submit a group application to the Office of Water Enforcement and Permits (OWEP) at EPA headquarters, in which quantitative data from certain representative members of a group of industrial facilities is supplied. Information received in the group application will be used by EPA headquarters to develop models for individual permits or general permits. These model permits are not issued permits, but rather they will be used by EPA Regions and the NPDES States to issue individual or general permits for participating facilities in the State. In developing such permits, the Region or NPDES State will, where necessary, adapt the model permits to take into account the hydrological conditions and receiving water quality in their area. One commenter expressed the view that having this procedure managed by EPA headquarters would cause delays and it should be delegated to the States and Regions. EPA disagrees that delay will ensue using this procedure. Furthermore, consistency in development of model and general permits can be achieved if application review is coordinated at EPA headquarters.

a. Facilities Covered. Under this rule the group application is submitted for only the facilities specifically listed in the application and not necessarily for an entire industry. The facilities in the group application selected to do sampling must be representative of the group, not necessarily of the industry.

Facilities that are sufficiently similar to those covered in a general permit (issued pursuant to a group application) that commence discharging after the general permit has been issued, must refer to the provisions of that general permit to determine if they are eligible for coverage. Facilities that have already been issued an individual permit for storm water discharges will not be eligible for participation in a group application. Several commenters believed that this restriction is inequitable since they have experienced the administrative burden of submitting a permit application. EPA disagrees. Industries that have already obtained a permit for storm water discharges have developed a storm water management program, engaged in the collection of quantitative data, and possess familiarity and experience with submitting storm water permit applications. The Agency sees no point to instituting an entirely new permit application process for facilities that have storm water permits issued individually. It makes little sense for these industries to be involved with submitting another permit application before their current permit expires.

As noted above, once a general permit has been issued to a group of dischargers, a new facility may request that they be covered by the general permit. The permitting authority can then examine the request in light of the general permit applicability requirements and determine whether the facility is suitable or not.

b. Scope of Group Applications. Numerous comments were received on how facilities should be evaluated as members of a group application. Several commenters stated that effluent limitation guideline subcategories are not relevant to pollutants found in storm water, but rather to the facility's everyday activities, and therefore similarity should be based on each facility's discharge or the similarity of pollutants expected to be found in a facility's discharge. Other commenters felt that similarity of operations at facilities should be the criteria. Others, believed that an examination of the facility's impact on storm water quality should be the applied criteria. Other commenters suggested that EPA provide more guidance as to how broadly groups can be defined and that a failure to do so would discourage facilities from going to the trouble and expense of entering into the group application process. Some commenters were concerned that facilities would be rejected as a group because of variations in processes and process wastewater characteristics.

EPA does not agree that effluent limitation guideline subcategories are inappropriate as a method for determining group applications. EPA guideline subcategories are functional classifications, breaking down facilities into groups, for purposes of setting effluent limitations guidelines. The use of EPA subcategories will save time for both applicants and permitting authorities in determining whether a particular group is appropriate for a group application. Furthermore, EPA believes that this method of grouping provides adequate guidance for determining what facilities are grouped together. Establishing groups on the extent to which a facility's discharge

affects storm water quality would not provide applicants with sufficient guidance as to the appropriateness of individual industries for group applications and would not provide information needed to draft appropriate model permit conditions for potentially different types of industries, industrial processes, and material management practices.

However, EPA recognizes that the subcategory designations may not always be available or an effective methodology for grouping applicants. Also, there are situations where processes that are subject to different subcategories are combined. EPA agrees that the group application option should be flexible enough to allow groups to be created where subcategories are too rigid or otherwise inappropriate for developing group applications or where facilities are integrated or overlap into other subcategories. For these reasons, this rulemaking does not limit the submission to EPA subcategories alone, but rather allows groups to be formed where facilities are similar enough to be appropriate for general permit coverage.

In determining whether a group is appropriate for general permit coverage, EPA intends that the group applicant use the factors set forth in 40 CFR 122.26(a)(2)(ii), the current regulations governing general permits, as a guide. If facilities all involve the same or similar types of operations, discharge the same types of wastes, have the same effluent limitation and same or similar monitoring requirements, where applicable, they would probably be appropriate for a group application. To that extent, facilities that attempt to form groups where the constituent makeup of its process wastewater is dissimilar may run the risk of not being accepted for purposes of a group application.

Some commenters expressed the view that categories formed using general permit factors are too broad or that the language is too vague. One commenter expressed the view that the standard is too subjective and that permit writers will be evaluating the similarity of discharge too subjectively, while other commenters felt that the criteria should be broad and flexible. Other commenters stated that the effluent guideline subcategory or general permit coverage factors are not related to storm water discharges, because much of the criteria are based upon what is occurring inside the plant, rather than activities outside of the plant. EPA believes that these criteria are reasonable for defining the scope of a group application. EPA disagrees that the procedure, which is adequate for the issuance of general permits, is inadequate for the development of a group application. EPA believes that the activities inside a facility will generally correspond to activities outside of the plant that are exposed to storm events, including stack emissions, material storage, and waste products. Furthermore, if facilities are able to demonstrate their storm water discharge has similar characteristics, that is one element in the analysis needed for establishing that the group is appropriate. EPA disagrees that the criteria are too vague. If facilities are concerned that general permit criteria is insufficient guidance, then subcategories under 40 CFR subchapter N should be used. EPA believes that the program will function best if flexibility for creating groups is maintained.

If a NPDES approved State feels that a tighter grouping of applicants is appropriate individual permit applications can be requested from those permit applicants. One commenter indicated that it was not clear whether the group application procedure could be used for all NPDES requirements. EPA would clarify that the group application is designed only to cover storm water discharges from the industrial facilities identified in § 122.26(b)(14).

As noted above, EPA wishes to clarify that facilities with existing individual NPDES permits for storm water are not eligible to participate in the group application process. From an administrative standpoint EPA is not prepared to create an entirely different mechanism for permitting industries which already have such permits.

c. *Group Application Requirements.* The group application, as proposed, included the following requirements in three separate parts. Part 1A of a group application included: (A) Identification of the participants in the group application by name and location; (B) a narrative description summarizing the industrial activities of participants; (C) a list of significant materials stored outside by participants; and (D) identification of 10 percent of the dischargers participating in the group application for submitting quantitative data. A proposed part 1B of the group application included the following information from each participant in the group application: (A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) and related information; (B) an estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall and a narrative description of significant materials; (C) a certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested for the presence of non-storm water discharges; (D) existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility; (E) a narrative description of industrial activities at the facility that are different from or that are in addition to the activities described under part 1A; and (F) a list of all constituents that are addressed in a NPDES permit issued to the facility for any of non-storm water discharge. Part 2 of a group application required quantitative data from 10 percent of the facilities identified.

Some commenters felt that spill histories, drainage maps, material management practices, and information on significant materials stored outside are too burdensome or meaningless for evaluating similarity of discharges among group applicants. Several commenters stated that such requirements where the group may consist of several thousand facilities were impractical and would not assist EPA in developing model permits. Many commenters insisted that the requirements imposed in part 1B would effectively discourage use of the group application procedure. EPA agrees in large part with these comments. After reevaluating the components of part 1B, and the entire rationale for instituting the group application procedure, EPA has decided to excise part 1B from the requirements, and rely on part 1A and part 2 for developing appropriate permit condition. Where appropriate, EPA may require facilities to submit the information formerly in part 1B, during the term of the permit. In other cases, EPA will establish which facilities must submit individual permit applications where more site specific permits are appropriate.

Under the revised part 1 and part 2, EPA will receive information pertaining to the types of industrial activity engaged in by the group, materials used by the facilities, and representative quantitative data. EPA can use such information to develop management practices that address pollutants in storm water discharges from such facilities. For most facilities, general good housekeeping or management practices will eliminate pollutants in storm water. Such requirements can be further refined by determining the nature of a group's industrial activity and by obtaining information on material used at the facility and representative quantitative data from a

percentage of the facilities. Thus, EPA is confident that model permits and general permits can be developed from the information to be submitted under part 1 and part 2.

One commenter felt that more guidance on what makes a facility representative for sampling as part of a group is needed. In response, the Agency believes the rule as currently drafted provides adequate notice.

Another commenter asked how much sampling needed to be done and how much monitoring will transpire over the life of the permit for members of a group. This will vary from permit to permit and will be determined in permit proceedings. This rulemaking only covers the quantitative data that is to be submitted in the context of the group permit application.

One commenter indicated that because of the amount of diversity in the operations of a particular industry, obtaining a sample that could be considered representative would be extremely difficult. EPA recognizes that obtaining representative quantitative data through the group application process will prove to be difficult; however, EPA has sought to minimize these perceived problems. Under the group application concept, industries must be sufficiently similar to qualify. Industries which have significantly different operations from the rest of the group that affects the quality of their storm water discharge may be required to obtain an individual permit. Use of the nine precipitation zones will enable the data in the permit application to be more easily analyzed and patterns observed on the basis of hydrology and other regional factors. How EPA will evaluate the representativeness of the sample is discussed below.

Several commenters asked why the precipitation zone of group members is relevant to the application. The need to identify precipitation zones arises because the amount of rainfall is likely to have a significant impact on the quality of the receiving water. According to an EPA study (Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality; Office of Water, Nonpoint Source Branch, Sept. 1986) the United States can be divided into nine general precipitation zones. These zones are characterized by differences in precipitation volume, precipitation intensity, precipitation duration, and precipitation intervals. Industrial facilities that seek general permits via the group application option may show significantly different loading rates as a result of these regional precipitation differences. As an example, precipitation in Seattle, Washington, located in Zone 7, approaches the mean annual storm intensity of .024 inches/hour with a mean annual storm duration of 20 hours for that Zone. In contrast, precipitation in Atlanta, Georgia, located in Zone 3 approaches the mean annual storm intensity of .102 inches/hour and a mean storm duration of 6.2 hours for that Zone. Atlanta, receives on the average four times more precipitation per hour with storms lasting one-third as long. As a result of these differences, if identical facilities within a group application were situated in each of these areas, their storm water discharges would likely exhibit different pollutant characteristics. Accordingly, data should be submitted from facilities in each zone.

One commenter felt that the EPA should abandon or modify its rainfall zone concept, because storm water quality will depend more on what materials are used at the facility than rainfall. EPA disagrees. Because storm water loading rates may differ significantly as a result of regional precipitation differences, it is necessary that for each precipitation zone containing representatives of a group application, the group must provide samples from some of those representatives. In comments to previous rulemakings it was argued that the amount of rainfall will affect the degree of impact a storm water discharge may have on the receiving stream.

One commenter stated that the precipitation zones illustrated in appendix E of the proposed rulemaking do not adequately reflect regional differences in precipitation and that in some cases the zones cut through cities where there are concentrations of industries without differences in their precipitation patterns. The rainfall zone map is a general guide to determining what areas of the country need to be addressed when determining representative rainfall events and quantitative data. When dealing with rainfall on a national scale, it is near impossible to make generalized statements with a great deal of accuracy. In the case of rainfall zones, rainfall patterns may be similar for facilities in close proximity to each other but none the less in different rainfall zones. In response, EPA has created these zones to reflect regional rainfall patterns as accurately as possible. Because of the variable nature of rainfall such circumstances are sure to arise. However, in order to obtain a degree of representativeness EPA is convinced that the use of these rainfall zones as described is appropriate for the submittal of group applications and the quantitative data therein.

The second and third requirements of part 1 of the group application instruct the applicant to describe the industrial activity (processes) and the significant materials used by the group. For the significant materials listed, the applicant is to discuss the materials management practices employed by members of the group. For example, the applicant should identify whether such materials are commonly covered, contained, or enclosed, and whether storm water runoff from materials storage areas is collected in settling ponds prior to discharge or diverted away from such areas to minimize the likelihood of contamination. Also, the approximate percentage of facilities in the group with no practices in place to minimize materials stored outside is to be identified.

EPA considers that the processes and materials used at a particular facility may have a bearing on the quality of the storm water. Thus, if there are different processes and materials used by members of the group, the application must identify those facilities utilizing the different processes and materials, with an explanation as to why these facilities should still be considered similar.

One commenter felt that a facility should be able to describe in its permit application the possibility of individual materials entering receiving waters. EPA supports the applicant adding site specific information which will assist the permit writer making an informed decision about the nature of the facility, the quality of its storm water discharge, and appropriate permit conditions.

The fourth element of part 1 of the group application is a commitment to submit quantitative data from ten percent of the facilities listed. EPA proposed that there must be a minimum of ten and a maximum of one hundred facilities within a group that submit data. Comments reflected some dissatisfaction with this requirement. Some commenters asserted that ten percent was too high a number and would discourage group applications, while one commenter suggested a lesser percentage would be appropriate where the group can certify that facilities are representative. One commenter suggested that EPA have the discretion to allow for a smaller percentage. Several commenters argued that EPA should be satisfied with fewer than ten percent because EPA often relies on data from less than ten percent of the plants in a subcategory when promulgating effluent guidelines and that EPA should rely on data collection goals

with affected groups as was done in the 1985 storm water proposal. Other commenters pointed out that an anomalous situation could arise where the group was small and facilities were scattered throughout the precipitation zones. For example, if a group consisted of 20 members where a minimum of ten facilities had to submit samples, and two or more members were in each precipitation zone; a total of 18 facilities (90% of the group) would have to submit quantitative data. EPA believes that there must be a sufficient number of facilities submitting data for any patterns and trends to be detectable. However, in light of these comments EPA has decided to modify the language in § 122.26(c) to allow 1 discharger in each precipitation zone to submit quantitative data where 10 or fewer of the group members are located in a particular precipitation zone. EPA believes, however, that one hundred facilities would in most cases be sufficient to characterize the nature of the runoff and thus 100 should remain the maximum. If the data are insufficient, EPA has the authority to request more sampling under section 308 of the CWA.

One commenter suggested that the ten facility cutoff was unreasonable, and that instead of cutting off the group at ten, allow a smaller number in the group and allow the facilities to sample ten percent of their outfalls instead. EPA agrees, in part, and will allow groups of between four and ten to submit a group application. However, the ten percent rule would not be effective in such cases. Therefore, at least half the facilities in a group of four to ten will be required to provide quantitative data from at least one outfall, with each precipitation zone represented by at least one facility.

For any group application, in addition to selecting a sufficient number of facilities from each precipitation zone, facilities selected to do the sampling should be representative of the group as a whole in terms of those characteristics identifying the group which were described in the narrative, i.e., number and range of facilities, types of processes used, and any other relevant factors. If there is some variation in the processes used by the group (40 percent of the group of food processors are canners and 60 percent are canners and freezers, for example), the different processes are to be represented. Also, samples are to be provided from facilities utilizing the materials management practices identified, including those facilities which use no materials management practices. The representation of these different factors, to the extent feasible, is to be roughly equivalent to their proportion in the group.

EPA wishes to emphasize that the provision that ten percent of the facilities need to submit quantitative data only applies to the permit application process. The general or individual permit itself may require quantitative data from each facility.

Submittal of Part 2 of the Group Application. As with part 1, part 2 of the Group Application would be submitted to the Office of Water Enforcement and Permits, in Washington, DC. If the information is incomplete, or simply is found to be an inadequate basis for establishing model permit limits, EPA has the authority under section 308 of the Clean Water Act to require that more information be submitted, which may include sampling from facilities that were part of the group application but did not provide data with the initial submission. If the group application is used by a Region or NPDES State to issue a general permit, the general permit should specify procedures for additional coverage under the permit.

If a part 2 is unacceptable or insufficient, EPA has the option to request additional information or to require that the facilities that participated in the group application submit complete individual applications (e.g. facilities that have submitted Form 1 with the group application may be required to submit Form 2F, or facilities which have submitted complete Form 1 and Form 2F information in the group application generally would not have to submit additional information).

Once the group applications are reviewed and accepted, EPA will use the information to establish draft permit terms and conditions for models for individual and general permits. NPDES approved States and EPA regional offices will continue to be the permit-issuing authority for storm water discharges. The NPDES approved States accepting the group application approach and the EPA Regions may then take the model permits and adapt them for their particular area, making adjustments for local water quality standards and other localized characteristics, and making determinations as to the need for an individual storm water permit where general permit coverage is felt to be inappropriate. Permits would be proposed by the Region or NPDES approved State in accordance with current regulations for public comment before becoming final. In NPDES States without general permit authority, or where an individual permit is deemed appropriate, the model permit can serve as the basis for issuing an individual permit.

The group application is an NPDES permit application just like any other and, as such, would be handled through normal permitting procedures, subject to the regulatory provisions applicable to permit issuance. Incomplete or otherwise inadequate submissions would be handled in the same manner as any other inadequate permit application. The permit issuing authority would retain the right to require submission of Form 1, Form 2C and Form 2F from any individual discharger it designates.

Some commenters offered other procedures for developing a group application procedure; however, these were frequently entirely different approaches or so novel that a reproposal would be required. One commenter suggested that those industries that are identified as being likely to pollute should be required to submit quantitative data. Numerous commenters contended that a generic approach for meeting the required information requirements for group applications would allow EPA to develop adequate general permits. EPA does not view these approaches as appropriate.

5. Group Application: Applicability in NPDES States

Many commenters expressed concern about how the group application procedure will work within the framework of an NPDES approved State. The relationship between EPA and the States that are authorized to administer the NPDES program, including implementation of the storm water program, is a complicated aspect of this rulemaking. Approved States (there are 38 States and one territory so approved) must have requirements that are at least as stringent as the Federal program; they may be more stringent if they choose. Authority to issue general permits is optional with NPDES States.

EPA has determined that ten percent of the facilities must provide quantitative data in the permit application as noted above. Furthermore, these applications are submitted to EPA headquarters. Consequently States, whether NPDES approved or not, are not in a position to reject or modify this requirement. Such States may determine the amount of sampling to be done pursuant to permit conditions. If they choose to issue general permits they may include such authority in their NPDES program and,

upon approval of the program by EPA, may then issue general permits. Within the context of the NPDES provisions of the CWA, if States do not have general permitting authority, then general permits are not available in those States.

In response to one comment, EPA does not have authority to issue general or individual permits to facilities in NPDES approved states. Today's rule provides a means for affected industries to be covered by general permits developed via the group application procedure as well as from general permits developed independently of the group application process. Accordingly, today's rule anticipates that most NPDES States will seek general permit issuance authority to implement the storm water program in the most efficient and economical way. Without general permit issuance authority NPDES States will be required to issue individual permits covering storm water discharges to potentially thousands of industrial facilities.

One commenter recommended that States with approved NPDES programs should be involved in determining what industries are representative for submitting quantitative data. EPA recognizes that States will have an interest in this determination and may possess insight as to the appropriateness of using some facilities. However, EPA may be managing hundreds of group applications and approving or disapproving them as expeditiously as possible. EPA believes that involving the States in this already administratively complex and time consuming undertaking would be counterproductive. In any event, NPDES approved States are not bound by the determinations of EPA as to the appropriateness of groups or the issuance of permits based on model permits or individual permits. However, States will be encouraged to use model permits that are developed by EPA. EPA will endeavor to design general and model permits that are effective while also adaptable to the concerns of different States. Again, States are able to develop more stringent standards where they deem it to be appropriate. There are currently seventeen States that have authority to issue general permits: Arkansas, Colorado, Illinois, Kentucky, Minnesota, Missouri, Montana, New Jersey, North Dakota, Oregon, Rhode Island, Utah, Washington, West Virginia and Wisconsin. As suggested in the comments, EPA is encouraging more States to develop general permit issuing authority in order to facilitate the permitting process.

One commenter advised that the rules should state that a NPDES approved State may accept a group application or require additional information. EPA has decided not to explicitly state this in the rule. However, this comment does raise some points that need to be addressed. Because the group application option is a modification of existing NPDES permit application requirements, the State is free to adopt this option, but is not required to. If the State chooses to adopt the group application and it does not have general permit authority, the group application can be used to issue individual permits. If an approved NPDES State chooses to not issue permits based on the group application, facilities that discharge storm water associated with industrial activity that are located in that State must submit individual applications to the State permitting authority. Before submitting a group application, facilities should ascertain from the State permitting authority whether that State intends to issue permits based upon a group application approved by EPA for the purpose of developing general permits. For facilities that discharge storm water associated with industrial activity which are named in a group application, the Director may require an individual facility to submit an individual application where he or she determines that general permit coverage would be inappropriate for the particular facility.

One commenter stressed that EPA should streamline the procedure for States desiring to obtain general permit coverage. EPA has, over the last year, streamlined this procedure and encourages States to take advantage of this procedure. EPA recommends that States consider obtaining general permit authority as a means to efficiently issue permits for storm water discharges. These States should contact the Office of Water Enforcement and Permits at EPA Headquarters as soon as possible.

6. Group Application: Procedural Concerns

One commenter claimed that the proposed group application process and procedures violated federal law. This commenter claimed that EPA was abrogating its responsibility by allowing a trade association to design a data collection plan in lieu of completing an NPDES application form designed by EPA, thus violating the Federal Advisory Committee Act. The commenter stated that EPA would be improperly influenced by special interests if trade associations were able to design their own storm water data gathering plans. The commenter further asserted that any decisions by EPA on the content of specific group applications would be rulemakings and thus subject to the provisions of the Administrative Procedure Act.

EPA disagrees with the comment that the group application violates the Federal Advisory Committee Act (FACA). FACA governs only those groups that are established or "utilized" by an agency for the purpose of obtaining "advice" or "recommendations." The group application option does not solicit or involve any "advice" or "recommendations." It simply allows submission of data by certain members of a group in accordance with specific regulatory criteria for determining which facilities are "representative" of a group. As such, the group application is merely a submission in accordance and in compliance with specific regulatory requirements and does not contain discretionary uncircumscribed "advice" or "recommendations" as to which facilities are representative of a group.

Thus, the determination of which facilities should submit testing data in accordance with regulatory criteria is little different from many other regulatory requirements where an applicant must submit information in accordance with certain criteria. For example, under 40 CFR 122.21 all outfalls must be tested except where two or more have "substantially identical" effluents. Similarly, quantitative data for certain pollutants are to be provided where the applicant knows or "has reason to believe" such pollutants are discharged. Both of these provisions allow the applicant to exercise discretion in making certain judgments but such action is circumscribed by regulatory standards. EPA further has authority to require these facilities to submit individual applications. In none of these instances are "recommendations" or "advice" involved. EPA also notes that it is questionable whether, in providing for group applications, it is "soliciting" advice or recommendations from groups or that such groups are being "utilized" by EPA as a "preferred source" of advice. See 48 FR 19324 (April 28, 1983). Furthermore, this data collection effort may be supplemented by EPA if, after review of the data, EPA determines additional data is necessary for permit issuance. Other information gathering may act as a check on the group applications received.

EPA also does not agree with this commenter's claim that the group application scheme represents an

impermissible delegation of the Administrator's function in violation of the CWA regarding data gathering. The Administrator has the broadest discretion in determining what information is needed for permit development as well as the manner in which such information will be collected. The CWA does not require every discharger required to obtain a permit to file an application. Nor does the CWA require that the Administrator obtain data on which a permit is to be based through a formal application process (see 40 CFR 122.21). For years "applications" have not been required from dischargers covered by general permits. EPA currently obtains much information beyond that provided in applications pursuant to section 308 of the CWA. This is especially true with respect to general permit and effluent limitations guidelines development. The group application option is simply another means of data gathering. The Administrator may always collect more data should he determine it necessary upon review of a groups' data submission. And, he may obtain such additional data by whatever means permissible under the Statute that he deems appropriate. Thus, it can hardly be said that by this initial data gathering effort the Administrator has delegated his data gathering responsibilities. In addition, since groups are required to select "representative" facilities, etc., in accordance with specific regulatory requirements established by the Administrator and because EPA will scrutinize part 1 of the group applications and either accept or reject the group as appropriate for a group application, no impermissible delegation has occurred. EPA will make an independent determination of the acceptability of a group application in view of the information required to be submitted by the group applicant, other information available to EPA (such as information on industrial subcategories obtained in developing effluent limitations guidelines as well as individual storm water applications received as a result of today's rule) and any further information EPA may request to supplement part 1 pursuant to section 308 of the CWA. Moreover, any concerns that a general permit may be based upon biased data can be dealt with in the public permit issuance process.

Finally, EPA also does not agree that the group application option violates the Administrative Procedures Act. Again, the group application scheme is simply a data gathering device. EPA could very well have determined to gather data informally via specific requests pursuant to section 308 of the CWA. In fact, general permit and effluent limitations guideline development proceed along these lines. It would make little sense if the latter informal data gathering process were somehow illegal simply because it is set forth in a rule that allows applicants some relief upon certain showings. In this respect, several of EPA's existing regulations similarly allow an applicant to be relieved from certain data submission requirements upon appropriate demonstrations. For example, testing for certain pollutants and or certain outfalls may be waived under certain circumstances. Most importantly, the operative action of concern that impacts on the public is individual or general permit issuance based upon data obtained. As previously stated, ample opportunity for public participation is provided in the permit issuance proceeding.

7. Permit Applicability and Applications for Oil and Gas and Mining Operations

Oil, gas and mining facilities are among those industrial sites that are likely to discharge storm water runoff that is contaminated by process wastes, toxic pollutants, hazardous substances, or oil and grease. Such contamination can include disturbed soils and process wastes containing heavy metals or suspended or dissolved solids, salts, surfactants, or solvents used or produced in oil and gas operations. Because they have the potential for serious water quality impacts, Congress recognized, throughout the development of the storm water provisions of the Water Quality Act of 1987, the need to control storm water discharges from oil, gas, and mining operations, as well as those associated with other industrial activities.

However, Congress also recognized that there are numerous situations in the mining and oil and gas industries where storm water is channeled around plants and operations through a series of ditches and other structural devices in order to prevent pollution of the storm water by harmful contaminants. From the standpoint of resource drain on both EPA as the permitting agency and potential permit applicants, the conclusion was that operators that use good management practices and make expenditures to prevent contamination must not be burdened with the requirement to obtain a permit. Hence, section 402(l)(2) creates a statutory exemption from storm water permitting requirements for uncontaminated runoff from these facilities.

To implement section 402(l)(2), EPA intends to require permits for contaminated storm water discharges from oil, gas and mining operations. Storm water discharges that are not contaminated by contact with any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations will not be required to obtain a storm water discharge permit.

The regulated discharge associated with industrial activity is the discharge from any conveyance used for collecting and conveying storm water located at an industrial plant or directly related to manufacturing, processing or raw materials storage areas at an industrial plant. Industrial plants include facilities classified as Standard Industrial Classifications (SIC) 10 through 14 (the mining industry), including oil and gas exploration, production, processing, and treatment operations, as well as transmission facilities. See 40 CFR 122.26(b)(14)(iii). This also includes plant areas that are no longer used for such activities, as well as areas that are currently being used for industrial processes.

a. Oil and Gas Operations. In determining whether storm water discharges from oil and gas facilities are "contaminated", the legislative history reflects that the EPA should consider whether oil, grease, or hazardous materials are present in storm water runoff from the sites described above in excess of reportable quantities (RQs) under section 311 of the Clean Water Act or section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). (Vol. 132 Cong. Rec. H10574 (daily ed. October 15, 1986) Conference Report).

Many of the comments received by EPA regarding this exemption focused on the concern that EPA's test for requiring a permit is and would subject an unnecessarily large number of oil and gas facilities to permit application requirements. Specific comments made in support of this concern are addressed below.

A primary issue raised by commenters centered on how to determine when a storm water discharge from an oil or gas facility is "contaminated", and therefore subject to the permitting program under section 402 of the CWA. Many of the comments received from industry representatives objected to the Agency's intent as expressed in the proposal to use past discharges as a trigger for submitting permit applications.

The proposed rule provided that the notification requirements for releases in excess of RQs established under the CWA and CERCLA would serve as a

basis for triggering the submittal of permit applications for storm water discharges from oil and gas facilities. As described in the proposal, oil and gas operations that have been required to notify authorities of the release of either oil or a hazardous substance via a storm water route would be required to submit a permit application. In other words, any facility required to provide notification of the release of an RQ of oil or a hazardous substance in storm water in the past would be required to apply for a storm water permit under the current rule. In addition, any facility required to provide notification regarding a release occurring from the effective date of today's rule forward would be required to apply for a storm water permit.

Commenters maintained that the use of historical discharges to require permit applications is inconsistent with the language and intent of section 402(1)(2) of the CWA, and relevant legislative history, both of which focus on present contamination. Requiring storm water permits based solely on the occurrence of past contaminated discharges, even where no present contamination is evident, would go beyond the statutory requirement that EPA not issue a permit absent a finding present contamination. Commenters also noted that the proposal did not take into account the fact that past problems leading to such releases may have been corrected, and that requiring an NPDES permit may no longer be necessary. The result of such a requirement, commenters maintained, would be an excessive number of unnecessary permit applications being submitted, at significant cost and minimal benefit to both regulated facilities and regulating authorities.

Commenters also indicated that using the release of reportable quantities of oil, grease or hazardous substances as a permit trigger would identify discharges of an isolated nature, rather than the continuous discharges, which should be the focus of the NPDES permit program under section 402. Such an approach, commenters maintained, is inconsistent with existing regulations under section 311 of the CWA, and would result in permit applications from facilities that are more appropriately regulated under section 311.

Despite these criticisms, many commenters recognized that the Agency is left with the task of determining when discharges from oil and gas facilities are contaminated, in order to regulate them under section 402(1)(2). It was suggested by numerous commenters that the EPA adopt an approach similar to that used under section 311 of the CWA for Spill Prevention Control and Countermeasure (SPCC) Plans. Under SPCC, facilities that are likely to discharge oil into waters of the United States are required to maintain a SPCC plan. In the event the facility has a spill of 1,000 gallons or 2 or more reportable quantities of oil in a 12 month period, the facility is required to submit its SPCC plan to the Agency. The triggering events proposed by the commenters for storm water permits for oil and gas operations are six reportable sheens or discharges of hazardous substances (other than oil) in excess of section 311 or section 102 reportable quantities via a storm water point source route over any thirty-six month period. It was suggested that if this threshold is reached, an operator would then file a permit application (or join a group application) based upon the presumption that its current storm water discharges are contaminated.

In response to these comments, the Agency believes that past releases that are reportable quantities can be a valid indicator of the potential for present contamination of discharges. The legislative history as cited above supports this conclusion. EPA would note that the existence of a RQ release would serve only as a triggering mechanism for a permit application. Under the proposed rule, evidence of past contamination would merely require submission of a permit application and would not be used as conclusive evidence of current contamination. The determination as to whether a permit would be actually required due to current contaminated discharge would be made by the permitting authority after reviewing the permit application. The fact of a past RQ release does not necessarily imply a conclusive finding of contamination, only that sufficient potential for contamination exists to warrant a permit application or the collection of other further information. Today's rule does not change the proposed approach in this respect. Thus, EPA does not believe that today's rule exceeds the authority of section 402(1)(2).

EPA believes that there is no legal impediment to using past RQ discharges as a trigger for requiring a storm water permit application. EPA notes that, as mentioned above, even those commenters who objected to the proposed test on legal authority grounds merely offered an alternate test that requires more releases to have occurred within a shorter period of time before a permit application is required.

Therefore, the only disagreement that remains is over what constitutes a reasonable test that will identify facilities with the potential for storm water contamination. EPA notes that neither the statute nor the legislative history provides any guidance on this question. Furthermore, EPA disagrees with the commenters who suggested that 6 releases in the past 3 years or 2 releases in the past year are necessarily more valid measures of the potential for current contamination than EPA's proposed test. There is no statistical or other basis for preferring one test to the other. However, EPA does agree with those commenters that suggest that a single release in the distant past may not accurately reflect current conditions and the current potential for contamination.

EPA has therefore amended today's rule to provide that only oil and gas facilities which have had a release of an RQ of oil or hazardous substances in storm water in the past three years will be required to submit a permit application. EPA believes that limiting the permit trigger to events of the past three years will address commenters' concerns regarding the use of "stale history" in determining whether an application is required. EPA notes that the three year cutoff is consistent with the requirement for industrial facilities to report significant leaks or spills at the facility in their storm water permit applications. See 40 CFR 122.26(c)(1)(ii)(D).

Commenters asserted that EPA and the States must have some reasonable basis for concluding that a storm water discharge is contaminated before requiring permit applications or permits. Commenters believed that § 122.26(c)(1)(iii)(B) as proposed implied that the Agency's authority in this respect is unrestricted. In response, EPA may collect such data by whatever appropriate means the statute allows, in order to obtain information that a permit is required. Usually, the most practical tool for doing so is the permit application itself. However, if necessary to supplement the information made available to the Agency, EPA has broad authority to obtain information necessary to determine whether or not a permit is required, under section 308 of the Clean Water Act. Given the plain language of the CWA and the Congressional intent as manifested in the legislative history, the Agency is convinced that the approach described above is appropriate. Yet, as further discussed below, EPA has also deleted as redundant § 122.26(c)(1)(iii)(B).

Regarding the types of facilities included in the storm water regulation, a number of commenters suggested that the Agency has misconstrued the meaning of facilities "associated with

industrial activity", and has proposed an overly broad definition of such facilities in the oil and gas industry. Specifically, commenters suggested that only the manufacturing sector of the oil and gas industry should be subject to storm water permit application requirements, and that exploration and production activities, gas stations, terminals, and bulk plants should all be exempted from storm water permitting requirements. Commenters maintain that this broad interpretation would subject many oil and gas facilities to the storm water permit requirements, when these were not intended by Congress to be so regulated. As a second point related to this issue, some commenters felt that transmission facilities were not intended to be regulated under the storm water provisions, and should be exempted from permit requirements. This would be consistent, it was argued, with legislative history which concluded that transmission facilities do not significantly contribute to the contamination of water.

The Agency disagrees that these facilities do not fall under the storm water permitting requirements as envisioned by Congress. SIC 13, which is relied upon by EPA to identify these oil and gas operations, describes oil and gas extraction industries as including facilities related to crude oil and natural gas, natural gas liquids, drilling oil and gas wells, oil and gas exploration and field services. Moreover, legislative history as it applies to industrial activities, and thus to oil and gas (mining) operations, expressly includes exploration, production, processing, transmission, and treatment operations within the purview of storm water permitting requirements and exemptions. EPA's intent is for storm water permit requirements (and the exemption at hand) to apply to the activities listed above (exploration, production, processing, treatment, and transmission) as they relate to the categories listed in SIC 13.

Commenters requested clarification from the Agency that storm water discharges from oil and gas facilities require a permit or the filing of a permit application only when they are contaminated at the point of discharge into waters of the United States. Commenters noted that large amounts of potentially contaminated stormwater may not enter waters of the United States, or may enter at a point once the discharge is no longer "contaminated". In these cases, it should be clear that no permit or permit application is required.

EPA agrees that oil and gas exploration, production, processing, or treatment operations or transmission facilities must only obtain a storm water permit when a discharge to waters of the U.S. (including those discharges through municipal separate storm sewers) is contaminated. A permit application will be required when any discharge in the past three years or henceforth meets the test discussed above.

Under the proposed rule, the Agency stated at § 122.26(c)(1)(iii)(B) that the Director may require on a case-by-case basis the operator of an existing or new storm water discharge from an oil or gas exploration, production, processing, or treatment operation, or transmission facility to submit an individual permit application. The Agency has removed this section since CWA section 402(l)(2), as codified in 122.26(c)(1)(iii)(A), adequately addresses every situation where a permit should be required for these facilities.

b. Use of Reportable Quantities to Determine if a Storm Water Discharge from an Oil or Gas Operation is Contaminated. Section 311(b)(5) of the CWA requires reporting of certain discharges of oil or a hazardous substance into waters of the United States (see 44 FR 50766 (August 29, 1979)). Section 304(b)(4) of the Act requires that notification levels for oil and hazardous substances be set at quantities which may be harmful to the public health or welfare of the United States, including but not limited to fish, shellfish, wildlife, and public or private property, shorelines and beaches. Facilities which discharge oil or a hazardous substance in quantities equal to or in excess of an RQ, with certain exceptions, are required to notify the National Response Center (NRC).

Section 102 of CERCLA extended the reporting requirement for releases equal to or exceeding an RQ of a hazardous substance by adding chemicals to the list of hazardous substances, and by extending the reporting requirement (with certain exceptions) to any releases to the environment, not just those to waters of the United States.

Pursuant to section 311 of the CWA, EPA determined reportable quantities for discharges by correlating aquatic animal toxicity ranges with 5 reporting quantities, i.e., 1-, 10-, 100-, 1000-, and 5000- pounds per 24 hour period levels. Reportable quantity adjustments made under CERCLA rely on a different methodology. The strategy for adjusting reportable quantities begins with an evaluation of the intrinsic physical, chemical, and toxicological properties of each designated hazardous substance. The intrinsic properties examined, called "primary criteria," are aquatic toxicity, mammalian toxicity (oral, dermal, and inhalation), ignitability, reactivity, and chronic toxicity. In addition, substances that were identified as potential carcinogens have been evaluated for their relative activity as potential carcinogens. Each intrinsic property is ranked on a five-tier scale, associating a specific range of values on each scale with a particular reportable quantity value. After the primary criteria reportable quantities are assigned, the hazardous substances are further evaluated for their susceptibility to certain extrinsic degradation processes (secondary criteria). Secondary criteria consider whether a substance degrades relatively rapidly to a less harmful compound, and can be used to raise the primary criteria reportable quantity one level.

Also pursuant to section 311, EPA has developed a reportable quantity for oil and associated reporting requirements at 40 CFR part 110. These requirements, known as the oil sheen regulation, define the RQ for oil to be the amount of oil that violates applicable water quality standards or causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited.

Reportable quantities developed under the CWA and CERCLA were not developed as effluent guideline limitations which establish allowable limits for pollutant discharges to surface waters. Rather, a major purpose of the notification requirements is to alert government officials to releases of hazardous substances that may require rapid response to protect public health, welfare, and the environment. Notification based on reportable quantities serves as a trigger for informing the government of a release so that the need for response can be evaluated and any necessary response undertaken in a timely fashion. The reportable quantities do not themselves represent any determination that releases of a particular quantity are actually harmful to public health, welfare, or the environment.

EPA requested comment on the use of RQs for determining contamination in discharges from oil and gas facilities. As noted above numerous commenters supported the concept of using reportable quantities under certain circumstances. Comments on the measurement of oil sheens for the purpose of triggering a permit application were divided. Some commented that it is much too stringent because the amount of oil creating a

sheen may be a relatively small amount. Others viewed the test as a quick, easy, practical method that has been effective in the past.

In relying on the reporting requirements associated with releases in excess of RQs for oil or hazardous substances to trigger the submittal of permit applications for oil and gas operations, the Agency believes that the use of the reporting requirements for oil will be particularly useful. The Agency believes that the release of oil to a storm water discharge in amounts that cause an oil sheen is a good indicator of the potential for water quality impacts from storm water releases from oil and gas operations. In addition, given the extremely high number of such operations (the Agency estimates that there are over 750,000 oil wells alone in the United States), relying on the oil sheen test to determine if storm water discharges from such sites are "contaminated" will be a far easier test for operators to determine whether to file a storm water permit application than a test based on sampling. The detection of a sheen does not require sophisticated instrumentation since a sheen is easily perceived by visual observation. EPA agrees with those comments calling the oil sheen test an appropriate measure for triggering a storm water permit application. In adopting this approach, EPA recognizes, as pointed out by many commenters that an oil sheen can be created with a relatively small amount of oil.

One commenter suggested that contamination must be caused by contact with on-site material before being subject to permit application requirements. The Agency agrees with this comment. Those facilities that have had releases in excess of reportable quantities will generally have contamination from contact with on-site material as described in the CWA. Thus, use of the RQ test is an appropriate trigger. As discussed above, determination of whether contamination is present to warrant issuance of a permit will be made in the context of the permit proceeding.

One commenter believed that the use of RQs is inappropriate because "the statute intended to exempt only oil and gas runoff that is not contaminated at all." The Agency wishes to clarify that reportable quantities are being used to determine what facilities need to file permit applications and to describe what is meant by the term "contaminated." The Director may require a permit for any discharges of storm water runoff contaminated by contact with any overburden, raw material, intermediate product, finished product, by product or waste product at the site of such operations. The use of RQs is solely a mechanism for identifying the facilities most likely to need a storm water permit consistent with the legislative history of section 402(l)(2).

c. Mining Operations. The December 7, 1988 proposal would establish background levels as the standard used to define when a storm water discharge from a mining operation is contaminated. When a storm water discharge from a mining site was found to contain pollutants at levels that exceed background levels, the owner or operator of the site was required to submit a permit application for that operation. The proposal was founded upon language in the legislative history stating that the determination of whether storm water is contaminated by contact with overburden, raw material, intermediate product, finished product, byproduct, or waste products "shall take into consideration whether these materials are present in such stormwater runoff . . . above natural background levels". [Vol. 132 Cong. Rec. H10574 (daily ed. Oct. 15, 1986) Conference Report].

Comments received on this component of the rule suggested that background levels of pollutants would be very difficult to calculate due to the complex topography frequently encountered in alpine mining regions. For example, if a mine is located in a mountain valley surrounded on all sides by hills, the site will have innumerable slopes feeding flow towards it. Under such circumstances, determining how the background level is set would prove impractical. Commenters indicated that it is very difficult to measure or determine background levels at sites where mining has occurred for prolonged periods. In many instances, data on original background levels may not be available due to long-term site activity. As a result, any background level established will vary based on the type and level of previous activity. In addition, mining sites typically have background levels that are naturally distinct from the surrounding areas. This is due to the geologic characteristics that makes them valuable as mining sites to begin with. This also makes it difficult to establish accurate background levels.

Because of these concerns EPA has decided to drop the use of background levels as a measure for determining whether a permit application is required. Accordingly, a permit application will be required when discharges of storm water runoff from mining operations come into contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site. Similar to the RQ test for oil and gas operations, EPA intends to use the "contact" test solely as a permit application trigger. The determination of whether a mining operation's runoff is contaminated will be made in the context of the permit issuance proceedings.

If the owner or operator determines that no storm water runoff comes into contact with overburden, raw material, intermediate product, finished product, byproduct, or waste products, then there is no obligation to file a permit application. This framework is consistent with the statutory provisions of section 402(1)(2) and is intended to encourage each mining site to adopt the best possible management controls to prevent such contact.

Several commenters stated that EPA's use of total pollutant loadings for determining permit applicability is not consistent with the general framework of the NPDES program. Their concern is that such evaluation criteria depart from how the NPDES program has been administered in the past, based on concentration limits. In addition, commenters requested that EPA clarify that information on mass loading will be used for determining the need for a permit only. Since the analysis of natural background levels as a basis for a permit application has been dropped from this rulemaking, these issues are moot.

Commenters noted that the proposed rule did not specify what impact this rulemaking has on the storm water exemptions in 40 CFR 440.131. The commenters recommended not changing any of these provisions. Some commenters indicated that mining facilities that have NPDES permits should not be subject to additional permitting under the storm water rule. EPA does not intend that today's rule have any effect on the conditional exemptions in 40 CFR 440.131. Where a facility has an overflow or excess discharge of process-related effluent due to stormwater runoff, the conditional exemptions in 40 CFR 440.131 remain available.

Several commenters note that the term overburden, as used in the context of the proposed storm water rule, is not defined and recommended that this term should be defined to delineate the scope of the regulation. EPA agrees that the term overburden should be defined to help properly define the scope the storm water rule. In today's rule, the term

overburden has been clarified to mean any material of any nature overlying a mineral deposit that is removed to gain access to that deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations. This definition is patterned after the overburden definition in SMCRA, and is designed to exclude undisturbed lands from permit coverage as industrial activity. However, the definition provided in this regulation may be revised at a later date, to achieve consistency with the promulgation of RCRA Subtitle D mining waste regulations in the future.

Numerous commenters raised issues pertaining to the inclusion of inactive mining areas as subject to the stormwater rule. Some commenters indicated that including inactive mine operations in the rule would create an unreasonable hardship on the industry. EPA has included inactive mining areas in today's rule because some mining sites represent a significant source of contaminated stormwater runoff. EPA has clarified that inactive mining sites are those that are no longer being actively mined, but which have an identifiable owner/operator. The rule also clarifies that active and inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities required for the sole purpose of maintaining the mining claim are undertaken. The Agency would clarify that claims on land where there has been past extraction, beneficiation, or processing of mining materials, but there is currently no active mining are considered inactive sites. However, in such cases the exclusion discussed above for uncontaminated discharges will still apply.

EPA's definition of active and inactive mining operations also excludes those areas which have been reclaimed under SMCRA or, for non-coal mining operations, under similar applicable State or Federal laws. EPA believes that, as a general matter, areas which have undergone reclamation pursuant to such laws have concluded all industrial activity in such a way as to minimize contact with overburden, mine products, etc. EPA and NPDES States, of course, retain the authority to designate particular reclaimed areas for permit coverage under section 402(p)(2)(E).

The proposed rule had included an exemption for areas which have been reclaimed under SMCRA, although the language of the proposed rule inadvertently identified the wrong universe of coal mining areas. The final rule language has been revised to clarify that areas which have been reclaimed under SMCRA (and thus are no longer subject to 40 CFR part 434 subpart J) are not subject to today's rule. Today's rule thus is consistent with the coal mining effluent guideline in its treatment of areas reclaimed under SMCRA.

In response to comments, EPA has also expanded this concept to exclude from coverage as industrial activity non-coal mines which are released from similar State or Federal reclamation requirements on or after the effective date of this rule. EPA believes it is appropriate, however, to require permit coverage for contaminated runoff from inactive non-coal mines which may have been subject to reclamation regulations, but which have been released from those requirements prior to today's rule. EPA does not have sufficient evidence to suggest that each State's previous reclamation rules and/or Federal requirements, if applicable, were necessarily effective in controlling future storm water contamination.

6. Application Requirements for Construction Activities

As discussed above, EPA has included storm water discharges from activities involving construction operations that result in the disturbance of five acres total land in the regulatory definition of storm water discharges associated with industrial activity.

This is a departure from the proposed rule which required permit applications for discharges from activities involving construction operations that result in the disturbance of less than one acre total land area and (which are not part of a larger common plan of development or sale; or operations that are for single family residential projects, including duplexes, triplexes, or quadruplexes, that result in the disturbance of less than five acre total land areas and which are not part of a larger common plan of development or sale). The reasons for this change are noted below.

Many commenters representing municipalities, States, and industry requested that clearing, grading, and excavation activities not be included in the definition of storm water discharges associated with industrial activity. It was suggested that EPA delay including construction activities until after the studies mandated in section 402(p)(5) of the CWA are completed. Other commenters felt that NPDES permits are not appropriate for construction discharges due to their short term, intermediate and seasonal nature. Another commenter felt that only the construction activities on the sites of the industrial facilities identified in the other subsections of the definition of "associated with industrial activity" should be included.

EPA believes that storm water permits are appropriate for the construction industry for several reasons. Construction activity at a high level of intensity is comparable to other activity that is traditionally viewed as industrial, such as natural resource extraction. Construction that disturbs large tracts of land will involve the use of heavy equipment such as bulldozers, cranes, and dump trucks. Construction activity frequently employs dynamite and/or other equipment to eliminate trees, bedrock, rockwork, and to fill or level land. Such activities also engage in the installation of haul roads, drainage systems, and holding ponds that are typical of the industrial activity identified in § 122.26(b)(14)(i-x). EPA cannot reasonably place such activity in the same category as light commercial or retail business.

Further, the runoff generated while construction activities are occurring has potential for serious water quality impacts and reflects an activity that is industrial in nature. Where construction activities are intensive, the localized impacts of water quality may be severe because of high unit loads of pollutants, primarily sediments. Construction sites can also generate other pollutants such as phosphorus, nitrogen and nutrients from fertilizer, pesticides, petroleum products, construction chemicals and solid wastes. These materials can be toxic to aquatic organisms and degrade water for drinking and water-contact recreation. Sediment runoff rates from construction sites are typically 10 to 20 times that of agricultural lands, with runoff rates as high as 100 times that of agricultural lands, and 1,000 to 2,000 times that of forest lands. Even small construction sites may have a significant negative impact on water quality in localized areas. Over a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades.

EPA is convinced that because of the impacts of construction discharges that are directly to waters of the United States, such discharges should be addressed by permits issued by Federal or NPDES State permitting authorities. It is evident from numerous studies and reports submitted under section 319 of the CWA that discharges from construction sites continue to be a major source of water quality problems and water quality standard violations.

Accordingly EPA is compelled to address these source under these regulations and thereby regulate these sources under a nationally consistent program with an appropriate level of enforcement and oversight.

Techniques to prevent or control pollutants in storm water discharges from construction are well developed and understood. A primary control technique is good site planning. A combination of nonstructural and structural best management practices are typically used on construction sites. Relatively inexpensive nonstructural vegetative controls, such as seeding and mulching, are effective control techniques. In some cases, more expensive structural controls may be necessary, such as detention basins or diversions. The most efficient controls result when a comprehensive storm water management system is in place. Another reason that EPA has decided to address this class of discharges is that it is part of the Agency's recent emphasis on pollution prevention. Studies such as NURP indicate that it is much more cost effective to develop measures to prevent or reduce pollutants in storm water during new development than it is to correct there problems later on. Many of these prevention and control practices, which can take the form of grading patterns as well as other controls, generally remain in place after the construction activities are completed.

a. Permit Application Requirements. In today's rulemaking, EPA has set forth distinct permit application requirements for these construction activities, at § 122.26(c)(1)(ii), to be used where general permits to be developed and promulgated by EPA are inapplicable. Such facilities will be required to provide a map indicating the site's location and the name of the receiving water and a narrative description of:

- The nature of the construction activity;
- The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;
- Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a description of applicable Federal requirements and State or local erosion and sediment control requirements;
- Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a description of applicable State or local requirements, and
- An estimate of the runoff coefficient (fraction of total rainfall that will appear as runoff) of the site and the increase in impervious area after the construction addressed in the permit application is completed, a description of the nature of fill material and existing data describing the soil or the quality of the discharge.

Permit application requirements for construction activities do not include the submission of quantitative data. EPA believes that the changing nature of construction activities at a site to be covered by the permit application requirements generally would not be adequately described by quantitative data. The comments received by EPA support this determination. One State commented that a program they instituted has been based on quantitative data for the past 10 years and has proven to be very awkward, even unworkable.

Twenty commenters responded to the issue of appropriate construction site application deadlines including: Three towns (<100,000 population); one medium municipality; one large municipality; one agency associated with a large municipality; three agencies associated counties; three agencies associated with States; two industries; five industrial associations; and one private organization representing industry. The commenters primarily focused on actual deadlines and permitting authority response time.

Applicants for permits to discharge storm water into the waters of the United States from a construction site would normally be required to submit permits in the same time frame as new sources and new discharges. This rulemaking requires permit applications from such sources to be submitted at least 180 days prior to the date on which the discharge is to commence. Four commenters agreed with the application deadline of 180 days prior to commencement of discharge. Three commenters felt it would be difficult to apply 180 days prior to when the discharge was to begin. Three commenters recommended shortening the time period to 90 days. Numerous other commenters were concerned over delays during the permitting authority's review of the permit application. The commenters requested that a maximum response time be set in the regulation. Suggested maximum response times were 90 and 30 days.

In response to these comments, EPA has changed the application deadline for construction permits from at least 180 days prior to discharge to at least 90 days prior to the date when construction is to commence. This change reflects EPA's recognition of the nature of construction operations in that developers/builders may not be aware of projects 180 days before they are scheduled to begin.

Numerous commenters expressed concern over who should be responsible for applying for the permit. Two commenters felt the owner should be responsible so that construction bid documents can include the storm water management requirements and to avoid confusion among multiple subcontractors. One commenter thought that either the owner/developer, or general contractor should be responsible. Another commenter suggested that the designer should obtain the permit which would allow all necessary erosion controls to be part of the project plan. Several commenters requested that the responsibility simply be more clearly defined.

In response to these comments, EPA would clarify that the operator will generally be responsible for submitting the permit application. Under existing regulations at § 122.21(b), when a facility is owned by one person but operated by another, then it is the duty of the operator to apply for the permit. Due to the temporary nature of construction activities, EPA believes that the operator is the most appropriate person to be responsible for both short and long term best management practices included on the site. EPA considers the term "operator" to include a general contractor, who would generally be familiar enough with the site to prepare the application or to ensure that the site would be in compliance with the permit requirements. General contractors, in many cases, will often be on site coordinating the operation among his/her staff and any subcontractors. Furthermore, the operator/general contractor would be much more familiar with construction site operations than the owner and should be involved in the site planning from its initial stages. The application requirements in today's rule are designed to provide flexibility in developing controls to reduce pollutants in storm water discharges from construction sites. A significant aspect to this is the role of State and local authorities in control of construction storm water discharges. Sixty-three commenters addressed the question of what the role of State and local authorities should be. Most of these commenters supported local government control of construction discharges and that qualified State programs should satisfy Federal requirements.

Many commenters representing municipalities, States, and industry, felt that local government should have full control over construction storm water

discharges, either under existing programs or those required by their municipal permit. EPA agrees with these comments as far as discharges through municipal storm sewers are concerned. EPA is requiring municipalities that are required to submit municipal permit applications under this regulation to describe their program for controlling storm water discharges from construction activities into their separate storm sewers. It is envisioned that municipalities will have primary responsibility over these discharges through NPDES municipal storm water permits. However, EPA also plans to cover such discharges under general permits to be promulgated in the near future.

In response to several comments that the regulation should provide flexibility for qualified State programs to satisfy Federal requirements, the application requirements recognize that many States have implemented erosion and sediment control programs. The permit application requires a brief description of these programs. This is intended to ensure consistency between NPDES permit requirements and other State controls. Permit applicants will be in the best position to pass on this site-specific information to the permitting authority. States or Federal NPDES authorities will have the ability to exercise authority over these discharges as will other State and local authorities responsible for construction. EPA envisions NPDES permitting efforts will be coordinated with any existing programs.

The proposed rule requested comments on appropriate measures to reduce pollutants in construction site runoff. Numerous commenters representing municipalities, States, and industry responded. Some commenters recommended specific best management practices (BMPs) whereas others suggested ways in which the measures should be incorporated into the program. One commenter suggested that EPA establish design and performance standards for appropriate BMPs. One State commenter recommended requiring a schedule or sequence for use of BMPs. A municipality suggested developing guidance on erosion control at construction sites and disseminating the guidance to educate contractors and construction workers in proper erosion control techniques. The Agency is continuing to review these recommendations for the purposes of permit development and issuance.

Another commenter suggested that further research be done to determine the effectiveness of particular BMPs in reducing pollutants in construction site runoff. EPA agrees that more research and studies can be undertaken to develop methodologies for more effective storm water controls and will continue to look at these concerns pursuant to section 402(p)(5) studies. However, EPA is convinced that enough information, technology, and proven BMP's are available to address these discharges in this regulation.

Specific BMPs suggested by the commenters include: wheel washing; locked exit roadways, street cleaning methods which exclude sheet washing; clearing and grading codes; construction standards; riparian corridors; solids retention basins; soil erosion barriers; selected excavation; adequate collection systems; vegetate disturbed areas; proper application of fertilizers; proper equipment storage; use of straw bales and filter fabrics; and use of diversions to reduce effective length of slopes. EPA is continuing to evaluate these suggestions for developing appropriate permit conditions for construction activity.

b. Administrative Burdens. Many commenters representing municipalities, States, and industry commented on the administrative burdens of individually permitting each construction site discharging to waters of the United States. The extensive use of general permits for storm water discharges from construction activities that are subject to NPDES requirements is anticipated to minimize administrative delays associated with permit issuance. Many commenters strongly endorsed extensive use of general permits. In addition the Agency will provide as much assistance as possible for developing appropriate permit conditions.

Many commenters responded to the use of acreage limits in determining which construction sites are required to submit a permit application, including several cities, counties and States. Some commenters generally supported the use of an acre limit. Many commenters suggested increasing the acreage limit. Several suggested using a five acre limit for both residential and nonresidential development. Others suggested greater acreage as the cutoff. Two commenters concurred with the proposed limit of one acre/five acres and one commenter suggested lowering the residential limit to one acre.

Other factors were suggested as a means to create a cutoff for requiring permit applications. Several commenters suggested exempting construction that would be completed with a certain time frame, such as construction of less than 12 months. EPA believes that this is inappropriate because some construction can be intensive and expansive, but nonetheless take place over a short period of time, such as a parking lot. One commenter suggested basing the limit on the quantity of soil moved, i.e., cubic yards. In response, this approach would not be particularly helpful since removal of soil will not necessarily relate to the amount of land surface disturbed and exposed to the elements. Another commenter suggested that where there is single family detached housing construction that should trigger applications as well as the proposed acreage limit. This would not be appropriate since EPA is attempting to focus only on those construction activities that resemble industrial activity. After considering these and similar comments EPA has limited the definition of "storm water discharge associated with industrial activity" by exempting from the definition those construction operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale. In considering the appropriate scope of the definition of storm water discharge associated with industrial activity as it relates to construction activities, EPA recognized that a wide variety of factors can affect the water quality impacts associated with construction site runoff, including the quality of receiving waters, the size of the area disturbed, soil conditions, seasonal rainfall patterns, the slope of area disturbed, and the intensity of construction activities. These factors will be considered by the permit writer when issuing the permit. However, as noted above, EPA views such site-specific factors to be too difficult to define in a regulatory framework that is national in scope. For example, attempting to adjust permit application triggers based upon a myriad of regional rainfall patterns is not a practical solution. However, permit conditions adjusted for specific geographical areas may be appropriate.

Under the December 7, 1988, proposal the definition of industrial activity exempted: construction operations that resulted in the disturbance of less than one acre total land area which was not part of a larger common plan of development or sale; or operations for single family residential projects, including duplexes, triplexes, or quadruplexes, that result in the disturbance of less than five acre total land areas which were not part of a larger common plan of development or sale. EPA distinguished between single family residential development and

other commercial development because other commercial development is more likely to occur in more densely developed areas. Also, it was reasoned that other commercial development provides a more complete opportunity to develop controls that remain in place after the construction activity is completed, since continued maintenance after the permit has expired, is more feasible.

However, EPA has decided to depart from the proposal and use an unqualified five acre area in today's final rule. This limit has been selected, in part, because of administrative concerns. EPA recognizes that State and local sediment and erosion controls may address construction activities disturbing less five acres for residential development; the five acre limit in today's rule is not intended to supersede more stringent State or local sediment and erosion controls. In light of the comments, EPA is convinced that the acreage limit is appropriate for identifying sites that are amount to industrial activity. Several comments suggested higher acreage limits without giving a supporting rationale except administrative concerns. Several commenters agreed that the five acre limit is suitable, but again without specifying why they agreed. EPA is convinced, however, that the acreage limits as finalized in today's rule reflect an earth disturbance and/or removal effort that is industrial in magnitude. Disturbances on large tracts of land will employ more heavy machinery and industrial equipment for removing vegetation and bedrock.

For construction facilities that are not included in the definition of storm water discharge associated with industrial activity, EPA will consider the appropriate procedures and methods to reduce pollutants in construction site runoff under the studies authorized by section 402(p)(5) of the CWA. EPA will also consider under section 402(p)(5) appropriate procedures and methods during post-construction for maintaining structural controls developed pursuant to NPDES permits issued for storm water discharges associated with industrial activity from construction sites.

Numerous commenters requested clarification as to whether permits for storm water discharges from construction activities at an industrial facility are required. EPA is requiring permits for all storm water discharges from construction activities where the land disturbed meets the requirements established in § 122.26(b)(14)(x) and which discharge into waters of the United States. The location of the construction activity or the ultimate land use at the site does not factor into the analysis.

C. Municipal Separate Storm Sewer Systems

1. Municipal Separate Storm Sewers

Today's rule defines "municipal separate storm sewer" at § 122.26(b)(8) to include any conveyance or system of conveyances that is owned or operated by a State or local government entity and is designed for collecting and conveying storm water which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. It is important to note that today's permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more do not apply to discharges from combined sewers (systems designed as both a sanitary sewer and a storm sewer). For purposes of calculating whether a municipal separate storm sewer system meets the large or medium population criteria, a municipality may petition to have the population served by a combined sewer deducted from the total population. Section 122.26(f) of today's rule describes this procedure.

EPA requested comments on whether different language for the definition of municipal separate storm sewer would clarify responsibility under the NPDES permit system. Comments were also requested on whether the definition needed to be clarified by explicitly stating that municipal streets and roads with drainage systems (curb and gutter, ditches, etc.) are part of the municipal storm sewer system, and that the owners or operators of such roads are responsible for such discharges. Numerous comments were received by EPA on this issue. Some commenters questioned whether road culverts and road ditches were municipal separate storm sewers, while others specifically recommended that further clarifying language should be added so that owners and operators of roads and streets understand that they are covered by this regulation. In light of these comments, EPA has clarified that municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains that discharge into the waters of the United States are municipal separate storm sewers. One commenter asked if "other wastes" in the proposed definition of municipal separate storm sewer (40 CFR 122.26 (b)(8)(i)) included storm water. In response, EPA has added "storm water" to this definition in order to clarify that the rule addresses such systems.

EPA requested comments on whether legal classifications such as "storm sewers that are not private (e.g. public, district or joint district sewers)" would provide a clearer definition of municipal separate storm sewer than an owner or operator criterion, especially for the purpose of determining responsibility under the NPDES program. Most commenters agreed that the owner/operator concept, and the additional language noted above, is sufficient for this purpose. EPA also requested comments on to what extent the owner/operator concept should apply to municipal governments with land-use authority over lands which contribute storm water runoff to the municipal storm sewer system, and how the responsibility should be clarified. In response to comments on this point, EPA has addressed these concerns in the context of clarifying what municipal entities are responsible for applying for a permit covering storm water discharges from municipal systems in section VI.H. below.

One commenter expressed a desire for clarification as to whether conveyances that were once used for the conveyance of storm water, but are no longer used in that manner, are covered by the definition. EPA emphasizes that this rulemaking only addresses conveyances that are part of a separate storm sewer system that discharges storm water into waters of the United States.

One commenter stated that if EPA intends to regulate roadside collection systems then EPA must repropose since these were not considered by the public. EPA disagrees with this comment since one of the options specifically addressed the inclusion of roadside drainage systems and roads in the definition of municipal separate storm sewer system. In addition, the public recognized the issue in comments on the proposal. EPA would note that several commenters specifically endorsed EPA's inclusion of these conveyances.

2. Effective Prohibition on Non-Storm Water Discharges

Section 402(p)(3)(B)(ii) of the amended CWA requires that permits for discharges from municipal storm sewers shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers. Based on the legislative history of section 405 of the WQA, EPA does not interpret the effective prohibition on non-storm water discharges to municipal separate storm sewers to apply to discharges that are not composed entirely of storm water, as long as such discharge has been issued a separate NPDES permit. Rather,

an "effective prohibition" would require separate NPDES permits for non-storm water discharges to municipal storm sewers. In many cases in the past, applicants for NPDES permits for process wastewaters and other non-storm water discharges have been granted approval to discharge into municipal separate storm sewers, provided that the permit conditions for the discharge are met at the point where the discharge enters into the separate storm sewer. Permits for such discharges must meet applicable technology-based and water-quality based requirements of Sections 402 and 301 of the CWA. If the permit for a non-storm water discharge to a municipal separate storm sewer contains water-quality based limitations, then such limitations should generally be based on meeting applicable water quality standards at the boundary of a State established mixing zone (for States with mixing zones) located in the receiving waters of the United States.

All options will be considered when an applicant applies for a NPDES permit for a non-storm water discharge to a municipal separate storm sewer. In some cases, permits will be denied for discharges to storm sewers that are causing water quality problems in receiving waters. However, not all discharges present such problems; and in these cases EPA or State permit writers may allow such discharges to municipal separate storm sewers within appropriate permit limits.

Today's rule has two permit application requirements that are designed to begin implementation of the effective prohibition. The first requirement discussed in VI.H.6.a., below, addresses a screening analysis which is intended to provide sufficient information to develop priorities for a program to detect and remove illicit discharges. The second provision, discussed in VI.H.7.b., requires municipal applicants to develop a recommended site-specific management plan to detect and remove illicit discharges (or ensure they are covered by an NPDES permit) and to control improper disposal to municipal separate storm sewer systems.

Several commenters suggested that either the definition of "storm water" should include some additional classes of nonprecipitation sources, or that municipalities should not be held responsible for "effectively prohibiting" some classes of nonstorm water discharges into their municipal storm sewers. The various types of discharges addressed by these comments include detention and retention reservoir releases, water line flushing, fire hydrant flushing, runoff from fire fighting, swimming pool drainage and discharge, landscape irrigation, diverted stream flows, uncontaminated pumped ground water, rising ground water, discharges from potable water sources, uncontaminated waters from cooling towers, foundation drains, non-contact cooling water (such as heating, ventilation, air conditioning (HVAC) water that POTWs require to be discharged to separate storm sewers rather than sanitary sewers), irrigation water, springs, roofdrains, water from crawl space pumps, footing drains, lawn watering, individual car washing, flows from riparian habitats and wetlands. Most of these comments were made with regard to the concern that these were commonly occurring discharges which did not pose significant environmental problems.

EPA disagrees that the above described flows will not pose, in every case, significant environmental problems. At the same time, it is unlikely Congress intended to require municipalities to effectively prohibit individual car washing or discharges resulting from efforts to extinguish a building fire and other seemingly innocent flows that are characteristic of human existence in urban environments and which discharge to municipal separate storm sewers. It should be noted that the legislative history is essentially silent on this point. Accordingly, EPA is clarifying that section 402(p)(3)(B) of the CWA (which requires permits for municipal separate storm sewers to 'effectively' prohibit non-storm water discharges) does not require permits for municipalities to prohibit certain discharges or flows of nonstorm water to waters of the United States through municipal separate storm sewers in all cases. Accordingly, § 122.26(d)(2)(iv)(B)(1) states that the proposed management program shall include: "A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; the program description shall address the following categories of non-storm water discharges or flows only where such discharges are identified by the municipality as sources of pollutants to waters of the United States: Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash waters. Program descriptions shall address discharges from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States."

However, the Director may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate. In the case of fire fighting it is not the intention of these rules to prohibit in any circumstances the protection of life and public or private property through the use of water or other fire retardants that flow into separate storm sewers. However, there may be instances where specified management practices are appropriate where these flows do occur (controlled blazes are one example).

Conveyances which continue to accept other "non-storm water" discharges (e.g. discharges without an NPDES permit) with the exceptions noted above do not meet the definition of municipal separate storm sewer and are not subject to section 402(p)(3)(B) of the CWA unless the non-storm water discharges are issued separate NPDES permits. Instead, conveyances which continue to accept non-storm water discharges which have not been issued separate NPDES permits are subject to sections 301 and 402 of the CWA. For example, combined sewers which convey storm water and sanitary sewage are not separate storm sewers and must comply with permit application requirements at 40 CFR 122.21 as well as other regulatory criteria for combined sewers.

3. Site-Specific Storm Water Quality Management Programs for Municipal Systems

Section 402(p)(3)(iii) of the CWA mandates that permits for discharges from municipal separate storm sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Director determines appropriate for the control of such pollutants.

When enacting this provision, Congress was aware of the difficulties in regulating discharges from municipal

separate storm sewers solely through traditional end-of-pipe treatment and intended for EPA and NPDES States to develop permit requirements that were much broader in nature than requirements which are traditionally found in NPDES permits for industrial process discharges or POTWs. The legislative history indicates, municipal storm sewer system "permits will not necessarily be like industrial discharge permits. Often, an end-of-the-pipe treatment technology is not appropriate for this type of discharge." [Vol. 132 Cong. Rec. S16425 (daily ed. Oct. 16, 1986)].

A shift towards comprehensive storm water quality management programs to reduce the discharge of pollutants from municipal separate storm sewer systems is appropriate for a number of reasons. First, discharges from municipal storm sewers are highly intermittent, and are usually characterized by very high flows occurring over relatively short time intervals. For this reason, municipal storm sewer systems are usually designed with an extremely high number of outfalls within a given municipality to reduce potential flooding. Traditional end-of-pipe controls are limited by the materials management problems that arise with high volume, intermittent flows occurring at a large number of outfalls. Second, the nature and extent of pollutants in discharges from municipal systems will depend on the activities occurring on the lands which contribute runoff to the system. Municipal separate storm sewers tend to discharge runoff drained from lands used for a wide variety of activities. Given the material management problems associated with end-of-pipe controls, management programs that are directed at pollutant sources are often more practical than relying solely on end-of-pipe controls.

In past rulemakings, much of the criticism of the concept of subjecting discharges from municipal separate storm sewers to the NPDES permit program focused on the perception that the rigid regulatory program applied to industrial process waters and effluents from publicly owned treatment works was not appropriate for the site-specific nature of the sources which are responsible for the discharge of pollutants from municipal storm sewers.

The water quality impacts of discharges from municipal separate storm sewer systems depend on a wide range of factors including. The magnitude and duration of rainfall events, the time period between events, soil conditions, the fraction of land that is impervious to rainfall, land use activities, the presence of illicit connections, and the ratio of the storm water discharge to receiving water flow. In enacting section 405 of the WQA, Congress recognized that permit requirements for municipal separate storm sewer systems should be developed in a flexible manner to allow site-specific permit conditions to reflect the wide range of impacts that can be associated with these discharges. The legislative history accompanying the provision explained that "[p]ermits for discharges from municipal separate stormwater systems * * * must include a requirement to effectively prohibit non-stormwater discharges into storm sewers and controls to reduce the discharge of pollutants to the maximum extent practicable. * * * These controls may be different in different permits. All types of controls listed in subsection [(p)(3)(C)] are not required to be incorporated into each permit" [Vol. 132 Cong. Rec. H10578 (daily ed. October 15, 1986) Conference Report]. Consistent with the intent of Congress, this rule sets out permit application requirements that are sufficiently flexible to allow the development of site-specific permit conditions.

Several commenters agreed with this approach. One municipality recommended that there be as much flexibility as possible so that the permitting authority can work with each municipality in developing meaningful long-term goals with plans for improving storm water quality. This commenter noted that too many specific regulations that apply nationwide do not take into consideration the climatic and governmental differences within the States. EPA agrees that as much flexibility as possible should be incorporated into the program. However, flexibility should not be built into the program to such an extent that all municipalities do not face essentially the same responsibilities and commitment for achieving the goals of the CWA. EPA believes that these final regulations build in substantial flexibility in designing programs that meet particular needs, without abandoning a nationally consistent structure designed to create storm water control programs.

4. Large and Medium Municipal Storm Sewer Systems

During the 1987 reauthorization of the CWA, Congress established a framework for EPA to implement a permit program for municipal separate storm sewers and establishing phased deadlines for its implementation. The amended CWA establishes priorities for EPA to develop permit application requirements and issue permits for discharges from three classes of municipal separate storm sewer systems. The CWA requires that NPDES permits be issued for discharges from large municipal separate storm sewer systems (systems serving a population of more than 250,000) by no later than February 4, 1991. Permits for discharges from medium municipal separate storm sewer systems (systems serving a population of more than 100,000, but less than 250,000) must be issued by February 4, 1992. After October 1, 1992, the requirements of sections 301 and 402 of the CWA are restored for all other discharges from municipal separate storm sewers.

The priorities established in the Act are based on the size of the population served by the system. Municipal operators of these systems are generally thought to be more capable of initiating storm water programs and discharges from municipal separate storm sewers serving larger populations are thought to present a higher potential for contributing to adverse water quality impacts. NURP and other studies have verified that the event mean concentration of pollutants in urban runoff from residential and commercial areas remains relatively constant from one area to another, indicating that pollutant loads from urban runoff strongly depend on the total area and imperviousness of developed land, which in turn is related to population.

The term "municipal separate storm sewer system" is not defined by the Act. By not defining the term, Congress intended to provide EPA discretion to define the scope of municipal systems consistent with the objectives of developing site-specific management programs in NPDES permits. EPA considered two key issues in defining the scope of municipal separate storm sewer system: (1) What is a reasonable definition of the term "system," and (2) how to determine the number of people "served" by a storm sewer system. EPA found these two issues to be intertwined. Different approaches to defining the scope of a system allowed for greater or lesser certainty in deterining the population served by the system.

In the December 7, 1988, proposal, EPA described seven options for defining "municipal separate storm sewer system." In developing these options the EPA considered:

- The inter-jurisdiction complexities associated with municipal governments;
- The fact that many municipal storm water management programs have traditionally focused on water quantity

concerns, and have not evaluated water quality impacts of system discharges or developed measures to reduce pollutants in such discharges;

• The advantages of developing system-wide storm water management programs for municipal systems;

• The geographic basis necessary for planning of comprehensive management programs to reduce pollutants in discharges from municipal separate storm sewers to the maximum extent practicable;

• The geographic basis necessary to provide flexibility to target controls on areas where water quality impacts associated with discharges from municipal systems are the greatest and to provide an opportunity to develop cost effective controls;

• The need to establish a reasonable number of permits for municipal systems during the initial phases of program development that will provide an adequate basis for a storm water quality management program for over 13,000 municipalities after the October 1, 1992 general prohibition on storm water permits expires; and

• Congressional intent to allow the development of jurisdiction-wide, comprehensive storm water management programs with priorities given to the most heavily populated areas of the country.

a. Overview of Proposed Options and Comments. The December 7, 1988, proposal requested comment on seven options for defining large and medium municipal separate storm sewer system. With the addition of a watershed-based approach suggested by certain commenters, eight options or approaches were addressed by the over 200 commenters on this issue: Option 1—systems owned or operated by incorporated places augmented by integrated discharges; Option 2—systems owned or operated by incorporated places augmented with significant other municipal discharges; Option 3—systems owned or operated by counties; Option 4—systems owned and operated by States or State departments of transportation; Option 5—systems within the boundaries of an incorporated place; Option 6—systems within the boundaries of counties; Option 7—systems in census designated urbanized areas; and Option 8—systems defined by watershed boundaries.

Generally, these options can be classified into two categories. The first category of options, Options 1, 2 and 3, define municipal systems in terms of the municipal entity which owns or operates storm sewers within municipal boundaries of the requisite population. The second category of options would define municipal systems on a geographic basis. Under Options 4, 5, 6, 7 and 8 all municipal separate storm sewers within the specified geographic area would be part of the municipal system, regardless of which municipal entity owns or operates the storm sewer. EPA did not propose to define the scope of a municipal separate storm sewer system in engineering terms because of practical problems determining the boundaries of and the populations served by "systems" defined in such a manner. In addition an engineering approach based on physical interconnections of storm sewer pipes by itself does not provide a rational basis for developing a storm water program to improve water quality where a large number of individual storm water catchments are found within a municipality.

In the December 7, 1988, proposal, EPA favored those options that relied primarily on the municipal entity which owns or operates or otherwise has jurisdiction over storm sewers. These options were preferred because it was anticipated that the administrative complexities of developing the permit programs would be reduced by decreasing the number of affected municipal entities. However, most commenters were not satisfied that such an approach would reduce administrative burdens or complexities.

The diversity of arguments and rationales offered in comments justifying the selection of particular option, or combinations thereof, were generally a function of geographic, climatic, and institutional differences around the country. As such, there was little substantive agreement with how this program should be implemented as far as defining large and medium municipal separate storm sewer systems. Of all the options, Option 1 generally received the most favorable comment. However, the overwhelming majority of comments suggested different options or other alternatives. Having reviewed the comments at length, EPA is convinced that the definition of municipal separate storm sewers should possess elements of several of the options enumerated above and a mechanism that enables States or EPA Regions to define a system that best suits their various political and geographical conditions.

The following comments were the most pervasive, and represent those issues and concerns of greatest importance to the public: (1) The approach chosen initially must be realistic and achievable administratively; (2) the definition must be flexible enough to accommodate development of the program on a watershed basis, and incorporate elements of existing programs and frameworks and regional differences in climate, geography, and political institutions; (3) permittees must have legal authority and control over land use; (4) discharges from State highways, identified as a significant source of runoff and pollutants, should be included in the program and combined in some manner with one or more of the other options; (5) the definition should address how the inclusion of interrelated discharges into the municipal separate storm sewer system are timed, decided upon, dealt with, etc.; (6) any approach must address the major sources of pollutants; (7) development of co-permittee management plans must be coordinated or developed on a regional basis and in the same time frame—fragmented or balkanized programs must be avoided; (8) municipalities should be regulated as equitably as possible; (9) flood control districts should be addressed as a system or part of a system; (10) the definition must conform to the legal requirements of the Clean Water Act; and (11) the definition should limit the number of co-permittees as much as possible.

b. Definition of large and medium municipal separate storm sewer system. A combination of the options outlined in the 1988 proposal would address most of these concerns, while achieving a realistic and environmentally beneficial storm water program. Accordingly, EPA has adopted the following definition of large and medium municipal separate storm sewer systems. Large and medium separate storm sewer systems are municipal separate storm sewers that:

(i) Are located in an incorporated place with a population of 100,000 or more or 250,000 or more as determined by the latest Decennial Census by the Bureau of Census (see appendices F and G of part 122 for a list of these places based on the 1980 Census);

(ii) Are located within counties having areas that are designated as urbanized areas by latest decennial Bureau of Census estimates and where the population of such areas exceeds 100,000, after the population in the incorporated places, townships or towns within such counties is excluded (see appendices H and I for a listing of these counties based on the 1980 census) (incorporated places, towns, and townships within these counties are excluded from permit application requirements unless they fall under paragraph (i) or are designated under paragraph (iii)); or (iii) are owned or

operated by a municipality other than those described in paragraph (i) or (ii) that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraphs (i) or (ii). In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in subparagraph (i);

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors.

(iv) The Director may, upon petition, designate as a system, any municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (i), (ii), and (iii).

Under today's rule at § 122.26(a)(3)(iii) the regional authority shall be responsible for submitting a permit application under the following guidelines: The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due: the permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the municipal application; each of the operators of municipal separate storm systems described in paragraphs 122.26(b)(4) (i), (ii), and (iii) and (7)(i), (ii), and (iii), that are under the purview of the designated regional authority, shall comply with the application requirements of § 122.26(d).

As noted above, the finalized definition of large and medium municipal separate storm sewer system is combination of the approaches as proposed. (In the following discussion "paragraph (i)" refers to §§ 122.26 (b)(4)(i) and (b)(7)(i); "paragraph (ii)" refers to §§ 122.26(b)(4)(ii) and (b)(7)(ii); "paragraph (iii)" refers to §§ 122.26 (b)(4)(iii) and (b)(7)(iii); and "paragraph (iv)" refers to §§ 122.26 (b)(4)(iv) and (b)(7)(iv)). Paragraph (i) originates from proposed Option 5 (boundaries of incorporated places); paragraph (ii) originates from Option 6 (boundaries of counties) and Option 7 (urbanized areas); paragraph (iii) originates from Options 1 and 5; and paragraph (iv) is an outgrowth of comments on all options, especially Option 4 (State owned systems/State highways) and Option 8 (watersheds).

This definition creates a system by virtue of the fact that storm sewers within defined geographical and political areas, and the owner/operators of separate storm sewers in those areas, are addressed or required to obtain permits. Although within these systems, different segments and discharges of storm water conveyances may be owned or operated by different public entities. EPA is convinced by comments that discharges from such conveyances are interrelated to such an extent that all of these conveyances may be properly considered a "system." These comments are identified and discussed in greater detail below.

c. Response to comments. Many commenters urged that the approach taken must be administratively achievable. Option 5 of the proposal (boundaries of incorporated places), which can be equated to paragraphs (i) and (iii) above, was identified by several commenters as the most workable of all the options. Many commenters stated that Option 1 (systems owned or operated by incorporated places) was inappropriate because of special districts and other owners of systems within the incorporated area; and although EPA proposed a designation provision for interrelated discharges in Option 1, commenters advised that it would be impossible to identify these systems, account for their discharges, and exclude or include them in a timely manner if Option 1 was selected (Option 1 only addresses those systems owned or operated by the incorporated place). The final rule would obviate these concerns, since all the publicly owned sewers within the boundaries of the municipality will be required to be covered by a permit.

Other commenters noted that cities sometimes have storm water conveyances owned or operated by numerous entities. One municipality commented that these problems could be more easily resolved using a unified permit/district wide approach, which the final approach outlined above can accomplish. One county stated that Option 1 of the proposal would result in a permanent balkanization of stormwater programs and that a regional approach focusing on the entire system should be established. Another municipality recommended that all the systems of conveyances within the incorporated city boundaries be issued a permit. In rejecting Option 1 of the proposal, one municipality stated that program inefficiencies would result from implementing a piecemeal program in a contiguous urban environment with different owners and operators. One State conveyed similar concerns. Using a geographical approach, as described in paragraph (i) of the final definition, will best address all of these concerns.

One commenter criticized proposed Option 1 as being contrary to the legal requirements of the WQA, and a further example of EPA's continuing attempt to minimize the scope of a national storm water program. It was noted that the legislative history regarding requirements for large and medium municipal separate storm sewer systems in section 402(p) of the CWA generally does not reference incorporated cities or towns. As a result, the commenter recommended that the term "municipal" in municipal separate storm sewer system refer to separate storm sewers operated by municipal entities meeting the definition of "municipality" in section 502 of the CWA and that the scope of the term "municipal separate storm sewer system" be defined as broadly as possible. This approach would result in defining large and medium municipal separate storm sewer systems to include all municipal separate storm sewers within the 410 counties with a population of 100,000 or more. EPA has adopted the commenter's recommendation to extend the scope of the program to the extent that today's rule covers all municipal separate storm sewers within certain areas rather than only those operated by an incorporated place. EPA disagrees however that it must define the term "system" to include sewers within any municipal boundary of sufficient population with reference to section 502(4). By not providing explicit definitions, section 402(p)(3)(B) of the CWA gives EPA discretion to define how municipal separate storm sewer systems are defined. There is no indication in the language of the CWA or the legislative history that Congress intended that the scope of "municipality" and the scope of "municipal separate storm sewer system" to be identical, particularly since the latter term is not defined in the statute. Furthermore, for the reasons discussed elsewhere in this section, EPA believes that today's definition is a reasonable accommodation of the many conflicting concerns surrounding the proper way to delineate the extent of a

municipal separate storm sewer system serving over 100,000 people.

Several commenters concluded that EPA should be flexible enough to allow the permitting authority broad discretion to establish system wide permits, with flood control districts and/or counties acting as co-permittees with the various incorporated cities within the district boundaries. Commenters expressed concern that Option 1 would not allow for such flexibility.

Arguments that were advanced by commenters in support of proposed Option 1 are equally applicable to paragraph (i), above. Like proposed Option 1, the approach outlined above targets major cities. However, it also has the advantage of addressing municipal separate storm sewer systems which may be interrelated to those owned by the city, a benefit recognized by one municipality that endorsed the selection of proposed Option 5. This will also give the permitting authority more discretion to establish co-permittee relationships.

Paragraph (ii) of the final definition also uses a geographical approach to the definition of municipal storm sewer systems to include municipal storm sewers within urbanized counties. Thus, it closely resembles Option 7 of the proposal. The counties identified in paragraph (ii) have, based on the 1980 Census, a population of 100,000 or more in urbanized,[5] unincorporated portions of the county. In the unincorporated areas of these counties (or in the 20 States where the Census recognizes minor civil divisions, unincorporated county areas outside of towns or townships), the county is the primary local government entity. In these cases, the county performs many of the same functions as incorporated cities with a population of 100,000, and is generally expected to have the necessary legal and land use authority in these areas to begin to implement storm water management programs. Due to the urbanized nature of their population, discharges from the municipal separate storm sewers in these counties will have many similarities to discharges from municipal systems in incorporated cities with a population of 100,000 or more. Addressing these counties in this fashion will not adversely affect small municipalities (incorporated places, towns and townships) within the county, as municipal separate storm sewers that are located in the small incorporated places, townships or towns within these counties are not automatically included as part of the system.

EPA has focused on the unincorporated areas because permit applications cannot be required from systems that serve a population less than 100,000, unless designated. EPA received the comment that if the sewers in incorporated places within such counties were included as part of the system for that county, there would be the potential for systems serving a population less than 100,000 to be improperly subject to permit requirements. EPA agrees with the comment, except that EPA reserves the authority to designate sewers in small incorporated places as part of the system subject to permitting, pursuant to paragraph (iii) of the final definition. Incorporated areas within the identified counties will be required to file permit applications if the population served by the municipal separate storm sewer system is 100,000 or more.

As one commenter noted, the counties addressed by the definition will generally be areas of high growth with a growing tax base that can finance a storm water management program. Numerous counties affected by paragraph (ii) commented on the proposal. Several of these indicated a preference for the county government as the permittee. Others indicated that their county had the ability to perform the functions of the permit applicant and permittee. One county brought to EPA's attention that the county had laid plans for a storm water utility scheduled to be in operation in 1989. Several of the counties supported the use of watersheds, or flexible regional approaches, as the basis for the definition of municipal separate storm sewer systems. The modified definition should satisfy these concerns.

EPA recognizes that some of the counties addressed by today's rule have, in addition to areas with high unincorporated urbanized populations, areas that are essentially rural or uninhabited and may not be the subject of planned development. While permits issued for these municipal systems will cover municipal system discharges in unincorporated portions of the county, it is the intent of EPA that management plans and other components of the programs focus on the urbanized and developing areas of the county. Undeveloped lands of the county are not expected to have many, if any, municipal separate storm sewers.

Paragraphs (i) and (ii) above will help resolve the problems associated with permittees not having adequate land use controls, the legal authority to implement controls, and the ownership of the conveyances. This factor was mentioned by numerous commenters on the proposed options, especially county governments. Under paragraphs (i) and (ii), all publicly owned separate storm sewers within the appropriate municipal boundaries will be defined as part of the municipal system. In many cases, a number of municipal operators of these storm sewers will be responsible for discharges from these systems. Since a number of co-permittees may be addressed in the permits for these discharges, problems associated with the ability to control pollutants that are contributed from interrelated discharges will be minimized. State highways or flood control districts, which may have no land use authority in incorporated cities, will be co-permittees with the city which does possess land use authority. EPA envisions that permit conditions for these systems will be written to establish duties that are commensurate with the legal authorities of a co-permittee. For example, under a permit, a flood control district may be responsible for the maintenance of drainage channels that they have jurisdiction over, while a city is responsible for implementing a sediment and erosion ordinance for construction sites which relates to discharges to the drainage channel. Confusion over ownership of conveyances or systems, at least for the purposes of determining whether they require a permit, will be minimized since all conveyances will be covered. Similarly, under paragraph (ii), the affected counties are expected to have the necessary legal and land use authority to implement programs and controls in unincorporated, urbanized areas because the county government is the primary political or governing entity in these geographical areas.

Many commenters from all levels of State and local government expressed concern about controlling pollutants from State highways. Paragraphs (i) and (ii) will result in discharges from separate storm sewers serving State highways and other highways through storm sewers that are located within incorporated places with the appropriate population or highways in unincorporated portions of specified counties being included as part of the large or medium municipal separate storm sewer system, since all municipal separate storm sewers within the boundaries of these political entities are included. Paragraph (iv) can facilitate

[5] The Bureau of Census defines urbanized areas to provide a description of high-density development. Urbanized areas are comprised of a central city (or cities) with a surrounding closely settled area. The population of the entire urbanized area must be greater than 50,000 persons, and the closely settled area outside of the city (the urban fringe) must generally have a population density greater than 1,000 persons per square mile (just over 1.5 persons per acre) to be included.

the submission of a permit application for storm sewers operated as part of an entire State highway system. Paragraph (iv) would allow an entire system in a geographical region under the purview of a State agency (such as a State Department of Transportation) to be designated, where all the permit application requirements and requirements established under § 122.26(a)(iii)(C) can be met.

Paragraphs (i) and (ii) can effectively deal with many of the major sources of pollutants. One municipality noted that Option 5 (paragraph (i)) would require all systems in the incorporated boundaries to obtain permits and institute control measures, rather than just the few owned or operated by incorporated cities. Another municipality noted that this approach could deal with many of the regional variations in sources of pollution. Many commenters, including environmental groups, believed that proposed Option 3 (systems owned or operated by counties), Option 6 (systems within the boundaries of counties), and Option 7 (system in urbanized areas) were good approaches because more sources of pollution would be addressed. It was also maintained that Options 3, 6 and 7 could incorporate watershed planning which, in the view of some commenters, is the only effective way to address pollutants in storm water.

Commenters noted that addressing counties and urbanized areas would focus attention on developing areas which would otherwise be left out in the initial phases of permitting. One commenter noted that most new development in large urbanized areas occurs outside of core cities (incorporated cities with a population of 100,000 or more). Newly developing areas provide opportunities for installing pollutant controls cost effectively. EPA agrees with these comments and notes that paragraph (ii) addresses a significant number of counties with highly developed or developing areas.

However, EPA is convinced that addressing all counties or urbanized areas in the initial phases of the storm water program is ill-advised. Commenters noted that some counties have inappropriate or nonexistent governmental structures, and that a program that addressed all counties in the country with a population of 100,000 or more would be unmanageable, because too many municipal entities nationwide would be involved in the program initially. Commenters advised that defining municipal storm sewer systems solely in terms of the boundaries of census urbanized areas (Option 7) would result in systems which did not correspond to jurisdictions that are in a position to implement a storm water programs. Thus, EPA has modified Option 7 and combined it with Option 6 to create paragraph (ii) above.

Paragraph (iii) incorporates a designation authority such that municipalities that own or operate discharges from separate storm sewers systems other than those described in paragraph (i) or (ii) may be designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the other discharges of the designated storm sewer and the discharges from the large or medium municipal separate storm sewers. In making this determination the physical interconnections between the municipal separate storm sewers, the location of discharges from the designated municipal separate storm sewer relative to discharges from large or medium municipal separate storm sewers, the quantity and nature of pollutants discharged to waters of the United States, the nature of the receiving waters, or other relevant factors may be considered.

Comments indicated that the designation authority as proposed and described above should be retained. One State noted that this approach gives the most flexibility in making the case-by-case designations, while also delineating in sufficient detail what criteria are used to make the determination. This commenter was concerned about being able to regulate many of the interrelated discharges from counties surrounding incorporated cities.

Paragraph (iv) of the final definition allows the permitting authority, upon petition, to designate as a medium or large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (i), (ii), (iii).

Paragraph (iv) was added to the final definitions to respond to a variety of concerns of commenters. One of the prime concerns of commenters was that the definition of large and medium municipal separate storm sewer systems must be flexible enough to accommodate: Programs on a watershed basis, existing storm water programs and frameworks and regional differences in climate, geography, and political institutions. Some States were particularly expressive regarding this concern. One State maintained that an inflexible program could totally disrupt ongoing State efforts. Other commenters urged that the regulation encourage the establishment of regional storm water authorities or other mechanisms that can deal with storm water quality on a watershed basis. One State proposed defining the municipal separate storm sewer system to include all municipal separate storm sewers within a core incorporated place of 100,000 or more, and all surrounding incorporated places within the State defined watershed. One of the State water districts advised that the regulations should be flexible enough to allow regional water quality boards to apply the regulations geographically. One national association expressed concern that existing institutional arrangements for flood control and drainage would be ignored, while another warned against fostering a proliferation of inconsistent patchwork programs based on arbitrary definitions and jurisdictions which bear no relationship to water quality.

EPA is convinced that the mechanism described in paragraph (iv) provides a means whereby the mechanisms and concepts identified above can be utilized or created in appropriate circumstances. In addition, § 122.26(f)(4) provides a means for State or local government agencies to petition the Director for the designation of regional authorities responsible for a portion of the storm water program. For example, some States or counties may currently or in the near future have regional storm water management authorities that have the ability to apply for permits under today's rule and carry out the terms of the permit. Some of these authorities may encompass within their jurisdiction large or medium municipal separate storm sewer systems as defined in today's rule. EPA wishes to encourage such entities to assume the role as permittee under today's rule. That is the purpose of paragraph (iv). Such authorities may petition the Director to assume such a role.

Many commenters expressed the view that municipal management plans must be coordinated or developed among co-permittees on a regional basis and in the same timeframe. Paragraphs (i), (iii) and (iv) would bring in all appropriate municipal entities with jurisdiction over a specified geographical area in the same timeframe. Several commenters, including one State, noted proposed Option 1 would lead to fragmented, ill-coordinated programs. Paragraphs (i), (iv), and (iv) do not suffer this drawback

to the same extent since all the municipal separate storm sewers are addressed within the incorporated place, instead of only those owned or operated by the incorporated place.

Equal treatment of municipalities within a watershed or other specified area was a major subject of comment. Many commenters urged that a degree of fairness could be achieved by requiring permit applications, and the concomitant expenditure of municipal dollars and resources, from all municipalities within an entire urban area that contributes to storm water pollution, rather than from a discrete system within an arbitrary political boundary. Paragraph (i), especially when coupled with paragraphs (ii), (iii), and (iv), can best accomplish a more equitable approach, because all owners and operators of municipal separate storm sewers within a system have responsibilities. In addition, some of the areas outside the incorporated city limits which are engaged in expansive urban or suburban development will be brought into the program. Paragraph (xi) will provide a means for State or regional authorities to use existing or emerging mechanisms to set up storm water management programs, and would require multiple agencies either to become regional co-permittees or to be subject to a regional permit.

Paragraphs (i), (ii), (iii), and (iv) could also require flood control districts to be co-permittees, which was a major concern of counties and numerous cities. One municipality stated that the inclusion of flood control districts would greatly reduce the administrative burden required to prepare a single inter-city discharge agreement and would establish a common legal authority to implement the program. Numerous county agencies believed it imperative that flood control districts be brought into a system-wide permit strategy.

Paragraphs (i) and (iii) may not accommodate the concern of several commenters that the number of co-permittees be kept to a minimum. The fact that all the municipal separate storm sewers within the boundaries of the appropriate incorporated places will be addressed dictates that some permits will have several co-permittees. This is a major concern since it goes directly to achieving an effective initial storm water program. There is concern about being able to bring all the co-permittees together under intra-municipal agreements or contracts within regulatory deadlines. This problem would be resolved in the short term by selecting Option 1. However, Option 1 may still require inter-municipal agreements because of the designation authority under § 122.26 (b)(4)(ii) and (b)(7)(ii) of the proposal. In addition, such inter-jurisdictional problems will arise after October 1, 1992 when the moratorium on requiring NPDES permits for discharges from other municipal separate storm sewers ends. Under the permitting goals established by the CWA, multi-jurisdictional storm water programs and agreements cannot be avoided. Despite interest in limiting the number of co-permittees, EPA decided not to adopt Option 1 for the reasons already stated.

Section 402(p)(3)(B)(i) of the amended CWA provides that permits for municipal discharges from municipal storm sewers may be issued on a system-wide or jurisdiction-wide basis. This provision is an important mechanism for developing the comprehensive storm water management programs envisioned by the Act.

Under the permit application requirements of today's rule, if the appropriate co-applicants are identified, one permit application may be submitted for a large or medium municipal separate storm sewer system (see section VI.G.4 above). System-wide permit applications can in turn be used to issue system-wide permits which could cover all discharges in the system.

Where several municipal entities are responsible for obtaining a permit for various discharges within a single system, EPA will encourage system-wide permit applications involving the several municipal entities for a number of reasons. The system-wide approach not only provides an appropriate basis for planning activities and coordinating development, but also provides municipal entities participating in a system-wide application the means to spread the resource burden of monitoring, evaluating water quality impacts, and developing and implementing controls.

The system-wide approach provided in today's rule recognizes differences between individual municipalities with responsibilities for discharges from the municipal system. Today's application rule requires information to be submitted that enables the permit issuing authorities to develop tailored programs for each permittee with responsibility for certain components, segments, or portions of the municipal separate storm sewer system. The permit application requirements allow individual municipal entities, participating in system-wide applications, to submit site specific information regarding storm water quality management programs to reduce pollutants in system discharges as a whole, or from specific points within the system.

In some cases, it may be undesirable for all municipal entities with storm water responsibility within a municipal system to be co-permittees under one system-wide permit. The permit application requirements in today's rule allow individual municipal entities within the system to submit permit applications and obtain a permit for that portion of the storm sewer system for which they are responsible. Thus, several permits may be issued to cover various subdivisions of a single municipal system.

In summary, EPA believes that the definition of municipal storm sewer system adopted in today's rule has several distinct advantages that were identified in comments:

- The definition adopts features of several options;
- The definition targets areas that have the necessary police powers and land use authority to implement the program;
- The definition can utilize watersheds or accommodate existing administrative frameworks and storm water programs;
- The definition provides that all systems within a geographical area including highways and flood control districts will be covered, thereby avoiding fragmented and ill-coordinated programs;
- The definition has flexible designation authority; and
- The definition addresses major sources of pollutants without being overly broad.

H. Permit Application Requirements for Large and Medium Municipal Systems

1. Implementing the Permit Program

Given the differing nature of discharges from municipal separate storm sewer systems in different parts of the country and the varying water quality impacts of municipal storm sewer discharges on receiving waters, today's permit application requirements are designed to lead to the development of site-specific storm water management programs. In order to effectively implement this goal, EPA intends to retain the overall structure of the municipal permit application as proposed in the December 7, 1988, proposal.

2. Structure of the Permit Application

EPA proposed a two-part permit application designed to meet the goal of

developing site-specific storm water quality management programs in NPDES permits. In response to a request for comments on this aspect of the proposal, numerous comments were received. After reviewing these comments, EPA has decided to retain the two-part permit application. Many commenters agreed that the approach as proposed is appropriate for phasing in and developing site specific storm water management programs. One large municipality strongly endorsed the two-part application, stating that it would facilitate the identification of water quality problem areas and the development of priorities for control measures, thereby allowing for more cost-effective program development. Two State agencies expressed the same view, and noted that the two-part approach is reasonable and well structured for efficient development of programs. One large municipality noted it would allow the permit authority and the permit applicant the time needed to gain the knowledge and data to develop site-specific permits. A medium municipality expressed similar views.

Numerous commenters submitted endorsements of a proposal offered by one of the national municipal associations. This approach responded to EPA's request for comments on alternatives to a two-part application process. These comments recommended having permit applicants submit information regarding their existing legal authority, prepare source identification information, describe existing management plans, provide discharge characterization information based on existing data, and prepare a monitoring, characterization and illicit discharge and removal plan in a one-part application. The remaining requirements such as: implementing plans to remove illicit connections, obtaining legal authority, monitoring and characterization, plans for structural controls, preparation of control assessments, preparation of fiscal analysis, and management plan implementation would be part of the permit and take place during the compliance period of the permit. It was argued that this would result in a more orderly development of stormwater management programs while allowing for quick implementation of efforts to eliminate illicit discharges and initiate some BMPs.

After careful review and consideration of these comments, EPA is convinced that this approach would not meet the goals and requirements of section 402 of the Clean Water Act. Section 402(p)(3)(B) of the CWA requires that permits effectively prohibit non-storm water discharges into storm sewers and incorporate controls that reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques, and system design and engineering methods. The above comments suggesting an alternative for achieving this goal are not entirely compatible with these requirements. In light of the language in the statute, permit conditions should do more than plan for controls during the term of the permit. A strong effort to have the necessary police powers and controls based on pollutant data should be undertaken before permits are issued. In short, the one-part application described by these comments would result in permits that would focus too much on preparation and not enough on implementing controls for pollutants.

In comparison, EPA's approach requires municipalities to submit a two-part application over a two year period. Part one of the application would require information regarding existing programs and the means available to the municipality to control pollutants in its storm water discharges. In addition, part one would require field screening of major outfalls to detect illicit connections. Part two of the permit application would require a limited amount of representative quantitative data and a description of proposed storm water management plans. The purpose of the two-part application process is to develop information, in a reasonable time frame, that would build successful municipal storm water management programs and allow the permit writer to make informed decisions with regard to developing permit conditions. This will include initiating efforts to effectively prohibit non-storm water discharges into storm sewers, and initially implementing controls that reduce the discharge of pollutants to the maximum extent practicable, including management practices and control techniques during the term of the permit. Such an approach clearly meets the statutory mandate of section 402(p)(3)(B).

a. Part 1 Application. Part 1 of the permit application is intended to provide an adequate basis for identifying sources of pollutants to the municipal storm sewer system, to preliminarily identify discharges of storm water that are appropriate for individual permits, and to formulate a strategy for characterizing the discharges from municipal separate storm sewer systems. Several commenters supported retaining these components of the application process. The components of part 1 of the permit application include:

- General information regarding the permit applicant or co-applicants (§ 122.26(d)(1)(i));
- A description of the existing legal authority of the applicant(s) to control pollutants in storm water discharges and a plan to augment legal authority where necessary (§ 122.26(d)(1)(ii));
- Source identification information including: a topographic map, description of the historic use of ordinances or other controls which limited the discharge of non-storm water discharges to municipal separate storm sewer systems, the location of known municipal separate storm sewer outfalls, projected growth, location of structural controls, and location of waste disposal facilities (§ 122.26(d)(1)(iii));
- Information characterizing the nature of system discharges including existing quantitative data, the results of a field screening analysis to detect illicit discharges and illegal dumping to the municipal system, an identification of receiving waters with known water quality impacts associated with storm water discharges, a proposed plan to characterize discharges from the municipal storm sewer system by estimating pollutant loads and the concentration of representative discharges, and a plan to obtain representative data (§ 122.26(d)(1)(iv)); and
- A description of existing structural and non-structural controls to reduce the discharge of pollutants from the municipal storm sewer (§ 122.26(d)(1)(v)).

One commenter disagreed that source identification should be made part of the permit application process beyond the identification of major municipal storm sewer outfalls. In reply, EPA is convinced that the other elements of the source identification are critical for identifying sources of pollutants and creating a base of knowledge from which informed decisions about permit conditions and further data requirements can be determined. One county stated that it already had engaged in extensive monitoring and modeling of watersheds and that its programs should be substituted for EPA's. In response, EPA anticipates that information collected under various State, county or city programs that matches the information requirements in this rulemaking may be used by the applicants in submissions under this rulemaking where the requirements of the rule are met. However, because of the divergence in data collection techniques and information collected by

these programs. EPA disagrees that it would be appropriate to accept a substitution in its entirety without tailoring such a program to today's specific information requirements. One municipality noted that municipal systems are not well documented and responsibility for them is in question. In response, EPA notes that the source identification procedure is designed, in part, to address such shortcomings.

Several municipalities suggested that legal authority could be demonstrated by providing EPA with copies of appropriate local ordinances to demonstrate their legal authority and a statement from the city attorney. EPA agrees that these methods are appropriate for making this demonstration.

Several commenters noted that there was adequate existing municipal legal authority to carry out the program requirements or such authority could be obtained by the municipality. Other commenters stated that municipalities possess some authority over certain activities but may not have authority over discharges from roads and construction. Numerous commenters, however, claimed that certain municipalities had no existing legal authority to carry out the permit requirements and that obtaining all the necessary legal authority could take several years due to cumbersome legislative and political processes. In response, part 1 of the permit application will establish a schedule for the development of legal authority that will be needed to accomplish the goals of the permit application and permits. Some municipalities will have more advanced storm water programs with appropriate legal authority or the ability to establish necessary ordinances. Providing an appropriate schedule will not present difficulties in these circumstances. EPA also notes that the definitions of large and medium municipal separate storm sewer systems finalized in today's rule will in many cases result in a number of co-applicants participating in a system wide application. It is anticipated that the development of adequate inter-jurisdictional agreements specifying the various responsibilities of the co-permittees may in some cases be very complex, thereby justifying the development of a schedule to complete the task. For example, clarifying the authority over discharges from roads may present difficulties where a number of municipal entities operate different roads in a given jurisdiction. In other limited cases, the MEP standard for municipal permits may translate into permit conditions that extend the schedule for obtaining necessary legal authority into the term of the permit. These situations will be evaluated on a case-by-case basis by permit issuing authorities.

Numerous commenters supported the field screening analysis as proposed. Comments from three municipalities noted that it would be a cost effective means of identifying problem areas. One municipality noted that illicit connections can be reliably detected by the screening method proposed. In view of these comments EPA has decided to retain this portion of the regulation. However many commenters expressed concern over how the proposed approach would work given the particular circumstances under which some municipal storm water systems are arranged. Several commenters questioned the effectiveness of dry weather monitoring for several reasons, including the shallow depth of some cities' water tables. Accordingly, an alternative approach may be utilized by the municipal permittee, and this is discussed later in section VI.H.3.

Some comments suggested that if any field screening is required that it be done during the term of the permit. EPA believes that field screening should not be done during the term of the permit exclusively. Unless a field screening is accomplished during the permit application phase there will be scant knowledge, if any, upon which illicit connection programs can be established for the term of the permits. EPA views field screening during the application process as an appropriate means of beginning to meet the CWA's requirement of effectively prohibiting non-storm water discharges into municipal separate storm sewers.

The submittal of part 1 of the permit application will allow EPA, or approved NPDES States, to adjust part 2 permit application requirements to assure flexibility for submitting information under part 2, given the site specific characteristics of each municipal storm sewer system.

EPA agrees with the concerns of commenters regarding the estimate of the reduction of pollutant loads from existing management programs. EPA agrees that sufficient data may not be available to establish meaningful estimates. Therefore this component of the proposed part 1 is not a requirement of today's rule.

b. Part 2 Application. Part 2 of the proposed permit application is designed to supplement information found in part 1 and to provide municipalities with the opportunity of proposing a comprehensive program of structural and non-structural control measures that will control the discharge of pollutants, to the maximum extent practicable, from municipal storm sewers. The components of the proposed part 2 of the permit application included:

- A demonstration that the legal authority of the permit applicant satisfies regulatory criteria (§ 122.26(d)(2)(i));
- Supplementation of the source identification information submitted in part 1 of the application to assure the identification of all major outfalls and land use activities (§ 122.26(d)(2)(ii);
- Information to characterize discharges from the municipal system;
- A proposed management program to control the discharge of pollutants to the maximum extent practicable, from municipal storm sewers (§ 122.26(d)(2)(iv));
- Assessment of the performance of proposed controls (§ 122.26(d)(2)(v));
- A financial analysis estimating the cost of implementing the proposed management programs along with identifying sources of revenue § 122.26(d)(2)(vi);
- A description of the roles and responsibilities of co-applicants (§ 122.26(d)(2)(vii)).

One municipality agreed that the assessment of the performance of controls was a critical component of establishing a viable program and one that could be accomplished within the time frame of the permit application deadlines. One commenter suggested that the applicant describe what financial resources are currently available. In response, EPA will require applicants to describe the municipality's existing budget for storm water programs in part 1 of the permit application requirements. This information will be useful to evaluate the municipality's ability to prepare and implement management plans. In response to other comments, this information will also include an overview of the municipality's financial resources and a description of the municipality's budget, including overall indebtedness and assets.

EPA has retained the financial analysis in this portion of the rule on the advice of two municipal commenters, who agreed that this was an important component of establishing a viable program and one that could be accomplished within the time frame of the permit application deadlines. Another commenter noted that this requirement is appropriate to justify a municipality's proposed management plan.

3. Major Outfalls

In past rulemakings, a controversial issue has been the appropriate sampling requirements for municipal separate storm sewer systems. Earlier storm water rulemakings have been based primarily on the principle that all discharges to waters of the United States from municipal separate storm sewers located in urban areas must be covered by an individual permit. This approach requires that individual permit applications contain quantitative data to be submitted for all such discharges. This approach was criticized because of a potentially unmanageable number of outfalls in some municipal separate storm sewer systems. Most incorporated cities with a population of 100,000 or more do not know the exact number of outfalls from their municipal systems; but based on the comments, the number ranges from 500 to 8,000 or more.

In light of the increased flexibility provided by the WQA and the development of EPA's system-wide approach for regulating municipal separate storm sewer discharges, today's rule will not require submittal of individual permit applications with quantitative data for each outfall of a municipal system. Rather today's rule will encourage system-wide permit applications to provide information suitable for developing effective storm water management programs. Under this approach, not all outfalls of the municipal system will be sampled, but rather more specific and accurate models for estimating pollutant loads and discharge concentrations will be used. The use of these models will require the identification of sources which are responsible for discharging pollutants into municipal separate storm sewers and will not require as much data to calibrate due to the source-specific nature of the model. A number of standard and localized models have been developed for estimating pollutant loads from storm water discharges.

Several commenters support the use of models for developing management plans and estimating pollutant loadings and concentrations. EPA encourages their use where applicable to particular systems.

By adopting an approach that incorporates source identification measures, the amount of quantitative data required to characterize discharges from the municipal system will be reduced because of the increased accuracy of the site-specific models which can be used. Consistent with a system wide permit application approach, EPA proposed to focus source identification measures on "major outfalls." The proposed definition of major outfalls includes any municipal separate storm sewer outfall that discharges from a pipe with a diameter of more than 36 inches or its equivalent (discharges from a drainage area of more than 50 acres), or for municipal separate storm sewers that receive storm water from lands zoned for industrial activities, an outfall that discharges from a pipe with a diameter of more than 12 inches or its equivalent (discharges from a drainage area of 2 acres or more).

Numerous entities offered comments on this definition. Several commenters concurred with this proposed definition. One commenter maintained that the data collected at such outfalls would be sufficient to estimate pollutant loads as well as concentrations using well calibrated models. Another municipality stated that 50 acres was an excellent approximation for the average drainage area served by a 36-inch storm sewer. Two States and one county supported the definition as proposed. One large municipal entity supported the definition, stating that screening major outfalls could be accomplished with available staff over a three month period. In light of these comments, EPA has decided to retain, in part, the definition as proposed.

Numerous commenters suggested alternative definitions or otherwise disagreed with the proposed definition. Most of these comments expressed concern about the number of outfalls that would have to be tested or screened if the definition was retained. For this reason EPA has decided to limit the total number of major outfalls or equivalent sampling points that have to be tested to 250 or 500 for medium or large systems respectively. This change is discussed in further detail below.

The following are examples of comments that opposed the definition of a "major outfall" as proposed. Several commenters stated that, in the southwest, 6 to 12 foot outfalls are the norm, and that smaller outfalls should not be addressed unless there is a compelling reason to suspect illicit connections. One commenter suggested a size of 54 inches and 50 acres, while another commenter suggested that 48 inches would be appropriate. One commenter suggested that the diameter for industrial pipes should be 18 inches, while another commenter suggested that 50 acres should be the only criterion.

One commenter noted that pipe size will vary according to rainfall patterns and that a single approach would not work universally. This comment, and other similar points of view as noted herein, convinces that Agency that a more flexible approach is needed to identify field screening and sampling locations. However, EPA is also convinced that a universal standard is necessary for purposes of identifying drainage areas within the municipal system and discrete areas of land use that are drained by certain sized outfalls. This information is critical since these conveyances, and lands they drain, are sources of pollutants to waters of the United States from municipal systems and are properly the subject of appropriate permit conditions.

Many commenters suggested placing a limit on the number of major outfalls addressed during the field screening phase of the permit application. Two municipalities stated that the proposed definition of major outfalls in terms to the pipe diameter was too small and that too many outfalls would be covered. One municipality stated that under the proposed definition, it would have over 4700 "major outfalls," a number viewed as being unacceptably large. Several municipalities argued that they would be penalized for over-design of their storm drain system. One municipality stated field screening of outfalls should be limited to 200 for medium cities and 500 for large cities. Some commenters suggested EPA set a percentage of major outfalls for screening, because all pipes in some municipalities meet the definition of major outfall. One commenter suggested that a sliding scale be used to determine the number of outfalls tested: those with 50 test all, those with 100–200 test 50%, etc. Other commenters suggested a flat percentage of outfalls or flat number such as 100.

4. Field Screening Program

EPA also received several comments in response to the proposed field screening methodology. Among the major concerns were: End of pipe sampling may not be practical and the more appropriate and accessible location is likely to be the nearest upstream manhole; the type of discharge should be the criterion for selecting sampling points as opposed to pipe size; a system wide evaluation is more appropriate than checking each outfall within some systems, major outfalls or pipe size will not reflect discharges from suspect or old land use areas; efforts should be focused on locations where illicit connections are expected; sites should be determined by looking at sites within drainage basin areas based on land use within these basins; land use and hydrology of the watershed should be the criteria for selecting points;

screening should be performed at locations that will allow for the location of upstream discharges; the focus should be exclusively on drainage areas rather than pipe size, since pipe size will vary with slope; a prescribed percentage of total flow may be more appropriate; state water quality standards should be utilized along with focusing on actual quality in the reaches of a stream.

EPA is convinced by these comments that today's rule should allow applicants to either field screen all major outfalls as proposed (first procedure) or use a second procedure to provide for the strategic location of sampling points to pinpoint illicit connections. EPA agrees with comments that the size of the outfall will not always reflect the chance of uncovering illicit connections or discharges, and that field screening points should be easily accessible.

This second procedure is as follows: field screening points and/or outfalls are randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a major outfall or segment of the storm sewer system. The grid shall be established using the following guidelines and criteria:

(1) A grid system consisting of perpendicular north-south and east-west lines spaced 1/4 mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells;

(2) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(3) Field screening points or major outfalls should be located downstream of any sources of suspected illegal or illicit activity;

(4) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(5) The assessment and selection of cells shall use the following criteria: Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; land use types.

(6) For medium municipal separate storm sewer systems, no more than 250 cells need have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points for detecting illicit connections; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible);

(7) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (1) through (6) above, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen at least 250 or 500 major outfalls respectively using the following method: the applicant shall establish a grid system consisting of north-south and east-west lines spaced 1/4 mile apart overlaid on a map of the boundaries of a large or medium municipal entity described at § 122.26(b), thereby creating a series of cells; major outfalls in as many different cells as possible shall be selected until 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

The methodology outlined above is in response to public comments which indicated that the field screening and sampling of major outfalls as proposed would lead to insurmountable logistical problems in some municipal systems. EPA believes that the above is an effective approach to pinpointing suspected problem points along a given trunkline or segment of separate storm sewer system. Jurisdictions with no extensive or previous history of monitoring, or lack of an intensive monitoring program can utilize the methods described in establishing a program. Furthermore, the approach will allow for the prioritization of outfalls, sampling points, or areas within the municipality where there are suspected illicit connections or discharges, or other circumstances creating higher concentrations and loadings of pollutants.

Paragraph (7) enables municipalities to select major outfalls without regard to the municipal sewer system map that is required for using the procedure described in paragraphs (1) through (6). However, the applicant must still select outfalls within the cells created by overlaying a 1/4 mile grid over a map of the boundaries of the large or medium municipal entity defined under § 122.26(b), and select major outfalls within as many of those cells as possible, up to 500 (large municipal systems) or 250 (medium municipal systems). In this manner, as many different areas and land uses within the municipal system will be covered by the field screening component of the municipal application.

In order to keep the costs of the program within the anticipated limits of the proposed regulation, the number of outfalls or sampling locations using the grid system is to be limited to 500 for large municipal separate storm sewer systems and 250 for medium municipal separate storm sewer systems.

In response to several comments, EPA has clarified the definition of major outfalls with regard to the words, "pipe with an inside diameter of 36 inches or more or its equivalent" and "a pipe with an inside diameter of 12 inches or more or its equivalent." This definition has been modified to specify that single pipes or single conveyances with the appropriate diameter or equivalent are covered.

EPA's proposal required municipal permit applicants to submit a fiscal analysis of expenditures that will be required in order to implement the proposed management plans required in part 2 of the application. The description of fiscal resources should include a description of the source of the funds. Some commenters felt that a fiscal analysis should only be required during the term of the permit. In response, EPA believes that during the two years of permit application development, the permit applicant should be in a position to submit information on the ability and means for financing storm water management programs during the term of the permit. EPA views this information as an important means of evaluating the scope of program and whether the permittee will be devoting adequate resources to implementing the program before that program is mapped out in the permit itself.

5. Source Identification

The identification of sources which contribute pollutants to municipal separate storm sewers is a critical step in characterizing the nature and extent of pollutants in discharges and in developing appropriate control measures. Source identification can be useful for providing an analysis of pollutant source contribution and for identifying the relationship between pollutant sources and receiving water quality problems. In cases where end-of-pipe controls alone are not practicable, it is essential to identify the source of pollutants into the municipal storm

sewer systems to support a targeted approach to control pollutant sources.

The relative contribution of pollutants from various sources will be highly area-specific. The first step in developing a targeted approach for controlling pollutants in discharges from municipal storm sewer systems is identifying the various sources in each drainage basin that will contribute pollutants to the municipal storm sewer system.

This rulemaking phases in the source identification requirements of the permit program by establishing minimum objectives in part 1 of the application and by requiring applicants to submit a source identification plan in part 2 of the application to provide additional information during the term of the permit. The minimum source identification requirements of part 1 of the application have been designed to provide sufficient information to provide an initial characterization of pollutants in the discharges from the municipal storm sewer system. EPA realizes that with many large, complex municipal storm sewer systems, it may be difficult to identify all outfalls during the permit application process. Accordingly, EPA is requiring that known outfalls be reported in part 1 of the application. Part 1 of the application will also include: A description of procedures and a proposed program to identify additional major outfalls; the identification of the drainage area associated with known outfalls; a description of major land use classifications in each drainage area, descriptions of soils, the location of industrial facilities, open dumps, landfills or RCRA hazardous waste facilities which discharge storm water to the municipal storm sewer system; and ten year projections of population growth and development activities (population data and development projections will be useful for future predictions of loadings to receiving waters from municipal storm sewer systems, and capacities required for treatment systems). In general, population projections should reflect various scenarios of development (high, medium, low relative to recent trends).

Part 2 of the application will supplement the information reported in part 1 of the application so that, at a minimum, all major outfalls are identified.

Under today's rule, municipal or public entities responsible for applying for and obtaining an NPDES permit will be required to identify the location of an open dump, sanitary landfill, municipal incinerator or hazardous waste treatment, storage, and disposal facility under RCRA which may discharge storm water to the system as well as all facilities which discharge storm water associated with industrial activity into a large or medium municipal separate storm sewer system.

Requiring these source identification measures is supported by the legislative history of section 405 of the WQA, which instructs that "[i]n writing any permit for a municipal separate storm sewer, EPA or the State should pay particular attention to the nature and uses of the drainage area and the location of any industrial facility, open dump, landfill, or hazardous waste treatment, storage, or disposal facility which may contribute pollutants to the discharge." (emphasis added) [Vol 133 Cong. Rec. S752 (daily ed. Jan. 14, 1987].

One municipality questioned the purpose of the topographic map and commented that the scale of the topographic map is too large to indicate any of the required outfall, drainage, industrial or structural control information. In response, the purpose of the topographic map is to identify receiving waters, major storm water sewer lines that contribute discharges to these waters, and potential sources of storm water pollution. EPA disagrees that a USGS 7.5 scale map is inappropriate for identifying these features within a municipal system. The scale afforded by such a map provides sufficient detail to allow specified delineation of outfalls, while not requiring an overly burdensome map in terms of size. Numerous commenters noted the value of source identification information and generally supported submitting this information in the permit application.

Many commenters questioned the value of the source identification information for the purpose of characterizing pollutant loads and concentrations. Conversely, one commenter opined that the requirement would provide sufficient information to estimate pollutant loadings from each outfall using loading models to estimate loadings by watershed. In response, the source identification information serves several purposes. It is the first step for identifying potential sources of pollutants from which more in depth analysis can be accomplished, under the discharge characterization component of the application. Also, where appropriate, it may be used in conjunction with models to estimate loadings and concentrations. EPA has also taken note of the many comments that question or dismiss the concept of determining pollutant loads and concentrations solely from source identification. Accordingly, EPA is convinced that at least some of the sampling requirements as proposed are necessary to facilitate more accurate system specific estimates of pollutant concentrations and loadings. These are discussed below, in the discharge characterization section.

One commenter suggested that aerial photos be submitted in lieu of topographic maps. EPA agrees that an aerial photograph of the appropriate scale that communicates the same information as a topographic map may be substituted. Today's final rule reflects this flexibility.

The source identification component of the municipal application also requires that municipal applicants identify the industrial activity within the drainage area associated with each major outfall. One commenter stated that where multiple storm sewers outfalls discharge to a stream reach, municipalities should be allowed to delineate a single sewer-shed for identifying sources of industrial activity. In response, the rule does not delimit an applicant's ability to identify industries in groups according to a common series of storm sewer outfalls, if that is an easier or more appropriate methodology for that particular applicant. However, EPA would view this as appropriate only where the land use is of one type, such as industrial. Where land use is mixed within the drainage area associated with each major outfall, such differences need to be identified.

In response to comments, to the extent that EPA is requesting that applicants identify the types of industrial facilities operating within the municipality, the municipality is free to use Standard Industrial Classification (SIC) or other systems which identify the principal products or services of the facility. One commenter disagreed with EPA's decision to require a list of water bodies that are listed under CWA sections 304(l), 319(a), 314(a), and 320, because the States already have this information and that requesting it from permittees could result in "omissions, misunderstandings, and mistakes." EPA believes that these waters should be identified in the application so that appropriate permit conditions can be developed that address storm water discharges that are adversely effecting such waters. EPA believes that having this information immediately at the disposal of the municipality and the permit writer will speed the process and alert the municipality of storm water discharges to listed water bodies and potentially polluted storm water discharges to those waters.

6. Characterization of Discharges

The characterization plan and data collection required in today's rule as elements of Part-one and Part-two of the municipal permit application is comprised of several major components:

- A screening analysis to provide information to develop a program for detecting and controlling illicit connections and illegal dumping to the municipal separate storm sewer system;
- Initial quantitative data to allow the development of a representative sampling program to be incorporated as a permit condition;
- System-wide estimates of annual pollutant loadings and the mean concentration of pollutants in storm water discharges, and a schedule to provide estimates during the term of the permit for each major outfall of the seasonal pollutant loadings and the event mean concentration of pollutants in storm water discharges; and
- An identification of receiving waters with known water quality impacts associated with storm water discharges.

Several commenters noted the importance of developing and targeting management programs based on discharge characterization data and monitoring. Numerous other commenters stressed the importance of a program to identify and eliminate illicit connections and improper disposal. EPA agrees that discharge characterization is an important component of developing management programs. Most of the discharge characterization components of the municipal application procedure have been retained as proposed. However some changes and clarifications have been made, and these are noted below.

a. *Screening analysis for illicit discharges (part 1 of application).* Illicit discharges (non-storm water discharges without a NPDES permit), and illegal dumping to municipal separate storm sewer systems occur in a relatively haphazard manner. Due to the unpredictability of such discharges, today's permit applications require a field analysis for the development of priorities for detecting and controlling such discharges. A field screening approach will provide a means of detecting high levels of pollutants in dry weather flows, which is one indicator of illicit connections. Results of a field test of such discharges will provide further information about the nature of the discharge to determine if further investigation is warranted. Visual observation of dry weather flows has been shown to be one the most effective means for tracking down illicit connections and improper disposal.

As discussed in greater detail in section VI.H.7.b of today's preamble, EPA is proposing to require that municipal applicants submit a comprehensive plan to develop a program to detect and control illicit connections and illegal dumping. In order to develop appropriate priorities for these programs, applicants shall submit the results of a screening analysis to be performed on major outfalls or "field screening points" in the systems to detect the presence of illicit hookups and illegal dumping. The results of the screening analysis, referred to as the field screen, would be reported in part 1 of the permit application.

Under the requirements for a field screen, the applicant or co-applicants will submit a description of observations of dry weather discharges from major outfalls or "field screening points" identified in part 1 of the application. At a minimum, the field screen would include a description of visual observations made during a dry weather period. If any flow is observed during a dry weather period, two grab samples will be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observation regarding the potential presence of non-storm water discharges or illegal dumping would be provided. In addition, the applicant should provide the results of a field screen which includes on-site estimates of pH, total chlorine, total copper, total phenol, detergents (or surfacants) along with a description of the flow. EPA is not requiring analytical methods approved under 40 CFR part 136 be used exclusively in the field screen. Rather, the use of inexpensive field sampling techniques such as the use of colorimetric detection methods is anticipated. Where the field screen does not involve analytical methods approved under 40 CFR part 136, the applicant is required to provide a description of the method used which includes the name of the manufacturer of the test method, including the range and accuracy of the test. Appropriate field techniques for a field screen of dry weather discharges are discussed in EPA guidance for municipal storm water discharge permit applications.

It should be clarified that data from the field screen is generally not appropriate for comprehensive evaluation of water quality impacts, or estimating pollutant loadings. Rather, the information from the field screen in part 1 of the application will be used along with other information, such as the age of development and degree of industrial activity in the drainage basin, to identify areas or outfalls which are appropriate targets for management programs and for investigations directed at identifying and controlling non-storm water discharges to separate storm sewers during the term of the permit.

In the December 7, 1988, proposal, EPA proposed a second phase of the screening analysis requiring that wet weather and dry-weather samples be collected and analyzed in accordance with analytical methods approved under 40 CFR part 136 from designated major outfalls for a larger set of pollutants identified with illicit connections. Comments essentially viewed this proposal as too ambitious for the permit application. One commenter recommended that this procedure could best be accomplished during the term of the permit. Some comments maintained that the collection of analytical samples as a follow up to an initial field screen analysis was not the most cost-effective, practicable or efficient method for pinpointing illicit connections. EPA recognizes that several municipal programs to detect and control illicit connections and other non-storm water discharges have been successfully developed and implemented without the use of extensive analytical sampling (for example, programs in Fort Worth, TX and Washtenaw County, MI). After identifying and analyzing the comments on this aspect of the proposal EPA has withdrawn this element of the proposal from today's rule. EPA believes that a follow-up phase to the initial field screening is more appropriate during the term of the permit. Thus, EPA has dropped the field screening requirement proposed for Part 2 of the application.

b. *Representative data (Part 2 of application).* The NURP study showed that pollutant concentrations in urban runoff can exhibit significant variation. Pollutant concentrations in such discharges vary during storm events and from storm event to storm event. Given the complex, variable nature of storm water discharges from municipal systems, EPA favors a permit scheme where the collection of representative data is primarily a task that will be accomplished through monitoring programs during the term of the permit. Permit writers have the necessary flexibility to develop monitoring requirements that more accurately reflect the true nature of highly variable and complex discharges.

Today's rule provides for an initial assessment of the quality of discharges from municipal separate storm sewers based primarily on source identification measures and existing information received in the permit application. This information will be used to begin to characterize system discharges. The analysis developed under this approach will not rely soley on sampling data collected during the application process, but will also incorporate existing data bases such as the one developed under the NURP study. Today's rule requires that some quantitative data will be collected to ensure the system discharges can be appropriately represented by the various existing data bases and to provide a basis for developing a monitoring plan to be implemented as a permit condition.

Today's rule requires that quantitative data be submitted for discharges from selected storm events at between 5 and 10 outfalls or field screening points. The municipality will recommend and the Director will then designate the outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system, on the basis of information received in part 1 of the application. The applicant will be required to collect samples of a storm discharge from three storm events occurring one month apart for each designated outfall or field screening point. This is a modification to the December 7, 1988, proposal wherein only one of the 5 to 10 outfalls was to be sampled during three storm events, and the remaining sampled only once. This requirement may be modified by the Director if the type and frequency of storm events require different sampling. The Director may require samples of discharges to be collected during snow melts or during specified seasons. The Director may also require additional testing during a single event if it is unlikely that there will be three storm events suitable for sampling during the year. Furthermore, the Director may allow exemptions to the three storm event requirement when climatic conditions create good cause for such exemptions; for example, arid regions or areas experiencing drought conditions during the period when applications are developed could be exempted.

EPA has added requirements to sample more storm events in response to comments that the sampling procedure proposed would not necessarily yield representative data. Commenters indicated that: rain events of different intensity may yield different levels and types of pollutants; a rain event after a dry spell of several months will not be representative when compared to rain events occurring closer together, due to the build up of constituents; one sample may reflect short term effects such as improper disposal rather than long term effects; and that rain events are generally too variable to rely on the limited sampling as proposed. Clearly the data collected from sampling storm water discharges has a tendency to vary greatly. The more sampling that is accomplished, the greater extent to which this variability may be accounted for and appropriate management programs developed.

In selecting the amount of data to be collected during the permit application process, EPA has attempted to balance the usefulness of this data against the economic and logistical constraints in actually obtaining it. In some cases the data obtained will support initial loading and concentration estimates obtained using various modeling techniques, from which appropriate permit conditions can be developed. Data obtained may be supplemented with further data collection during the term of the permit.

EPA believes that the requirement that selected major municipal outfalls or "field screening points" be sampled for more than one event will provide verification that the characterization of discharge is valid. Where an ongoing sampling program is defined for the term of the permit, samples taken during the first few years of this period can be used to verify the application results. If a municipality or an industry questions the conclusions drawn from the characterization sampling, it may at its discretion choose to perform additional sampling to either confirm or dispel these concerns.

All samples collected will be analyzed for all pollutants listed in Table II, (organic pollutants), and Table III, (toxic metals, cyanide and total phenol) of appendix D of 40 CFR part 122, and for the pollutants listed in Table M-1 below:

Table M-1

Total suspended solids (TSS).	Total dissolved solids.
COD.	BOD$_5$.
Oil and grease	Fecal coliform.
Fecal streptococcus	pH.
Dissolved phosphorus	
Total ammonia plus organic nitrogen.	Total phosphorus.
Total Kjeldahl nitrogen	Nitrate plus nitrite.

A portion of the NURP program involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. The NURP program excluded testing for asbestos and dioxin. Results for seven other organic priority pollutants were not considered valid due to changes in, or constraints on test methods. Seventy-seven priority pollutants were detected in samples of storm water discharges from lands used for residential, commercial and light industries taken during the NURP study, including 14 inorganic and 63 organic pollutants. Table M-2 shows the priority pollutants which were detected in at least ten percent of the discharge samples which were sampled for priority pollutants.

TABLE M-2.—PRIORITY POLLUTANTS DETECTED IN AT LEAST 10% OF NURP SAMPLES

(In percent)

Metals and inorganics	Frequency of detection
Antimony	13
Arsenic	52
Beryllium	12
Cadmium	48
Chromium	58
Copper	91
Cyanides	23
Lead	94
Nickel	43
Selenium	11
Zinc	94
Pesticides:	
Alpha-hexachlorocyclohexane	20
Alpha-endosulfan	19
Chlordane	17
Lindane	15
Halogenated aliphatics:	
Methane, dichloro-	11
Phenols and cresols:	
Phenol	14
Phenol, pentachloro-	19
Phenol, 4-nitro	10
Phthalate esters:	
Phthalate, bis(2-ethylhexyl)	22
Polycyclic aromatic hydrocarbons:	
Chrysene	10
Fluoranthene	18
Phenanthrene	12
Pyrene	15

The NURP data also showed a significant number of these samples exceeded various freshwater water quality criteria. The exceedence of water quality criteria does not necessarily imply that an actual violation of standards will exist in the receiving water body in question. Rather, the enumeration of exceedences serves as a screening function to identify those constituents whose presence in urban storm water runoff may warrant high priority for further evaluation.

Members of this group represent all of the major organic chemical fractions

found in Table II of appendix D of 40 CFR part 122 (volatiles, acid compounds, base/neutrals, pesticides). Today's rule requires testing for all organic constituents in Table II rather than limiting the sampling requirements to the 24 toxic constituents found in the NURP study because they will provide a better description of the discharge at essentially the same cost. (The cost of analyzing samples for organic chemicals strongly depends on the number of major organic chemical fractions tested). The NURP study focused on characterizing storm water discharges from lands used for residential, commercial and light industrial activities. In general, the NURP study did not focus on other sources of pollutants to municipal separate storm sewer systems and, therefore, does not reflect all potential pollutants that may be present in discharges from municipal separate storm sewer systems.

The sampling requirements for the permit application address a limited number of sampling locations but require analysis for a wide range of pollutants. Sampling for a wide range of pollutants as a permit application requirement should provide permit writers with appropriate data to target more specific pollutants when developing requirements for a monitoring program during the term of the permit.

Numerous commenters stated that monitoring for all priority pollutants seemed excessive. However, EPA is convinced that it is more appropriate for permit conditions to focus on and prioritize particular pollutant problems after data covering a broad spectrum of pollutants are developed. As noted above, NURP identified 77 priority pollutants in urban runoff, but only from residential, commercial, and light industrial (e.g. industrial parks) areas. One municipal entity stated that this approach is a reasonable and realistic means of providing some useful baseline data, while others recommended sampling a variety of parameters that are included in Tables M-1 and M-2. Another municipal entity stated that characterization of outfall discharge quality during storm events is necessary as a means of targeting source control activities.

EPA is working with the United States Geological Survey (USGS) to evaluate the availability of USGS technical assistance to municipalities through cooperative funding programs to aid in collecting representative quantitative data of storm water discharges from municipal systems.

USGS data collection programs with municipalities typically include storm water discharge samples obtained at various times during a storm hydrograph event. Various USGS field procedures can be used to obtain discharge data for pipes, culverts, etc., typically found in urban areas. Pollutant models can be calibrated with data and long-term rainfall records to simulate the quality of system discharges and compared to other storm water models.

In addition, EPA recognizes that many municipalities have participated in studies, such as NURP, that involve sampling of urban runoff as well as other components of discharges from municipal separate storm sewer systems. All existing storm water sampling data along with relevant water quality data, sediment data, fish tissue data or biosurvey data taken over the last ten years is considered relevant and, under today's rule, must be submitted with part I of the application. Sampling data that is submitted must be accompanied with a narrative description of the drainage area served by the outfall monitored, a description of the sampling and quality control program, and the location of receiving water monitoring.

EPA requested comments on the use of existing data, such as that generated under the NURP study, to satisfy the requirement of providing representative sampling data. Commenters did not agree on the value of NURP results as an indicator of representative data. Several commenters expressed the view that existing data could be used to satisfy in whole or in part the representative sampling requirements of the storm water permit application. However, commenters generally did not offer suggested criteria that could be used to verify the validity of existing data. One commenter believed that intensive sampling over a period of ten years in 12 basins, when combined with NURP data, would be adequate.

One commenter supported the use of data, such as that obtained from the NURP study, to target sampling programs. EPA supports such a methodology and has retained this portion of the proposed discharge characterization component. EPA received strong support from an environmental group for retaining this information requirement in part 1 of the application.

In light of these comments EPA believes it is appropriate to retain the representative sampling requirements without resorting to the use of existing data exclusively. Because of the inherent variability in reliability and applicability of existing data, EPA is convinced that a nationally consistent methodology for collecting data is appropriate. This data can then be used in conjunction with other existing data and models to develop appropriate site specific management programs and more generalized management program strategies. Where existing data and data collected under today's rule varies or does not match, further sampling under the term of the permit will be accomplished to more accurately assess the discharge of pollutants.

c. Loading and Concentration Estimates (part 2 of application). The assessment of the water quality impacts of discharges from municipal separate storm sewer systems on receiving waters requires the analysis of both pollutant loadings and concentrations of pollutants in discharges.

The loading and concentration estimates in today's rule will be used to evaluate two types of water quality impacts: (1) Short-term impacts; and (2) long-term impacts. Specifically, the regulation requires estimates of the annual pollutant load of the cumulative discharges to waters of the United States from municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States municipal outfalls during a storm event for BOD_5, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods. Municipalities have options in the use of methodologies, including those presented in NURP for calculating loads.

Short term impacts from discharges from municipal separate storm sewers involve changes in water quality that occur during and shortly after storm events. Examples of short-term impacts that can lead to impairments include periodic dissolved oxygen depression due to the oxidation of contaminants, high bacteria levels, fish kills, acute effects of toxic pollutants, contact recreation impairments and loss of submerged macrophytes. Characterization of instream pollutant concentrations based on estimated pollutant concentrations in system discharges are important for evaluating these types of impacts.

Long-term water quality impacts from discharges from municipal separate storm sewers may be caused by contaminants associated with suspended solids that settle in receiving water sediments and by nutrients which enter receiving water systems with long

retention times. Pollutant loading data are important for evaluation of impairments such as loss of storage capacity in streams, estuaries, reservoirs, lakes and bays, lake eutrophication caused by high nutrient loadings, and destruction of benthic habitat. Other examples of the long-term water quality impacts include depressed dissolved oxygen caused by the oxidation of organics in bottom sediments and biological accumulation of toxics as a result of uptake by organisms in the food chain. An estimate of annual pollutant loading associated with discharges from municipal storm water sewer systems is necessary to evaluate the magnitude and severity of the environmental impacts of such discharges and to evaluate the effectiveness of controls which are imposed at a later time.

Municipal storm water sewer systems generally handle runoff from large drainage areas and the sources of pollution are usually very diffuse. The concentrations of many pollutants in discharges from these systems are often low relative to many industrial process and POTW discharges. The water quality impacts of low concentration pollution discharges tend to be cumulative and need to be evaluated in terms of aggregate loadings as well as pollutant concentrations. A site-specific loading analysis can be used to evaluate the relative contribution of various pollutant sources.

7. Storm Water Quality Management Plans

Today's rule facilitates the development of site-specific permit conditions by requiring large and medium municipal permit applicants to submit, along with other information, a description of existing structural and non-structural prevention and control measures on discharges of pollutants from municipal storm sewers in part I of the permit application. Section 122.26(d)(2)(iv) requires the applicant to identify in part 2 of the application, to the degree necessary to meet the MEP standard, additional prevention or control measures which will be implemented during the life of the permit. Although, in many cases, it will not be possible to identify all prevention and control measures that are appropriate as permit conditions, EPA believes that the process of identifying components of a comprehensive prevention and/or control program should begin early and that applicants should be given the opportunity to identify and propose the components of the program that they believe are appropriate for first preventing or controlling discharges of pollutants.

As noted earlier, EPA recognizes that problems associated with storm water, combined sewer overflows (CSOs) and infiltration and inflow (I&I) are all interrelated even though they are treated somewhat differently under the law. EPA believes that it is important to begin linking these programs and activities and, because of the potential cost to local governments, to investigate the use of innovative, nontraditional approaches to reducing or preventing contamination of storm water. The application process for developing municipal storm water management plans provides an ideal opportunity between steps 1 and 2 for considering the full range of nontraditional, preventive approaches.

The permit application requirements in today's rule require the applicant or co-applicants to develop management programs for four types of pollutant sources which discharge to large and medium municipal storm sewer systems. Discharges from large and medium municipal storm sewer systems are usually expected to be composed primarily of: (1) Runoff from commercial and residential areas; (2) storm water runoff from industrial areas; (3) runoff from construction sites; and (4) non-storm water discharges. Part 2 of the permit application has been designed to allow the applicant the opportunity to propose MEP control measures for each of these components of the discharge. Discharges from some municipal systems may also contain pollutants from other sources, such as runoff from land disposal activities (leaking septic tanks, landfills and land application of sewage sludge). Where other sources, such as land disposal, contribute significant amounts of pollutants to a municipal storm sewer system, appropriate control measures should be included on a site-specific basis. Proposed management programs will then be evaluated in the development of permit conditions.

There is some overlap in the manner in which these pollutant sources are characterized and their sources identified. For instance, improper disposal of oil into storm drains is often associated with do-it-yourself automobile oil changes in residential areas, or improper application or overuse of herbicides and pesticides in residential areas can also occur in industrial areas. Also, some control measures will reduce pollutant loads for multiple components of the municipal storm sewer discharge. These measures should be identified under all appropriate places in the application; as discussed below, however, double counting of pollutant removal must be avoided when the total assessment of control measures is performed.

Although many land use programs have multiple purposes, including the reduction of pollutants in discharges from municipal separate storm sewer systems, the proposed management programs in today's rule are intended to address only those controls which can be implemented by the permit applicant or co-applicants. EPA cannot abrogate its responsibilities under the CWA to implement the NPDES permit program by relying on pollution control programs that are outside the NPDES program. For example, municipal permit management programs may not rely exclusively on erosion or sediment control laws for implementing that portion of management programs that address discharges from construction sites, unless such laws implement NPDES permit program requirements entirely and that such implementation is a part of the permit.

EPA anticipates that storm water management programs will evolve and mature over time. The permits for discharges from municipal separate storm sewer systems will be written to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality. The proposed permit applications will require applicants to provide a description of the range of control measures considered for implementation during the term of the permit. Flexibility in developing permit conditions will be encouraged by providing applicants an opportunity to identify in the permit application priority controls appropriate for the initial implementation of management programs. Many commenters endorsed the flexible site-specific storm water program approach as proposed as a method for addressing regional water quality control programs in a cost effective manner. To this extent, EPA agrees with one municipality that management programs should focus on more serious problems and sources of pollutants identified in the municipal system. However, EPA believes that to implement section 402(p)(3), comprehensive storm water management programs which address a number of major sources of pollutants to a system are necessary. Municipal programs should not be focused solely on a single source of pollution, such as illicit connections.

One commenter maintained that management program development

should be flexible enough to allow for consideration of what is attainable based on the area's climate, vegetation, hydrology, and land uses. EPA agrees with this comment. Some strategies for reducing pollutants in the northeast will not be practical in the southwest, such as management programs for deicing activities. The permit application process will determine what strategies are appropriate in different locations.

Several commenters supported addressing storm water pollutant problems through management practices or programs rather than end of pipe controls or treatment. EPA agrees with this comment to the extent that storm water management practices are a general theme of this rulemaking with regard to municipal permits. However, there will be cases where such discharges are best addressed through technology such as retention, detention or infiltration ponds.

One commenter reacted unfavorably to the flexible site-specific management plan approach stating that there is no hard criteria upon which to judge the adequacy of programs. Another commenter felt that there should be a BAT standard for municipal permits. Another commenter stated that the rule should contain specific BMPs that the permittee must comply with. EPA disagrees with these comments. The Clean Water Act requires municipalities to apply for permits that will reduce pollutants in discharges to the maximum extent practicable and sets out the types of controls that are contemplated to deal with storm water discharges from municipalities. The language of CWA section 402(p)(3) contemplates that, because of the fundamentally different characteristics of many municipalities, municipalities will have permits tailored to meet particular geographical, hydrological, and climatic conditions. Management practices and programs may be incorporated into the terms of the permit where appropriate. Permit conditions, which require that storm water management programs be developed and implemented or require specific practices, are enforceable in accordance with the terms of the permit. EPA disagrees with the notion that this regulation, which addressed permit application requirements, should create mandatory permit requirements which may have no legitimate application to a particular municipality. The whole point of the permit scheme for these discharges is to avoid inflexibility in the types and levels of control. Further, to the degree that such mandatory requirements may be appropriate, these requirements should be established under the authority of section 402(p)(6) of the CWA and not in this rulemaking, which addresses permit application requirements.

Some commenters suggested that management programs should be developed as part of the permit conditions and not as part of the permit application. EPA agrees that management programs and their ongoing development should be part of the permit term. However, EPA is convinced, and many commenters agree, that the permit application should contain information on what the permittee has done to date and what it proposes and plans to do during the permit term based upon its discharge characterization and source identification data. This is a reasonable and logical approach and one that meets the intent and letter of section 402(p)(3) of the CWA. As stated above, this would be an appropriate method for implementing storm water management programs that should mature and evolve over time.

Applicants will propose priorities based on a consideration of appropriate controls including, but not limited to, consideration of controls that address: reducing pollutants to municipal separate storm sewer system discharges that are associated with storm water from commercial and residential areas (§ 122.26(d)(2)(iv)(A)); illicit discharges and illegal disposal (§ 122.26(d)(2)(iv)(B)); storm water from industrial areas (§ 122.26(d)(2)(iv)(C)); and runoff from construction sites (§ 122.26(d)(2)(iv)(D)). Permits for different municipalities will place different emphasis on controlling various components of discharges from municipal storm sewers. For example, the potential for cross-connections (such as municipal sewage or industrial process wastewater discharges to a municipal separate storm sewer) is generally expected to be greater in municipalities with older developed areas. On the other hand, municipalities with larger areas of new development will have a greater opportunity to focus controls to reduce pollutants in storm water generated by the area after it is developed, discharges from construction sites, and other planning activities.

EPA requested comments on the process and methods for developing appropriate priorities in management programs proposed in applications and how the development of these priorities can be coordinated with controls on other discharges to ensure the achievement of water quality standards and the goals of the CWA.

Discharges from diffuse sources in residential areas was recognized by several commenters as a significant source of pollutants. Accordingly, these elements of the management plans have been retained. In conjunction with the importance of developing programs for illicit connections, numerous commenters stated that education programs are a priority. Another commenter emphasized that ordinances prohibiting such discharges and their enforcement is a crucial means of a successful program in this regard. EPA agrees with these comments and consequently will retain those portions of management program development that include a description of a program for educational activities such as public information for the proper disposal of oil and toxic materials and the use of herbicides, pesticides and fertilizers.

Some commenters noted that discharge characterization is necessary for development of appropriate management plans. EPA agrees with these comments and has retained the discharge characterization components in this rulemaking. However, EPA disagrees that the results of all discharge characterization procedures (*i.e.*, part 1 and part 2) are necessary to describe and propose a program as required in part 2 of the application. The application of various models is available to permit applicants, where needed, to develop appropriate management programs. All available site specific discharge characterization data should be available to the permit writer to draft appropriate conditions for the term of the permit.

One commenter noted that an important aspect of developing management plans is establishing the necessary legal authority to improve water quality. EPA agrees with this comment and has retained those aspects of the regulation which call for development and attainment of adequate legal authority in both parts of the municipal application.

One commenter stated that programs should address previously identified water quality problems in other programs that are required by section 304(l) of the CWA. EPA agrees that identified water quality problems need to be addressed by management programs, and the municipal permit application will call for an identification of these waters. However, EPA does not endorse addressing these waters to the exclusion of all others within the boundaries of the municipal separate storm sewer system. Some waters may experience substantial degradation after rain events and still not be listed under

section 304(l). Further, water quality impacts in listed waters may not be related to storm water discharges, while other non-listed waters do have water quality impacts from storm water discharges. Similarly, EPA agrees with one commenter that it may be desirable to focus attention and resources on certain problem watersheds within a municipality, and controls may be imposed and programs prioritized on that basis. However, such a focus should not be to the exclusion of other waters and watersheds that have water quality problems (although less troublesome) traceable to storm water discharges. The CWA requires that permits address discharges to waters of the United States, not just waters previously targeted under special programs.

Some commenters expressed concern that the permit application requires the design of management programs before knowing what will be in the permits. EPA disagrees with the thrust of this comment, that is that the order of requirements is inappropriate. The permit applicant will have two years to develop proposed plans which can be considered by permit writers in the development of the permit. Based upon a consideration of the management program proposed by the municipality and other relevant information, permits can be tailored for individual programs. One commenter stated that the cornerstone of management programs are inspection and enforcement programs. EPA agrees that these two elements are important components. Without inspection and enforcement mechanisms the programs will undoubtedly falter. Accordingly these requirements in the description of management programs in the permit application have been retained. In a similar vein, one commenter emphasized the importance of developing legal authority, financial capability, and administrative infrastructure. EPA agrees with this comment and has retained those aspects of the regulation that call for a description of applicants plans and resources in these areas.

One commenter stressed that control of discharges into the municipal system from industries is an important goal of municipal storm water management programs. EPA agrees with this comment and has retained the proposed description of management programs to address discharges from industrial sources. Other commenters identified industries as the principal contributors of pollutants to municipal separate storm sewer systems.

In addition, EPA will continue to evaluate procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality in the studies required under section 402(p)(5) of the CWA. One purpose of these studies will be to evaluate the costs and water quality benefits associated with implementing these procedures and methods. This evaluation will address a number of factors which impact the implementation costs associated with these programs, such as the extent to which similar municipal ordinances are currently being implemented, the degree to which existing municipal programs (such as flood management programs or construction site inspections) can be expanded to address water quality concerns, the resource intensiveness of the control, and whether the control program will involve public or private expenditures. This information, along with information gained during permit implementation will aid in the dynamic long-term development of municipal storm water management programs.

a. *Measures to reduce pollutants in runoff from commercial and residential areas.* The NURP program evaluated runoff from lands primarily dedicated to residential and commercial activities. The areas evaluated in the study reflect some other activities, such as light industry, which are commonly dispersed among residential and commercial areas. The NURP study selected sampling locations that were thought to be relatively free of illicit discharges and storm water from heavy industrial sites including storm water runoff from heavy construction sites. Of course, in a study such as NURP it was impossible to totally isolate various contributions to the runoff. In developing the permit application requirements in today's rule EPA has, in general, relied on the NURP definition of urban runoff—runoff from lands used for residential, commercial and light industrial activities.

NURP and numerous other studies have shown that runoff from residential and commercial areas washes a number of pollutants into receiving waters. Of equal importance is the volume of storm water runoff leaving urban areas during storm events. Large intermittent volumes of runoff can destroy aquatic habitat. As the percentage of paved surfaces increases, the volume and rate of runoff and the corresponding pollutant loads also increase. Thus, the amount of storm water runoff from commercial and residential areas and the pollutant loadings associated with storm water runoff increases as development progresses; and they remain at an elevated level for the lifetime of the development.

Proposed § 122.26(d)(2)(iv)(A) requires municipal storm sewer system applicants to provide in part 2 of the application a description of a proposed management program that will describe priorities for implementing management programs based on a consideration of appropriate controls including:

- A description of maintenance activities and a maintenance schedule for structural controls;
- A description of planning procedures including a comprehensive master plan to control after construction is completed, the discharge of pollutants from municipal separate storm sewers which receive discharges from new development and significant redevelopment after construction is completed (in response to comment this contemplates an engineering policy and procedure strategy with long term planning);
- A description of practices for operating and maintaining public highways and procedures for reducing the impact on receiving waters of such discharges from municipal storm sewer system;
- A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies; and
- A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

Water quality problems caused by municipal storm sewer discharges will generally be most acute in heavily developed areas. Prevention measures may be desirable and cost effective. However, structural control measures may also be effective, although opportunities for implementing these measures may be limited in previously developed areas. Commonly used structural technologies include a wide variety of treatment techniques, including first flush diversion systems, detention/infiltration basins, retention basins, extended detention basins, infiltration trenches, porous pavement, oil/grit separators, grass swales, and swirl concentrators. A major problem associated with sound storm water management is the need for operating

and maintaining the system for its expected life.

The unavailability of land in highly developed areas often makes the use of structural controls infeasible for modifying many existing systems. Non-structural practices can play a more important role. Non-structural practices can include erosion control, streambank management techniques, street cleaning operations, vegetation/lawn maintenance controls, debris removal, road salt application management and public awareness programs.

As noted above, the first component of the proposed program to reduce pollutants in storm water from commercial and residential areas which discharge to municipal storm sewer systems is to describe maintenance activities and schedule. The second component of the proposed program to reduce pollutants in storm water from commercial and residential areas which discharge to municipal storm sewer systems provides that applicants describe the planning procedures and a comprehensive master plan that will assure that increases of pollutant loading associated with newly developed areas are, to the maximum extent practicable, limited. These measures should address storm water from commercial and residential areas which discharge to the municipal storm sewer that occur after the construction phase of development is completed. Controls for construction activities are addressed later in today's rule. One commenter noted the feasibility of developing management plans for newly developing areas. EPA agrees with this comment and has retained that portion of the regulation that deals with a description of controls for areas of new development. Similarly, one municipality stressed the importance and achievability of addressing storm water discharges from construction sites.

As urban development occurs, the volume of storm water and its rate of discharge increases. These increases are caused when pavement and structures cover soils and destroy vegetation which otherwise would slow and absorb runoff. Development also accelerates erosion through alteration of the land surface. Areas that are in the process of development offer the greatest potential for utilizing the full range of structural and non-structural best management practices. If these measures are to provide controls to reduce pollutant discharges after the area has been developed, comprehensive planning must be used to incorporate these measures as the area is in the process of developing. These measures offer an important opportunity to limit increases in pollutant loads.

The third component of § 122.26(d)(2)(iv)(A) provides a description of practices for operating and maintaining public roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems. General guidelines recommended for managing highway storm water runoff include litter control, pesticide/herbicide use management, reducing direct discharges, reducing runoff velocity, grassed channels, curb elimination, catchbasin maintenance, appropriate streetcleaning, establishing and maintaining vegetation, development of management controls for salt storage facilities, education and calibration practices for deicing application, infiltration practices, and detention/retention practices.

The fourth component of § 122.26(d)(2)(iv)(A) provides that applicants identify procedures that enable flood management agencies to consider the impact of flood management projects on the water quality of receiving streams. A well-developed storm water management program can reduce the amount of pollutants in storm water discharges as well as benefit flood control objectives. As discussed above, increased development can increase both the quantity of runoff from commercial and residential areas and the pollutant load associated with such discharges. Disturbing the land cover, altering natural drainage patterns, and increasing impervious area all increase the quantity and rate of runoff, thereby increasing both erosion and flooding potential. An integrated planning approach helps planners make the best decisions to benefit both flood control and water quality objectives.

The fifth component of § 122.26(d)(2)(iv)(A) would provide that municipal applicants submit a description of a program to reduce, to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer. Such a program may include controls such as educational activities and other measures for commercial applicators and distributors and controls for application in public rights-of-way and at municipal facilities. Discharges of these materials to municipal storm sewer systems can be controlled by proper application of these materials. Some commenters noted that insecticides used in residential areas are a probable source of pollutants in storm water discharges from residential areas, as well as salting and other de-icing activities. In response to this comment, part of a community management plan may include controls or education programs to limit the impacts of these sources of pollutants. One commenter noted that many communities already have household toxic disposal programs. Where appropriate these can be incorporated into municipal management programs.

Some commenters suggested substituting the management program description for residential and commercial areas with a simple identification of applicable management practices. EPA agrees that identification of appropriate management practices is a critical component of a program description for these areas. In essence, this is what the program description is designed to achieve. However, for the reasons discussed in greater detail above, EPA is convinced that an appropriate program must address all of the components of the management program for residential and commercial areas that are outlined in today's rule. Further, for the purposes of writing a permit with enforceable conditions, the application should identify a schedule to implement management practices. The applicant should be able to estimate the reduction in pollutant loads as a result of the development of certain management practices and programs (§ 122.26(d)(2)(v). A program may also include public education programs, which are not necessarily viewed as traditional BMPs.

b. *Measures for illicit discharges and improper disposal.* The CWA requires that NPDES permits for discharges from municipal storm sewers "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers." In today's rule, EPA will begin to implement this statutory mandate by focusing on two types of discharges to large and medium municipal separate storm sewer systems. *See* § 122.26(d)(1)(iv)(D) and (d)(2)(iv)(B). One type of non-storm water discharges are illicit discharges which are plumbed into the system or that result from leakage of sanitary sewage system. The other class of non-storm water discharges result from the improper disposal of materials such as used oil and other toxic materials.

Illicit discharges. In some municipalities, illicit connections of sanitary, commercial and industrial discharges to storm sewer systems have had a significant impact on the water quality of receiving waters. Although the

NURP study did not emphasize identifying illicit connections to storm sewers other than to assure that monitoring sites used in the study were free from sanitary sewage contamination, the study concluded that illicit connections can result in high bacterial counts and dangers to public health. The study also noted that removing such discharges presented opportunities for dramatic improvements in the quality of urban storm water discharges.

Other studies have shown that illicit connections to storm sewers can create severe, wide-spread contamination problems. For example, the Huron River Pollution Abatement Program inspected 660 businesses, homes and other buildings located in Washtenaw County, Michigan and identified 14% of the buildings as having improper storm drain connections. Illicit discharges were detected at a higher rate of 60% for automobile related businesses, including service stations, automobile dealerships, car washes, body shops and light industrial facilities. While some of the problems discovered in this study were the result of improper plumbing or illegal connections, a majority were approved connections at the time they were built. Many commenters emphasized the identification and elimination of illicit connections as a priority, including leakage from sanitary sewers. EPA agrees with these comments and intends to retain this portion of the program without modification.

A wide variety of technologies exist for detecting illicit discharges. The effectiveness of these measures largely depends upon the site-specific design of the system. Under today's rule, permit applicants would develop a description of a proposed management program, including priorities for implementing the program and a schedule to implement a program to identify illicit discharges to the municipal storm sewer system. This rulemaking will require the initial priorities for analyzing various portions of the system and the appropriate detection techniques to be used.

Improper disposal. The permit application requirements for municipal storm sewer systems include a requirement that the municipal permit applicant describe a program to assist and facilitate in the proper management of used oil and toxic materials. Improper management of used oil can lead to discharges to municipal storm sewers that in turn may have a significant impact on receiving water bodies. EPA estimates that, annually, 267 million gallons of used oil, including 135 million gallons of used oil from do-it-yourself automobile oil changes, are disposed of improperly. An additional 70 million gallons of used oil, most coming from service stations and repair shops, are used for road oiling. Many commenters emphasized the elimination of discharges composed of improperly disposed of oil and toxic material. One commenter identified motor oil as the major source of oil contamination and that EPA needs to encourage proper disposal of used oil. Several other commenters emphasized the importance of recycling programs for oil. EPA agrees with these comments and intends to retain this portion of the program without modification. One commenter identified public awareness and timely reporting of illegal dumping as critical components of this portion of the program. EPA agrees with this comment and intends for management programs to deal with this problem.

c. *Measures to reduce pollutants in storm water discharges through municipal separate storm sewers from municipal landfills, hazardous waste treatment, disposal and recovery facilities that are subject to section 313 of title III of SARA.* As discussed in section VI.C of today's preamble, industrial facilities that discharge storm water through a large or medium municipal separate storm sewer system are required to apply for a permit under § 122.26(c) or seek coverage under a promulgated general permit. Today's rule also requires the municipal storm sewer permittee to describe a program to address industrial dischargers that are covered under the municipal storm sewer permit. Today's rule requires the municipal applicant to identify such discharges (*see* source identification requirements under § 122.26(d)(2)(iii)), provide a description of a program to monitor pollutants in runoff from certain industrial facilities that discharge to the municipal separate storm sewer system, identify priorities and procedures for inspections, and establish and implement control measures for such discharges. Should a municipality suspect that an individual discharger is discharging pollutants in storm water above acceptable limits, and the owner/operator of the system has no authority over the discharge, the municipality should contact the NPDES permitting authority for appropriate action. Two example of possible action are: if the facility already has an individual permit, the permit may be reopened and further controls imposed; or if the facility is covered by a promulgated general permit, then an individual site specific permit application may be required.

In the December 7, 1988, proposal, EPA requested comments concerning what storm water discharges from industrial facilities through municipal systems should be monitored. One of the proposed approaches was to require data on portions of the municipal system which receive storm water from facilities which are listed in the proposed regulatory definition at § 122.26(b)(14) of "storm water discharge associated with industrial activity" (with the exception of construction activities and uncontaminated storm water from oil and gas operations) which discharge through the municipal system. However, given the large number of facilities meeting this definition that discharge through municipal systems, a monitoring program that requires the submission of quantitative data regarding portions of the municipal systems receiving storm water from such facilities may not be practicable. Such a requirement could, for some systems, potentially become the most resource intensive requirements in the municipal permit. Therefore, EPA proposed various ways to develop appropriate targeting for monitoring programs.

EPA requested comments on a requirement that, at a minimum, monitoring programs address discharges from municipal separate storm sewer outfalls that contain storm water discharges from municipal landfills, hazardous waste treatment, disposal and recovery facilities, and runoff from industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Section 313 of title III requires that operators of certain facilities that manufacture, import, process, or otherwise use certain toxic chemicals report annually their releases of those chemicals to any environmental media. Section 313(b) of title III specifies that a facility is covered for the purposes of reporting if it meets all of the following criteria.

- The facility has ten or more full-time employees;
- The facility is in Standard Industrial Classification (SIC) codes 20 through 39;
- The facility manufactured (including quantities imported), processed, or otherwise used a listed chemical in amounts that exceed certain threshold quantities during the calendar year for which reporting is required.

Listed chemicals include 329 toxic chemicals listed at 40 CFR 372.45. After 1989, the threshold quantities of listed chemicals that the facility must manufacture, import or process (in order to trigger the submission of a release

report) is 25,000 pounds per year. The threshold for a use other than manufacturing, importing or processing of listed toxic chemicals is 10,000 pounds per year. EPA promulgated a final regulation clarifying these reporting requirements on February 16, 1988. (53 FR 4500).

EPA received numerous comments regarding limiting the types of facilities that are initially subject to monitoring and municipal management programs. Numerous municipalities agreed that focusing on the above facilities is an appropriate means for setting priorities for the development of control measures to eliminate or reduce pollutants associated with industrial facilities. Commenters agreed that the potential for toxic materials in discharges is high because of the high volume of such materials at these facilities and that information regarding discharges and material management practices will be available through section 313 of SARA. One commenter noted that building on an established program will contribute to establishing an effective storm water program. Accordingly, EPA has specified at § 122.26(d)(2)(ii)(C) that the municipal applicant must describe a program that identifies priorities and procedures for inspections and establishing and implementing control measures for these facilities.

Several commenters suggested that these facilities should not be singled out because the presence of the threshold amounts of SARA 313 chemicals does not indicate that significant quantities of those chemicals are likely to enter the facility's storm water runoff. Instead it was suggested that municipalities should monitor storm sewers as a whole to determine what chemicals are present and therefore what facilities are responsible. EPA disagrees with these comments. The object of these requirements is initially to set priorities for monitoring requirements. Then, if the situation requires, controls can be developed and instituted. If a facility is a member of this class of facilities and does not discharge excessive quantities of SARA 313 chemicals, then it may not be subjected to further monitoring and controls. As noted above, the selection of facilities is only a means of setting priorities for facilities for the development of municipal plans.

EPA agrees, however, that there will be other facilities that are significant sources of pollutants and should be addressed by municipalities as soon as possible under managemen programs. Accordingly, those industrial facilities that the municipal permit applicant determines to be contributing a substantial pollutant loading to the municipal storm sewer system shall be addressed in this portion of the municipal management program.

EPA also requested comments on monitoring programs for municipal dischargers including the submission of quantitative data on the following constituents:

- Any pollutants limited in an effluent guidelines for the industry subcategories, where applicable;
- Any pollutant listed in a discharging facility's NPDES permits for process wastewater, where applicable;
- Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;
- Any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).

These are the same constituents that are to be addressed in individual permit applicants for storm water discharges associated with industrial activity.

Several industries and municipalities submitted comments on this issue. Some commenters agreed that these are appropriate parameters. Some commenters advised that the ability of municipalities to implement this aspect of the program depended on industries submitting this data. Several industries provided comments suggesting that the approach should allow the permittee flexibility in determining which parameters are chosen because of the burdens of monitoring and the complexity of materials and flows in municipal systems.

In light of these comments, EPA has retained § 122.26(d)(2)(iv)(C) as proposed requiring municipalities to describe a monitoring program which utilizes the above parameters. Monitoring for these parameters provides consistency with the individual application requirements for industries, provides uniformity in municipal applications, and will narrow the parameters to conform to the types of industries discharging into the municipal systems. Monitoring programs may consist of programs undertaken by the municipality exclusively or requirements imposed on industry by the municipality, or a combination of approaches. Appropriate procedures are discussed in municipal permit application guidance.

EPA requested comments on appropriate means for municipalities to determine what facilities are contributing pollutants to municipal systems. Many commenters responded with numerous methodologies. Some of these have been addressed in guidance. Municipalities will have options in selecting the most appropriate methodology given their circumstances as described in their permit applications.

EPA initially favors establishing monitoring requirements to be applied to those outfalls that directly discharge to waters of the United States. EPA received one comment from a municipality with regard to this issue which agreed that this was the most logical approach. Monitoring of outfalls close to the point of discharge to waters of the United States is generally preferable when attempting to identify priorities for developing pollutant control programs. However, under certain circumstances, it may be preferable to monitor at the point where the runoff from the industrial facility discharges to the municipal system. For example, if many facilities discharge substantially similar storm water to a municipal system it may be more practicable to monitor discharges from representative facilities in order to characterize pollutants in the discharge.

As noted by numerous industries, if municipal characterization plans reveal problems from certain industrial dischargers, then such facilities may be required to provide further data from their own monitoring. As noted above, EPA envisions that this data could then be used to develop appropriate control practices or techniques and/or require individual permit applications if a general permit covering the facility proves inadequate.

Comments were also solicited as to whether end-of-pipe treatment generally was more appropriate than source controls for storm water from industrial facilities which discharge to municipal systems. Many commenters, including both municipalities and industries, stated that source controls are the only practical and feasible means of controlling pollutants in storm water runoff, and specifically opposed the concept of end-of-pipe treatment or other controls. Some commenters maintained that, from an economic and environmental standpoint, end-of-pipe treatment may be the only effective means. One advised that the prompt cleanup of spills, controlled wash down of process areas, covering of material loading areas, storm water runoff diversion, covered storage areas, detention basins or other such mechanisms would prevent storm water from mixing with pollutants and possibly discharging them into receiving waters. Another noted that in the urban areas, there is little potential for treatment; consequently, it would seem

that controls and/or retrofitting existing facilities would be necessary when violations are found and that citizens will be better served by source controls appropriate to the individual problem.

EPA agrees with these comments to the extent that source controls and management programs are the general thrust of these regulations. However, in some situations end-of-pipe treatment, such as holding ponds, may be the only reasonable alternative. EPA disagrees with one industrial commenter that the municipalities should be almost entirely responsible for treating municipal discharges at the end of-the-pipe without reliance on source controls by industrial dischargers. Municipal programs may require controls on industrial sources with demonstrated storm water discharge problems. One industrial association noted that its member companies already have incentive to properly handle their materials and facilities because of other environmental programs with spill and erosion controls.

Numerous commenters stated that the program addressing industrial dischargers through municipal systems needs to be clearly defined in order to eliminate, as much as possible, potential conflicts between the system operator and dischargers. EPA has provided a framework for development of management plans to control pollutants from these particular sources. However, because of the differences in municipal systems and hydrology nationwide, EPA is not convinced that program specificity is an appropriate approach. The concept of the management program is to provide flexibility to the permit applicants to develop regional site specific control programs.

One commenter suggested that required controls should be limited to a facility's proportional contribution (based on concentration) of pollutants. EPA disagrees. Most facilities discharging through a municipal separate storm sewer will need to be covered by a general or individual permit. These permits will control the introduction of pollutants from that facility through the municipal storm sewer to the waters of the U.S. Any additional controls placed on the facility by the municipality will be at the discretion of the municipality. EPA is not requiring municipalities to adopt a particular level of controls on industrial facilities as suggested by the commenter.

One commenter questioned how dischargers that discharged both into the waters of the United States and through a municipal system will be addressed and whether there is a potential for inconsistent requirements. Industries that discharge storm water associated with industrial activity into the waters of the United States are required to be covered by individual permits or general permits for such discharges. Dischargers of storm water associated with industrial activity through municipal separate storm sewer systems will be subject to municipal management programs that address such discharges as well as to an individual or general NPDES permit for those discharges. EPA does not believe there is a significant risk of inconsistent requirements, since each industrial facility must meet BAT/BCT-level controls in its NPDES permit. EPA doubts that municipalities will impose much more stringent controls.

Many commenters stated that if cities and municipalities are to be responsible for industrial storm water discharges through their system, then municipalities should have authority to make determinations as to what industries should be regulated, how they are regulated, and when enforcement actions are undertaken. In response, EPA notes that the proposal has been changed and that municipalities will not be solely responsible for industries discharging through their system. Nonetheless, municipalities will be required to meet the terms of their permits related to industrial dischargers. Municipalities may undertake programs that go beyond the threshold requirements of the permit. Some municipal entities stated that municipal permittees should be able to require permit applications from industries in the same manner that EPA does and also require permits. In response, if operators of large and medium municipal separate storm sewer systems wish to employ such a program, then this portion of the management program may incorporate such practices.

d. *Measures to reduce pollutants in runoff from construction sites into municipal systems.* Section VI.F.8 of today's rule discusses EPA's proposal to define the term "storm water discharge associated with industrial activity" to include runoff from construction sites, including preconstruction activities except operations that result in the disturbance of less than 5 acres total land area which are not part of a larger common plan of development or sale. Under today's rule, facilities that discharge runoff from construction sites that meet this definition will be required to submit permit applications unless they are to be covered by another individual or general NPDES permit. Permit application requirements for such discharges are at 40 CFR 122.26(c)(1)(ii).

Section 122.2o(d)(2)(iv)(D) of today's rule requires applicants for a permit for large or medium municipal separate storm sewer systems to submit a description of a proposed management program to control pollutants in construction site runoff that discharges to municipal systems. Under this provision, municipal applicants will submit a description of a program for implementing and maintaining structural and non-structural best management practices for controlling storm water runoff at construction sites. The program will address procedures for site planning, enforceable requirements for nonstructural and structural best management practices, procedures for inspecting sites and enforcing control measures, and educational and training measures. Generally, construction site ordinances are effective when they are implemented. However, in many areas, even though ordinances exist, they have limited effectiveness because they are not adequately implemented. Maintaining best management practices also presents problems. Retention and infiltration basins fill up and silt fences may break or be overtopped. Weak inspection and enforcement point to the need for more emphasis on training and education to complement regulatory programs. Permits issued to municipalities will address these concerns.

8. Assessment of Controls

EPA proposed that municipal applicants provide an initial assessment of the effectiveness of the control method for structural or non-structural controls which have been proposed in the management program. Some commenters stated that the assessment of controls should be left to the term of the permit because the effectiveness of controls will be hard to establish. EPA believes that an initial estimate or assessment is needed because the performance of appropriate management controls is highly dependent on site-specific factors. The assessment will be used in conjunction with the development of pollutant loading and concentration estimates (*see* VI.H.6.c) and the evaluation of water quality benefits associated with implementing controls. Such assessments do not have to be verified with quantitative data, but can be based on accepted engineering design practices. Further more precise assessments based upon quantitative data can be undertaken during the term of the permit.

I. Annual Reports

As discussed earlier in today's preamble EPA has provided for proposed flexible permit application requirements to facilitate the development of site-specific programs to control the discharge of pollutants from large and medium municipal separate storm sewer systems. Many municipalities are in the early stages of the complex task of developing a program suitable for controlling pollutants in discharges under a NPDES permit, while other municipalities have relatively sophisticated programs in place. In order to ensure that such site-specific programs are developed in a timely manner, EPA proposed to require permittees of municipal separate storm sewer systems to submit status reports every year which reflect the development of their control programs.

The reports will be used by the permitting authority to aid in evaluating compliance with permit conditions and where necessary, modify permit conditions to address changed conditions. EPA requested comments on the appropriate content of the annual reports. Based on these comments EPA has added the following in these reports: an analysis of data, including monitoring data, that is accumulated throughout the year; new outfalls or discharges; annual expenditures; identification of water quality improvements or degradation on watershed basis; budget for year following each annual report; and administrative information including enforcement activities, inspections, and public education programs. EPA views this information as important for evaluating the municipal program. Annual monitoring data and identified water quality improvements are important for evaluating the success of management programs in reducing pollutants. If new outfalls come into existence during the term of the permit, these may be sources of pollutants and appropriate permit conditions will be developed. Annual reports should reflect the level of enforcement activity and inspections undertaken to ensure that the legal authority developed by the municipality is properly exercised. Many of the management programs depend upon an ongoing high level of public education. Accordingly, the undertaking of these programs on an annual basis should be documented.

J. Application Deadlines

The CWA provided a statutory time frame for implementing the storm water permit application process and issuance and compliance with permits.

The CWA requires EPA to promulgate permit application requirements for storm water discharges associated with industrial activity and for large municipal separate storm sewer systems by "no later than two years" after the date of enactment (*i.e.* no later than February 4, 1989). In conjunction with this requirement, the Act requires that permit applications for these classes of discharges be submitted within one year after the statutory date by which EPA is to promulgate permit application requirements by providing that such applications "shall be filed no later than three years" after the date of enactment of the WQA (*i.e.*, no later than February 4, 1990).

The CWA also requires EPA to promulgate final regulations governing storm water permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more but less than 250,000 by "no later than four years" after enactment (*i.e.* no later than February 4, 1991). Permit applications for medium municipal separate storm sewer systems "shall be filed no later than five years" after the date of enactment of the CWA (*i.e.*, no later than February 4, 1992). The CWA did not establish the time period between designation and permit application submittal for case-by-case designations under section 402(p)(2)(E).

Comments on earlier rulemakings involving storm water application deadlines have established that applicants need adequate time to obtain "representative" storm water samples. Many commenters have indicated that at least one full year is needed to obtain such samples. This is because many discharges are located in areas where testing during dry seasons or winter would not be feasible. The intermittent and unpredictable nature of storm water discharges can result in difficult and time-consuming data gathering. Moreover, some operators of municipal separate storm sewer systems have many storm water discharges associated with industrial activity, which can require considerable time to identify, analyze, and submit applications. This creates a tremendous practical problem for the extremely high number of unpermitted storm water discharges. The public's interest in a sound storm water program and the development of a useful storm water data base is best served by establishing an application deadline which will allow sufficient time to gather, analyze, and prepare meaningful applications. Based on a consideration of these factors, EPA proposed that individual permit applications for storm water discharges associated with industrial activity which currently are not covered by a permit and that are required to obtain a permit, be submitted one year after the final rule is promulgated.

EPA received numerous comments from industries on the one year requirement for submitting applications. Several commenters supported the proposed deadline as realistic, while others believed more time was needed to meet the information and quantitative requirement.

EPA rejects the assertion by some commenters that a year is too short a period of time to obtain the required quantitative data. Today's rule generally requires applications for storm water discharges associated with industrial activity to be submitted on or before November 18, 1991. Operators of storm water discharges associated with industrial activity which discharge through a municipal separate storm sewer are subject to the same application deadline as other storm water discharges associated with industrial activity. Since final regulation at § 122.21(g)(7) provides considerable latitude for selecting rain events for quantitative data, EPA is convinced that in most cases data can be obtained during the one year time frame. If data cannot be collected during the one year time frame because of anomalous weather (*e.g.* drought conditions), then permitting authorities may grant additional time for submitting that data on a case-by-case basis. *See* § 122.21(g)(7).

Operators of storm water discharges which are currently covered by a permit will not be required to submit a permit application until their existing permit expires. In recognition of the time required to collect storm water discharge data, EPA will allow facilities which currently have a NPDES permit for a storm water discharge and which must reapply for permit renewal during the first year following promulgation of today's permit application requirements the option of applying in accordance with existing Form 1 and Form 2C requirements (in lieu of applying in accordance with the revised application requirements).

As discussed in section VI.D.4 and section VI.F.6 of today's preamble, EPA has established a two part permit application both for both group applications for sufficiently similar facilities that discharge storm water associated with industrial activity and for operators of large or medium municipal separate storm sewer systems. The deadlines for submitting

permit applications in today's rule provide adequate time for: (1) Applicants to prepare Part 1 of the application; (2) EPA or an approved State to adequately review applications; and (3) applicants to prepare the contents of the part 2 application.

Part 1 of the group application for storm water discharges associated with industrial activity must be submitted within 120 days from the publication of these final permit application regulations. This time is necessary to form groups and for individual members of the group to prepare the non-quantitative information required in part 1 of the application. Part 1 of the group application will be submitted to EPA Headquarters in Washington, DC and reviewed within 60 days after being received. Part 2 of the application would then be submitted within one year after the part 1 application is approved. It should be noted that many facilities located in States in which general permits can be issued, will be eligible for coverage by a storm water general permit to be promulgated in the near future. Such facilities may either seek coverage under such general permits or participate in the group application.

Several comments were received by EPA that indicated that a period of 120 days was too short a period for groups to be formed. EPA disagrees with these comments. The information that EPA is requiring to be submitted by the group or group representative is information that is generally available such as the location of the facility, its industrial activity, and material management practices. EPA believes that 120 days is sufficient to gather and submit this information along with an identification of 10% of the facilities which will submit quantitative data. To ameliorate any difficulties for applicants, EPA has provided a means for late facilities to "add on" where appropriate, on a case-by-case basis, as discussed in section VI.F.4. above.

Several comments were received with regard to the requirement that new dischargers submit an application at least 180 days before the date on which the discharge is to commence. One commenter noted that it will be difficult for a facility to know when a storm water discharge is to commence since precipitation and runoff cannot be predicted to any degree of accuracy. In response, new dischargers must apply for a storm water permit application 180 days before that facility commences manufacturing, processing, or raw material storage operations which may result in the discharge of pollutants from storm water runoff, and 90 days for new construction sites.

For large municipal separate storm sewer systems (systems serving a population of more than 250,000), EPA proposed that part 1 of the permit application be submitted within one year of the date of the final regulations, with approval or disapproval by the permit issuing authority of the provisions of the part 1 permit application within 90 days after receiving part 1 of the application. The Part 2 portion of the application was to be submitted within two years of the date of promulgation.

For medium municipal separate storm sewer systems (systems serving a population of more than 100,000, but less than 250,000), EPA proposed that permit applications would be required nine months after the date of the final rule, with approval or disapproval of the provisions of the part 1 permit application within 90 days after receiving the part 1 application. The part 2 portion of the application would then be submitted no later than one year after the part 1 application has been approved.

Numerous comments were received by EPA from municipalities on these proposed deadlines. Many of these comments reflect the sentiment that the deadlines are too tight and that the required information would not be available for submission within the required time frame. Some commenters suggested deadlines that would add over three years to the permit application process. Other commenters suggested a revamped application process and a shorter deadline of 18 months. Some commenters explained that additional time would be needed to obtain adequate legal authority, while another stated that an inventory of outfalls required more time. One commenter maintained that intergovernmental agreements will require more time to prepare, and others expressed the view that more time was needed for the review of part 1 of the application by permitting authorities. Others felt more time was needed for collecting data, or hiring additional staff to accomplish the work. Most of these commenters did not provide specific details regarding what would be an appropriate amount of time and why.

After reviewing these comments EPA has decided to modify some of the deadlines as proposed. EPA is convinced that to properly achieve the goals of the CWA, the permit application requirements as discussed in previous sections are appropriate; but that the deadlines for medium municipal separate storm sewer systems should be adjusted so that the program's goals can be properly accomplished. After reviewing comments, EPA believes that medium municipalities will have fewer resources and existing institutional arrangements than large cities and therefore more time should be granted to these cities for submitting parts 1 and 2 of the application.

Accordingly EPA will require large municipal systems to submit part 1 of the permit application no later than November 18, 1991. Part 1 will be reviewed and approved or disapproved by the Director within 90 days. Part 2 of the application will then be submitted November 16, 1992. Medium municipal systems will submit part 1 of the application on May 18, 1992. Approval or disapproval by the Director will be accomplished within 90 days. Part 2 of the application will be submitted by May 17, 1993. These deadlines will give large systems two years to complete the application process, and medium systems 2 years and 6 months to submit applications. EPA is convinced that the permit application schedule is warranted and should provide adequate time to prepare the application.

In establishing these regulatory deadlines EPA is fully aware that they are not synchronized with the statutory deadlines as established by Congress. One commenter argued that the deadlines as proposed were contrary to the deadlines established by Congress and that EPA had no authority to extend these deadlines. (For large municipal separate storm sewer systems and storm water discharges associated with industrial activity, Congress established a deadline of February 4, 1990, for submission of permit applications; for medium municipal separate storm sewer systems, the deadline is February 4, 1992.) In response, this regulation provides certain deadlines for meeting the substantive requirements of this rulemaking—requirements which EPA is convinced are necessary for the development of enforceable and sound storm water permits. EPA believes it is important to give applicants sufficient time to reasonably comply with the permit application requirements set out today. EPA will therefore accept applications for storm water discharge permits up to the dates specified in today's rule. By establishing these regulatory deadlines, however, EPA is not attempting to waive or revoke the statutory deadlines established in Section 402(p) of the CWA and does not assert the authority to do so. The statutory permit application deadlines

continue to be enforceable requirements.

EPA was not able to promulgate the final application regulations for storm water discharges before the February 4, 1990, deadline for industrial and large municipal dischargers despite its best efforts. Further, as noted above, EPA is not able to waive the statutory deadline. Dischargers concerned with complying with the statutory deadline should submit a permit application as required under this rulemaking as expeditiously as possible.

Operators of storm water discharges that are not specifically required to file a permit application under today's rule may be required to obtain a permit for their discharge on the basis of a case-by-case designation by the Administrator or the NPDES State.

The Administrator or NPDES State may also designate storm water discharges (except agricultural storm water discharges), that contribute to a violation of a water quality standard or that are significant contributors of pollutants to waters of the United States for a permit. Prior to a case-by-case determination that an individual permit is required for a storm water discharge, the Administrator or NPDES State may require the operator of the discharge to submit a permit application. 40 CFR 124.52(c) requires the operator of designated storm water discharges to submit a permit application within 60 days of notice, unless permission for a later date is granted. The 60-day deadline is consistent with the procedures for designating other discharges for a NPDES permit on a case-by-case basis found at 40 CFR 124.52. The 60-day deadline recognizes that case-by-case designations often require an expedited response, however, flexibility exists to allow for case-by-case extensions.

The December 7, 1988, proposal also proposed Part 504 State Storm Water Management Programs. The Agency has not included this component in today's rule. The Agency believes this program element is appropriate for addressing in regulations promulgated under section 402(p)(6) of the CWA.

VII. Economic Impact

EPA has prepared an Information Collection Request for the purpose of estimating the information collection burden imposed on Federal, State and local governments and industry for revisions to NPDES permit application requirements for storm water discharges codified in 40 CFR part 122. EPA is promulgating these revisions in response to Section 402(p)(4) of the Clean Water Act, as amended by the Water Quality Act of 1987 (WQA). The revisions would apply to: Storm water discharges associated with industrial activity; discharges from municipal separate storm sewer systems serving a population of 250,000 or more and discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000.

The estimated annual cost of applying for NPDES permits for discharges from municipal separate storm sewer systems is $4.2 million. EPA estimates that an average permit application for a large municipality will cost $76,681 and require 4,534 hours to prepare. The average application for a medium municipality will cost $49,249 (2,912 hours) to prepare. The annual respondent cost for NPDES permit applications, notices of intent, and notifications for facilities with discharges associated with industrial activity is estimated to be $9.5 million (271,248 hours). EPA estimates that the average preparation cost of an individual industrial permit application would be $1,007 (28.6 hours). Average Group application will cost $74.00 per facility (2.1 hours). The average cost of the notification and notice of intent to be covered by general permit is $17.00 (0.5 hours).

The annual cost to the Federal Government and approved States for administration of the program is estimated to be $588,603. The total cost for municipalities, industry, and State and Federal authorities is estimated to be $14.5 million annually.

In general, the cost estimates provided in the ICR focus primarily on the costs associated with developing, submitting and reviewing the permit applications associated with today's rule. EPA will continue to evaluate procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality in the studies required under section 402(p)(5) of the CWA. Executive Order 12291 requires EPA and other agencies to perform regulatory analyses of major regulations. Major rules are those which impose a cost on the economy of $100 million or more annually or have certain other economic impacts. Today's proposed amendments would generally make the NPDES permit application regulations more flexible and less burdensome for the regulated community. These regulations do not, satisfy any of the criteria specified in section 1(b) of the Executive Order and, as such, do not constitute a major rule. This regulation was submitted to the Office of Management and Budget (OMB) for review.

VIII. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the Office of Management and Budget (OMB) under provision of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* and have been assigned OMB control number 2040-0086.

Public reporting burden for permit applications for storm water discharges associated with industrial activity (other than from construction facilities) is estimated to average 28.6 hours per individual permit application, 0.5 hours per notice of intent to be covered by general permit, and 2.1 hours per group applicant. The public reporting burden for permit applications for storm water discharges associated with industrial activity from construction activities submitting individual applications is estimated to average 4.5 hours per response. The public reporting burden for facilities which discharge storm water associated with industrial activity to municipal separate storm sewers serving a population over 100,000 to notify the operator of the municipal separate storm sewer system is estimated to average 0.5 hours per response.

The reporting burden for system-wide permit applications for discharges from municipal separate storm sewer systems serving a population of 250,000 or more is estimated to average 4,534 hours per response. The reporting burden for system-wide permit applications for discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000 is estimated to average 2,912 hours per response. Estimates of reporting burden include time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

IX. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, EPA is required to prepare a Regulatory Flexibility Analysis to assess the impact of rules on small entities. No Regulatory Flexibility Analysis is required, however, where the head of the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.

Today's amendments to the regulations would generally make the NPDES permit applications regulations more flexible and less burdensome for permittees. Accordingly, I hereby

certify, pursuant to 5 U.S.C. 605(b), that these amendments do not have a significant impact on a substantial number of small entities.

List of Subjects in 40 CFR Parts 122, 123, and 124

Administrative practice and procedure, Environmental protection, Reporting and recordkeeping requirements, Water pollution control.

Authority: Clean Water Act, 33 U.S.C. 1251 *et seq.*

Dated: October 31, 1990.

William K. Reilly,

Administrator.

For the reasons stated in the preamble, parts 122, 123, and 124 of title 40 of the Code of Federal Regulations are amended as follows:

PART 122—EPA ADMINISTERED PERMIT PROGRAMS; THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Subpart B—Permit Application and Special NPDES Program Requirements

1. The authority citation for part 122 continues to read as follows:

Authority: Clean Water Act, 33 U.S.C. 1251 *et seq.*

2. Section 122.1 is amended by revising paragraph (b)(2)(iv) to read as follows:

§ 122.1 Purpose and scope.

* * * * *

(b) * * *

(2) * * *

(iv) Discharges of storm water as set forth in § 122.26; and

* * * * *

3. Section 122.21 is amended by revising paragraph (c)(1), by removing the last sentence of paragraph (f)(7), by removing paragraph (f)(9), by adding two sentences at the end of paragraph (g)(3), by revising paragraph (g)(7) introductory text, by removing and reserving paragraph (g)(10) and by revising the introductory text of paragraph (k) to read as follows:

§ 122.21 Application for a permit (applicable to State programs, see § 123.25).

* * * * *

(c) *Time to apply.* (1) Any person proposing a new discharge, shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application 180 days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial activity. Facilities described under § 122.26(b)(14)(x) shall submit applications at least 90 days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90 or 180 day requirements to avoid delay. See also paragraph (k) of this section and § 122.26 (c)(1)(i)(G) and (c)(1)(ii).

* * * * *

(g) * * *

(3) * * * The average flow of point sources composed of storm water may be estimated. The basis for the rainfall event and the method of estimation must be indicated.

* * * * *

(7) *Effluent characteristics.* Information on the discharge of pollutants specified in this paragraph (except information on storm water discharges which is to be provided as specified in § 122.26). When "quantitative data" for a pollutant are required, the applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. When an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also apply to the substantially identical outfalls. The requirements in paragraphs (g)(7) (iii) and (iv) of this section that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. Grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform and fecal streptococcus. For all other pollutants, 24-hour composite samples must be used. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period greater than 24 hours. In addition, for discharges other than storm water discharges, the Director may waive composite sampling for any outfall for which the applicant demonstrates that the use of an automatic sampler is infeasible and that the minimum of four (4) grab samples will be a representative sample of the effluent being discharged. For storm water discharges, all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area. For all applicants, a flow-weighted composite shall be taken for either the entire discharge or for the first three hours of the discharge. The flow-weighted composite sample for a storm water discharge may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes (applicants submitting permit applications for storm water discharges under § 122.26(d) may collect flow weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director). However, a minimum of one grab sample may be taken for storm water discharges from holding ponds or other impoundments with a retention period greater than 24 hours. For a flow-weighted composite sample, only one analysis of the composite of aliquots is required. For storm water discharge samples taken from discharges associated with industrial activities, quantitative data must be reported for the grab sample taken during the first thirty minutes (or as soon thereafter as practicable) of the discharge for all pollutants specified in § 122.26(c)(1). For all storm water permit applicants taking flow-weighted composites, quantitative data must be reported for all pollutants specified in § 122.26 except pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under 40 CFR part 136, and additional time for submitting data on a

case by-case basis. An applicant is expected to "know or have reason to believe" that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated storm water runoff from the facility.)

* * * * *

(k) *Application requirements for new sources and new discharges.* New manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits (except for new discharges of facilities subject to the requirements of paragraph (h) of this section or new discharges of storm water associated with industrial activity which are subject to the requirements of § 122.26(c)(1) and this section (except as provided by § 122.26(c)(1)(ii)) shall provide the following information to the Director, using the application forms provided by the Director:

* * * * *

4. Section 122.22(b) introductory text is revised to read as follows:

§ 122.22 Signatories to permit applications and reports (applicable to State programs, see § 123.25).

* * * * *

(b) All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

* * * * *

5. Section 122.26 is revised to read as follows:

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* (1) Prior to October 1, 1992, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(i) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(ii) A discharge associated with industrial activity (see § 122.26(a)(4));

(iii) A discharge from a large municipal separate storm sewer system;

(iv) A discharge from a medium municipal separate storm sewer system;

(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at § 122.2.

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:

(A) The location of the discharge with respect to waters of the United States as defined at 40 CFR 122.2.

(B) The size of the discharge;

(C) The quantity and nature of the pollutants discharged to waters of the United States; and

(D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(3) *Large and medium municipal separate storm sewer systems.* (i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system; or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(C) A regional authority may be responsible for submitting a permit application under the following guidelines:

(*1*) The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due;

(*2*) The permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the municipal application;

(*3*) Each of the operators of municipal separate storm sewers within the systems described in paragraphs (b)(4)(i), (ii), and (iii) or (b)(7)(i), (ii), and (iii) of this section, that are under the purview of the designated regional authority, shall comply with the application requirements of paragraph (d) of this section.

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

(4) *Discharges through large and medium municipal separate storm sewer systems.* In addition to meeting the requirements of paragraph (c) of this section, an operator of a storm water discharge associated with industrial activity which discharges through a large or medium municipal separate storm sewer system shall submit, to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the location of the discharge; a description, including Standard Industrial Classification, which best reflects the principal products or services provided by each facility; and any existing NPDES permit number.

(5) *Other municipal separate storm sewers.* The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(6) *Non-municipal separate storm sewers.* For storm water discharges associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system, the Director, in his discretion, may issue: a single NPDES permit, with each discharger a co-permittee to a permit issued to the operator of the portion of the system that discharges into waters of the United States; or, individual permits to each discharger of storm water associated with industrial activity through the non-municipal conveyance system.

(i) All storm water discharges associated with industrial activity that discharge through a storm water discharge system that is not a municipal separate storm sewer must be covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to waters of the United States, with each discharger to the non-municipal conveyance a co-permittee to that permit.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must submit applications.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

(7) *Combined sewer systems.* Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must obtain NPDES permits in accordance with the procedures of § 122.21 and are not subject to the provisions of this section.

(8) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under title II, title III or title VI of the Clean Water Act. *See* 40 CFR part 35, subpart I, appendix A(b)(1.2.j.

(b) *Definitions.* (1) *Co-permittee* means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) *Illicit discharge* means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(3) *Incorporated place* means the District of Columbia, or a city, town, township, or village that is incorporated under the laws of the State in which it is located.

(4) *Large municipal separate storm sewer system* means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 250,000 or more as determined by the latest Decennial Census by the Bureau of Census (appendix F); or

(ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers:

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; and

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraph (b)(4) (i), (ii), (iii) of this section.

(5) *Major municipal separate storm sewer outfall* (or "major outfall") means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) *Major outfall* means a major municipal separate storm sewer outfall.

(7) *Medium municipal separate storm sewer system* means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the latest Decennial Census by the Bureau of Census (appendix G); or

(ii) Located in the counties listed in appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (b)(7) (i), (ii), (iii) of this section.

(8) *Municipal separate storm sewer* means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

(9) *Outfall* means a *point source* as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(10) *Overburden* means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

(11) *Runoff coefficient* means the fraction of total rainfall that will appear at a conveyance as runoff.

(12) *Significant materials* includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

(13) *Storm water* means storm water runoff, snow melt runoff, and surface runoff and drainage.

(14) *Storm water discharge associated with industrial activity* means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under 40 CFR part 122. For the categories of industries identified in paragraphs (b)(14) (i) through (x) of this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph (b)(14)(xi) of this section, the term includes only storm water discharges from all the areas (except access roads and rail lines) that are listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in this paragraph (b)(14)(i)–(xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined

materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221–25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)–(vii) or (ix)–(xi) of this section are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA;

(x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221–25, (and which are not otherwise included within categories (ii)–(x)).

(c) *Application requirements for storm water discharges associated with industrial activity*—(1) *Individual application.* Dischargers of storm water associated with industrial activity are required to apply for an individual permit, apply for a permit through a group application, or seek coverage under a promulgated storm water general permit. Facilities that are required to obtain an individual permit, or any discharge of storm water which the Director is evaluating for designation (see 40 CFR 124.52(c)) under paragraph (a)(1)(v) of this section and is not a municipal separate storm sewer, and which is not part of a group application described under paragraph (c)(2) of this section, shall submit an NPDES application in accordance with the requirements of § 122.21 as modified and supplemented by the provisions of the remainder of this paragraph. Applicants for discharges composed entirely of storm water shall submit Form 1 and Form 2F. Applicants for discharges composed of storm water and non-storm water shall submit Form 1, Form 2C, and Form 2F. Applicants for new sources or new discharges (as defined in § 122.2 of this part) composed of storm water and non-storm water shall submit Form 1, Form 2D, and Form 2F.

(i) Except as provided in § 122.26(c)(1)(ii)–(iv), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) of the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present area used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall (within a mile radius of the facility) and a narrative description of the following: Significant materials that in the three years prior to the submittal of this application have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge;

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by a NPDES permit; tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on site drainage points that were directly observed during a test;

(D) Existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility that have taken place within the three years prior to the submittal of this application;

(E) Quantitative data based on samples collected during storm events and collected in accordance with § 122.21 of this part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

(*1*) Any pollutant limited in an effluent guideline to which the facility is subject;

(*2*) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);

(*3*) Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;

(*4*) Any information on the discharge required under paragraph § 122.21(g)(7)(vi) and (ix) of this part;

(5) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and

(6) The date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (in hours);

(F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(i), (g)(7)(ii), and (g)(7)(v); and

(G) Operators of new sources or new discharges (as defined in § 122.2 of this part) which are composed in part or entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this section instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this section within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new source or new discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (k)(3)(ii), (k)(3)(iii), and (k)(5).

(ii) The operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. Such operator shall provide a narrative description of:

(A) The location (including a map) and the nature of the construction activity;

(B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

(C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

(D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

(E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(F) The name of the receiving water.

(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:

(A) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or

(B) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or

(C) Contributes to a violation of a water quality standard.

(iv) The operator of an existing or new discharge composed entirely of storm water from a mining operation is not required to submit a permit application unless the discharge has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(v) Applicants shall provide such other information the Director may reasonably require under § 122.21(g)(13) of this part to determine whether to issue a permit and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) *Group application for discharges associated with industrial activity.* In lieu of individual applications or notice of intent to be covered by a general permit for storm water discharges associated with industrial activity, a group application may be filed by an entity representing a group of applicants (except facilities that have existing individual NPDES permits for storm water) that are part of the same subcategory (*see* 40 CFR subchapter N, part 405 to 471) or, where such grouping is inapplicable, are sufficiently similar as to be appropriate for general permit coverage under § 122.28 of this part. The part 1 application shall be submitted to the Office of Water Enforcement and Permits, U.S. EPA, 401 M Street, SW., Washington, DC 20460 (EN-336) for approval. Once a part 1 application is approved, group applicants are to submit Part 2 of the group application to the Office of Water Enforcement and Permits. A group application shall consist of:

(i) *Part 1.* Part 1 of a group application shall:

(A) Identify the participants in the group application by name and location. Facilities participating in the group application shall be listed in nine subdivisions, based on the facility location relative to the nine precipitation zones indicated in appendix E to this part.

(B) Include a narrative description summarizing the industrial activities of participants of the group application and explaining why the participants, as a whole, are sufficiently similar to be a covered by a general permit;

(C) Include a list of significant materials stored exposed to precipitation by participants in the group application and materials management practices employed to diminish contact by these materials with precipitation and storm water runoff;

(D) Identify ten percent of the dischargers participating in the group application (with a minimum of 10 dischargers, and either a minimum of two dischargers from each precipitation zone indicated in appendix E of this part in which ten or more members of the group are located, or one discharger from each precipitation zone indicated in appendix E of this part in which nine or fewer members of the group are located) from which quantitative data will be submitted in part 2. If more than 1,000 facilities are identified in a group application, no more than 100 dischargers must submit quantitative data in Part 2. Groups of between four and ten dischargers may be formed. However, in groups of between four ano ten, at least half the facilities must submit quantitative data, and at least one facility in each precipitation zone in which members of the group are located must submit data. A description of why the facilities selected to perform sampling and analysis are representative of the group as a whole in terms of the information provided in paragraph (c)(1) (i)(B) and (i)(C) of this section, shall accompany this section. Different factors impacting the nature of the storm water discharges, such as processes used and material management, shall be represented, to the extent feasible, in a manner roughly equivalent to their proportion in the group.

(ii) *Part 2.* Part 2 of a group application shall contain quantitative

data (NPDES Form 2F), as modified by paragraph (c)(1) of this section, so that when part 1 and part 2 of the group application are taken together, a complete NPDES application (Form 1, Form 2C, and Form 2F) can be evaluated for each discharger identified in paragraph (c)(2)(i)(D) of this section.

(d) *Application requirements for large and medium municipal separate storm sewer discharges.* The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include:

(1) *Part 1.* Part 1 of the application shall consist of:

(i) *General information.* The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

(ii) *Legal authority.* A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) *Source identification.* (A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

(*1*) The location of known municipal storm sewer system outfalls discharging to waters of the United States;

(*2*) A description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;

(*3*) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;

(*4*) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;

(*5*) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and

(*6*) The identification of publicly owned parks, recreational areas, and other open lands.

(iv) *Discharge characterization.* (A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

(*1*) Assessed and reported in section 305(b) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

(*2*) Listed under section 304(l)(1)(A)(i), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;

(*3*) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);

(*4*) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under section 314(a) of the CWA (include the following: A description of those publicly owned lakes for which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);

(*5*) Areas of concern of the Great Lakes identified by the International Joint Commission;

(*6*) Designated estuaries under the National Estuary Program under section 320 of the CWA;

(*7*) Recognized by the applicant as highly valued or sensitive waters;

(*8*) Defined by the State or U.S. Fish and Wildlife Services's National Wetlands Inventory as wetlands; and

(*9*) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) *Field screening.* Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or

any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

(*1*) A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlayed on a map of the municipal storm sewer system, creating a series of cells;

(*2*) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(*3*) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(*4*) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(*5*) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(*6*) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(*7*) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (d)(1)(iv)(D) (*1*) through (*6*) of this section, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the applicant shall establish a grid system consisting of north-south and east-west lines spaced ¼ mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(E) *Characterization plan.* Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this section. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under paragraph (d)(2)(iii)(A) of this section, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (*see* paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) *Management programs.* (A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(vi) *Fiscal resources.* (A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

(2) *Part 2.* Part 2 of the application shall consist of:

(i) *Adequate legal authority.* A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

(ii) *Source identification.* The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(*1*) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

(iii) *Characterization data.* When "quantitative data" for a pollutant are required under paragraph (d)(a)(iii)(A)(*3*) of this paragraph, the applicant must collect a sample of effluent in accordance with 40 CFR 122.21(g)(7) and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

(A) Quantitative data from representative outfalls designated by the Director (based on information received

in part 1 of the application, the Director shall designate between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) developed as follows:

(1) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at § 122.21(g)(7) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(2) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(3) For samples collected and described under paragraphs (d)(2)(iii)(A)(1) and (A)(2) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:

Total suspended solids (TSS)
Total dissolved solids (TDS)
COD
BOD_5
Oil and grease
Fecal coliform
Fecal streptococcus
pH
Total Kjeldahl nitrogen
Nitrate plus nitrite
Dissolved phosphorus
Total ammonia plus organic nitrogen
Total phosphorus

(4) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under § 122.21(c)(7)) for BOD_5, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section; and

(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) *Proposed management program.* A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(3) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

(B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(2) A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(3) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD_5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7) (iii) and (iv).

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(2) A description of requirements for nonstructural and structural best management practices;

(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(4) A description of appropriate educational and training measures for construction site operators.

(v) *Assessment of controls.* Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

(vi) *Fiscal analysis.* For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2) (iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where requirements under paragraph (d)(1)(iv)(E), (d)(2)(ii), (d)(2)(iii)(B) and (d)(2)(iv) of this section are not practicable or are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from such requirements. The Director shall not exclude the operator of a discharge from a municipal separate storm sewer identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph except where authorized under this section.

(e) *Application deadlines.* Any operator of a point source required to obtain a permit under paragraph (a)(1) of this section that does not have an effective NPDES permit covering its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) For any storm water discharge associated with industrial activity identified in paragraph (b)(14) (i)–(xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or which is not covered under a promulgated storm water general permit, a permit application made pursuant to paragraph (c) of this section shall be submitted to the Director by November 18, 1991;

(2) For any group application submitted in accordance with paragraph (c)(2) of this section:

(i) Part 1 of the application shall be submitted to the Director, Office of Water Enforcement and Permits by March 18, 1991;

(ii) Based on information in the part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving part 1 of the group application.

(iii) Part 2 of the application shall be submitted to the Director, Office of Water Enforcement and Permits no later than 12 months after the date of approval of the part 1 application.

(iv) Facilities that are rejected as members of a group by the permitting authority shall have 12 months to file an individual permit application from the date they receive notification of their rejection.

(v) A facility listed under paragraph (b)(14) (i)–(xi) of this section may add on to a group application submitted in accordance with paragraph (e)(2)(i) of this section at the discretion of the Office of Water Enforcement and Permits, and only upon a showing of good cause by the facility and the group applicant; the request for the addition of the facility shall be made no later than February 18,1992; the addition of the facility shall not cause the percentage of the facilities that are required to submit quantitative data to be less than 10%, unless there are over 100 facilities in the group that are submitting quantitative data; approval to become part of group application must be obtained from the group or the trade association representing the individual facilities.

(3) For any discharge from a large municipal separate storm sewer system:

(i) Part 1 of the application shall be submitted to the Director by November 18, 1991;

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by November 16, 1992.

(4) For any discharge from a medium municipal separate storm sewer system:

(i) Part 1 of the application shall be submitted to the Director by May 18, 1992.

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application.

(iii) Part 2 of the application shall be submitted to the Director by May 17, 1993.

(5) A permit application shall be submitted to the Director within 60 days of notice, unless permission for a later date is granted by the Director (*see* 40 CFR 124.52(c)), for:

(i) A storm water discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraph (a)(1)(v) of this section);

(ii) A storm water discharge subject to paragraph (c)(1)(v) of this section.

(6) Facilities with existing NPDES permits for storm water discharges associated with industrial activity shall maintain existing permits. New applications shall be submitted in accordance with the requirements of 40 CFR 122.21 and 40 CFR 122.26(c) 180 days before the expiration of such permits. Facilities with expired permits or permits due to expire before May 18, 1992, shall submit applications in accordance with the deadline set forth under paragraph (e)(1) of this section.

(f) *Petitions.* (1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require a NPDES permit for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the Census estimates of the population served by such separate system to account for storm water discharged to combined sewers as defined by 40 CFR 35.2005(b)(11) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be reduced proportional to the fraction, based on estimated lengths, of the length of combined sewers over the sum of the length of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) Any person may petition the Director for the designation of a large or medium municipal separate storm sewer system as defined by paragraphs (b)(1)(iv) or (b)(7)(iv) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition.

6. Section 122.28(b)(2)(i) is revised to read as follows:

§ 122.28 General permits (applicable to State NPDES programs, see § 123.25).

* * * * *

(b) * * *

(2) *Requiring an individual permit.* (i) The Director may require any discharger authorized by a general permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Director to take action under this paragraph. Cases where an individual NPDES permit may be required include the following:

(A) The discharger or "treatment works treating domestic sewage" is not in compliance with the conditions of the general NPDES permit;

(B) A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source or treatment works treating domestic sewage;

(C) Effluent limitation guidelines are promulgated for point sources covered by the general NPDES permit;

(D) A Water Quality Management plan containing requirements applicable to such point sources is approved;

(E) Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;

(F) Standards for sewage sludge use or disposal have been promulgated for the sludge use and disposal practice covered by the general NPDES permit; or

(G) The discharge(s) is a significant contributor of pollutants. In making this determination, the Director may consider the following factors:

(*1*) The location of the discharge with respect to waters of the United States;

(*2*) The size of the discharge;

(*3*) The quantity and nature of the pollutants discharged to waters of the United States; and

(*4*) Other relevant factors;

* * * * *

7. Section 122.42 is amended by adding paragraph (c) to read as follows:

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25).

. . . . .

(c) *Municipal separate storm sewer systems.* The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;

(2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part;

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;

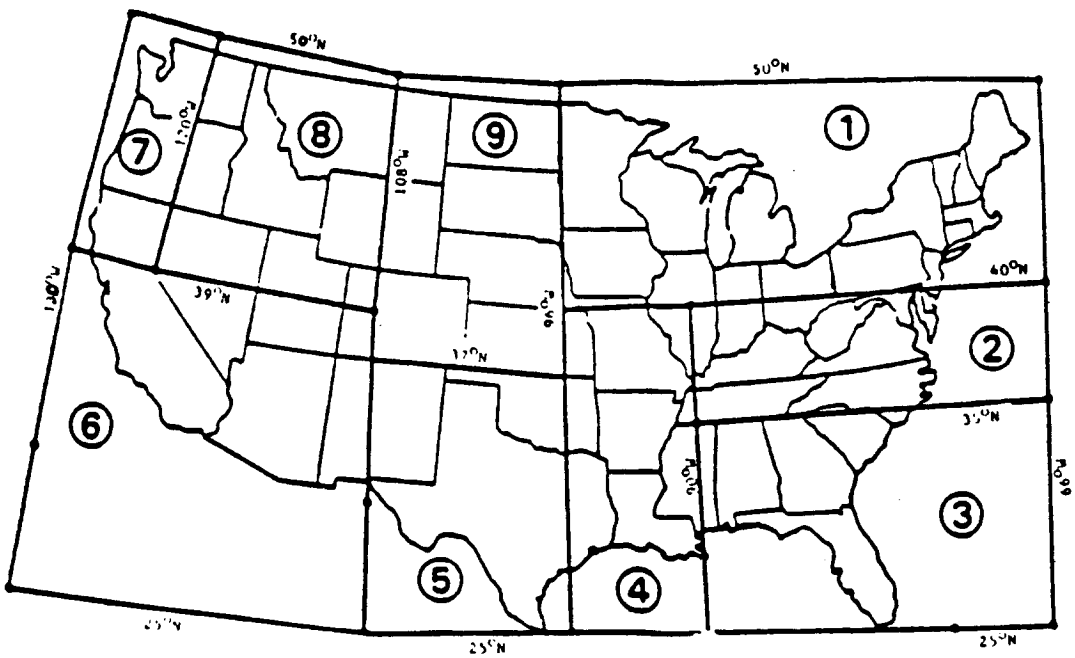
(5) Annual expenditures and budget for year following each annual report;

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs;

(7) Identification of water quality improvements or degradation;

7a. Part 122 is amended by adding appendices E through I as follows:

Appendix E to Part 122—Rainfall Zones of the United States



Not Shown: Alaska (Zone 7); Hawaii (Zone 7); Northern Mariana Islands (Zone 7); Guam (Zone 7); American Samoa (Zone 7); Trust Territory of the Pacific Islands (Zone 7); Puerto Rico (Zone 3) Virgin Islands (Zone 3).

Source: Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality, prepared for U.S. Environmental Protection Agency, Office of Water, Nonpoint Source Division, Washington, DC, 1986.

Appendix F to Part 122—Incorporated Places With Populations Greater Than 250,000 According to Latest Decennial Census by Bureau of Census.

State	Incorporated place
Alabama	Birmingham
Arizona	Phoenix.
	Tucson.
California	Long Beach
	Los Angeles
	Oakland
	Sacramento
	San Diego
	San Francisco
	San Jose
Colorado	Denver.
District of Columbia	
Florida	Jacksonville
	Miami.
	Tampa.
Georgia	Atlanta.
Illinois	Chicago.
Indiana	Indianapolis.
Kansas	Wichita.
Kentucky	Louisville
Louisiana	New Orleans.
Maryland	Baltimore
Massachusetts	Boston
Michigan	Detroit.
Minnesota	Minneapolis
	St. Paul

State	Incorporated place
Missouri	Kansas City
	St. Louis
Nebraska	Omaha
New Jersey	Newark
New Mexico	Albuquerque
New York	Buffalo
	Bronx Borough
	Brooklyn Borough
	Manhattan Borough
	Queens Borough
	Staten Island Borough
North Carolina	Charlotte
Ohio	Cincinnati
	Cleveland
	Columbus
	Toledo
Oklahoma	Oklahoma City
	Tulsa
Oregon	Portland
Pennsylvania	Philadelphia
	Pittsburgh
Tennessee	Memphis
	Nashville/Davidson
Texas	Austin
	Dallas
	El Paso
	Fort Worth
	Houston
	San Antonio
Virginia	Norfolk
	Virginia Beach
Washington	Seattle
Wisconsin	Milwaukee

Appendix G to Part 123—Incorporated Places With Populations Greater Than 100,000 and Less Than 250,000 According to Latest Decennial Census by Bureau of Census

State	Incorporated place
Alabama	Huntsville
	Mobile
	Montgomery
Alaska	Anchorage
Arizona	Mesa
	Tempe
Arkansas	Little Rock
California	Anaheim
	Bakersfield
	Berkeley
	Concord
	Fremont
	Fresno
	Fullerton
	Garden Grove
	Glendale
	Huntington Beach
	Modesto
	Oxnard
	Pasadena
	Riverside
	San Bernardino
	Santa Ana
	Stockton
	Sunnyvale
	Torrance
Colorado	Aurora
	Colorado Springs
	Lakewood
	Pueblo
Connecticut	Bridgeport
	Hartford
	New Haven
	Stamford
	Waterbury
Florida	Fort Lauderdale
	Hialeah
	Hollywood
	Orlando
	St. Petersburg
Georgia	Columbus
	Macon
	Savannah
Idaho	Boise City
Illinois	Peoria
	Rockford
Indiana	Evansville
	Fort Wayne
	Gary
	South Bend
Iowa	Cedar Rapids
	Davenport
	Des Moines
Kansas	Kansas City
	Topeka
Kentucky	Lexington-Fayette
Louisiana	Baton Rouge
	Shreveport
Massachusetts	Springfield
	Worcester
Michigan	Ann Arbor
	Flint
	Grand Rapids
	Lansing
	Livonia
	Sterling Heights
	Warren
Mississippi	Jackson
Missouri	Independence
	Springfield
Nebraska	Lincoln
Nevada	Las Vegas
	Reno
New Jersey	Elizabeth
	Jersey City
	Paterson
New York	Albany
	Rochester
	Syracuse
	Yonkers
North Carolina	Durham
	Greensboro
	Raleigh
	Winston-Salem
Ohio	Akron
	Dayton
	Youngstown
Oregon	Eugene
Pennsylvania	Allentown
	Erie
Rhode Island	Providence
South Carolina	Columbia
Tennessee	Chattanooga
	Knoxville
Texas	Amarillo
	Arlington
	Beaumont
	Corpus Christi
	Garland
	Irving
	Lubbock
	Pasadena
	Waco
Utah	Salt Lake City
Virginia	Alexandria
	Chesapeake
	Hampton
	Newport News
	Portsmouth
	Richmond
	Roanoke
Washington	Spokane
	Tacoma
Wisconsin	Madison

Appendix H to Part 122— Counties with Unincorporated Urbanized Areas With a Population of 250,000 or More According to the Latest Decennial Census by the Bureau of Census

State	County	Unincorporated urbanized population
California	Los Angeles	912,664
	Sacramento	449,056
	San Diego	394,758
Delaware	New Castle	257,184
Florida	Dade	781,949
Georgia	DeKalb	396,379
Hawaii	Honolulu	688,178
Maryland	Anne Arundel	271,458
	Baltimore	631,308
	Montgomery	447,993
	Prince George's	450,188
Texas	Harris	409,801
Utah	Salt Lake	304,632
Virginia	Fairfax	527,178
Washington	King	338,840

Appendix I to Part 122—Counties With Unincorporated Urbanized Areas Greater Than 100,000, But Less Than 250,000 According to the Latest Decennial Census by the Bureau of Census

State	County	Unincorporated urbanized population
Alabama	Jefferson	182,917
Arizona	Pima	111,479
California	Alameda	187,474
	Contra Costa	158,452
	Kern	117,231
	Orange	290,683
	Riverside	115,719
	San Bernardino	149,844
Florida	Broward	159,370
	Escambia	147,882
	Hillsborough	238,292
	Orange	245,325
	Palm Beach	167,089
	Pinellas	194,389
	Polk	104,150
	Sarasota	110,008
Georgia	Clayton	100,742
	Cobb	204,121
	Richmond	118,529
Kentucky	Jefferson	224,958
Louisiana	Jefferson	140,846
North Carolina	Cumberland	142,727
Nevada	Clark	201,775
Oregon	Multnomah	141,100
	Washington	109,348
South Carolina	Greenville	135,398
	Richland	124,684
Virginia	Arlington	152,599
	Henrico	181,204
	Chesterfield	108,348
Washington	Snohomish	102,493
	Pierce	198,113

PART 123—STATE PROGRAM REQUIREMENTS

8. The authority citation for part 123 continues to read as follows:

Authority: Clean Water Act, 33 U.S.C. 1251 *et seq.*

9. Section 123.25 is amended by revising paragraph (a)(9) to read as follows:

§ 123.25 Requirements for permitting.

(a) * * *

(9) § 122.26—(Storm water discharges);

* * * * *

PART 124—PROCEDURES FOR DECISIONMAKING

10. The authority citation for part 124 continues to read as follows:

Authority: Resource Conservation and Recovery Act, 42 U.S.C. 6901 *et seq.*; Safe Drinking Water Act, 42 U.S.C. 300f *et seq.*; Clean Water Act, 33 U.S.C. 1251 *et seq.*; and Clean Air Act, 42 U.S.C. 1857 *et seq.*

11. Section 124.52 is revised to read as follows:

§ 124.52 Permits required on a case-by-case basis.

(a) Various sections of part 122, subpart B allow the Director to determine, on a case-by-case basis, that certain concentrated animal feeding operations (§ 122.23), concentrated aquatic animal production facilities (§ 122.24), storm water discharges (§ 122.26), and certain other facilities covered by general permits (§ 122.28) that do not generally require an individual permit may be required to obtain an individual permit because of their contributions to water pollution.

(b) Whenever the Regional Administrator decides that an individual permit is required under this section, except as provided in paragraph (c) of this section, the Regional Administrator shall notify the discharger in writing of that decision and the reasons for it, and shall send an application form with the notice. The discharger must apply for a permit under § 122.21 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

(c) Prior to a case-by-case determination that an individual permit is required for a storm water discharge under this section (*see* 40 CFR 122.26 (a)(1)(v) and (c)(1)(v)), the Regional Administrator may require the discharger to submit a permit application or other information regarding the discharge under section 308 of the CWA. In requiring such information, the Regional Administrator shall notify the discharger in writing and shall send an application form with the notice. The discharger must apply for a permit under § 122.26 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the initial designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

Note: The following form will not appear in the Code of Federal Regulations.

BILLING CODE 6560-50-M

Please print or type in the unshaded areas only

EPA ID Number (copy from Item 1 of Form 1)

Form Approved. OMB No. 2040-0086
Approval expires 5/31/92

Form 2F NPDES

EPA

United States Environmental Protection Agency
Washington, DC 20460

Application for Permit To Discharge Stormwater Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM 223, U.S. Environmental Protection Agency, 401 M St., SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water

A. Outfall Number (list)	B. Latitude	C. Longitude	D. Receiving Water (name)

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfalls) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34), each well where fluids from the facility are injected underground, springs, and other surface water bodies which receive storm water discharges from the facility.

Continue on Page 2

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed, in the last three years, to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff, and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1

V. Nonstormwater Discharges

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name and Official Title (type or print)	Signature	Date Signed

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

Continued from Page 2

EPA ID Number (copy from Item I of Form 1)

VII. Discharge Information

A,B,C, & D. See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E. Potential discharges not covered by analysis - Is any pollutant listed in Table 2F-2 a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ Yes (list all such pollutants below) ☐ No (go to Section VIII)

VIII. Biological Toxicity Testing Data

☐ Yes (list results below) ☐ No (go to Section IX)

IX. Contract Analysis Information

☐ Yes ☐ No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed

X. Certification

A. Name & Official Title (type or print)

B. Area Code and Phone No.

C. Signature

D. Date Signed

VOL 23

0430

EPA ID Number (copy from Item I of Form 1)

Form Approved. OMB No. 2040-0086
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VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil and Grease						
Biological Oxygen Demand (BOD5)						
Chemical Oxygen Demand (COD)						
Total Suspended Solids (TSS)						
Total Kjeldahl Nitrogen						
Nitrate plus Nitrite Nitrogen						
Total Phosphorus						
pH	Minimum	Maximum	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		

Continue on Reverse

Continued from the Front

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units	6. Total flow from rain event (gallons or specify units)	7. Season sample was taken	8. Form of Precipitation (rainfall, snowmelt)

9. Provide a description of the method of flow measurement or estimate.

Instructions - Form 2F
Application for Permit to Discharge Storm Water Associated with Industrial Activity

Who Must File Form 2F

Form 2F must be completed by operators of facilities which discharge storm water associated with industrial activity or by operators of storm water discharges that EPA is evaluating for designation as a significant contributor of pollutants to waters of the United States, or as contributing to a violation of a water quality standard.

Operators of discharges which are composed entirely of storm water must complete Form 2F (EPA Form 3510-2F) in conjunction with Form 1 (EPA Form 3510-1).

Operators of discharges of storm water which are combined with process wastewater (process wastewater is water that comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, waste product, or wastewater) must complete and submit Form 2F, Form 1, and Form 2C (EPA Form 3510-2C).

Operators of discharges of storm water which are combined with nonprocess wastewater (nonprocess wastewater includes noncontact cooling water and sanitary wastes which are not regulated by effluent guidelines or a new source performance standard, except discharges by educational, medical, or commercial chemical laboratories) must complete Form 1, Form 2F, and Form 2E (EPA Form 3510-2E).

Operators of new sources or new discharges of storm water associated with industrial activity which will be combined with other nonstormwater new sources or new discharges must submit Form 1, Form 2F, and Form 2D (EPA Form 3510-2D).

Where to File Applications

The application forms should be sent to the EPA Regional Office which covers the State in which the facility is located. Form 2F must be used only when applying for permits in States where the NPDES permits program is administered by EPA. For facilities located in States which are approved to administer the NPDES permits program, the State environmental agency should be contacted for proper permit application forms and instructions.

Information on whether a particular program is administered by EPA or by a State agency can be obtained from your EPA Regional Office. Form 1, Table 1 of the "General Instructions" lists the addresses of EPA Regional Offices and the States within the jurisdiction of each Office.

Completeness

Your application will not be considered complete unless you answer every question on this form and on Form 1. If an item does not apply to you, enter "NA" (for not applicable) to show that you considered the question.

Public Availability of Submitted Information

You may not claim as confidential any information required by this form or Form 1, whether the information is reported on the forms or in an attachment. Section 402(j) of the Clean Water Act requires that all permit applications will be available to the public. This information will be made available to the public upon request.

Any information you submit to EPA which goes beyond that required by this form, Form 1, or Form 2C you may claim as confidential, but claims for information which are effluent data will be denied.

If you do not assert a claim of confidentiality at the time of submitting the information, EPA may make the information public without further notice to you. Claims of confidentiality will be handled in accordance with EPA's business confidentiality regulations at 40 CFR Part 2.

Definitions

All significant terms used in these instructions and in the form are defined in the glossary found in the General Instructions which accompany Form 1.

EPA ID Number

Fill in your EPA Identification Number at the top of each odd-numbered page of Form 2F. You may copy this number directly from item I of Form 1.

Item I

You may use the map you provided for item XI of Form 1 to determine the latitude and longitude of each of your outfalls and the name of the receiving water.

Item II-A

If you check "yes" to this question, complete all parts of the chart, or attach a copy of any previous submission you have made to EPA containing the same information.

Item II-B

You are not required to submit a description of future pollution control projects if you do not wish to or if none is planned.

Item III

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including:

each of its drainage and discharge structures;

the drainage area of each storm water outfall;

paved areas and building within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied;

each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste for less than 90 days under 40 CFR 262.34);

each well where fluids from the facility are injected underground; and

springs, and other surface water bodies which receive storm water discharges from the facility;

Item IV-A

For each outfall, provide an estimate of the area drained by the outfall which is covered by impervious surfaces. For the purpose of this application, impervious surfaces are surfaces where storm water runs off at rates that are significantly higher than background rates (e.g., predevelopment levels) and include paved areas, building roofs, parking lots, and roadways. Include an estimate of the total area (including all impervious and pervious areas) drained by each outfall. The site map required under item III can be used to estimate the total area drained by each outfall.

Item IV-B

Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored, or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of these materials; past and present materials management practices employed, in the last three years, to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied. Significant materials should be identified by chemical name, form (e.g., powder, liquid, etc.), and type of container or treatment unit. Indicate any materials treated, stored, or disposed of together. "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

Item IV-C

For each outfall, structural controls include structures which enclose material handling or storage areas, covering materials, berms, dikes, or diversion ditches around manufacturing, production, storage or treatment units, retention ponds, etc. Nonstructural controls include practices such as spill prevention plans, employee training, visual inspections, preventive maintenance, and housekeeping measures that are used to prevent or minimize the potential for releases of pollutants.

Item V

Provide a certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by an NPDES permit. Tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. Part B must include a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test. All non-storm water discharges must be identified in a Form 2C or Form 2E which must accompany this application (see beginning of instructions under section titled "Who Must File Form 2F" for a description of when Form 2C and Form 2E must be submitted).

Item VI

Provide a description of existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years.

Item VII-A, B, and C

These items require you to collect and report data on the pollutants discharged for each of your outfalls. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following general instructions apply to the entire item.

General Instructions

Part A requires you to report at least one analysis for each pollutant listed. Parts B and C require you to report analytical data in two ways. For some pollutants addressed in Parts B and C, if you know or have reason to know that the pollutant is present in your discharge, you may be required to list the pollutant and test (sample and analyze) and report the levels of the pollutants in your discharge. For all other pollutants addressed in Parts B and C, you must list the pollutant if you know or have reason to know that the pollutant is present in the discharge, and either report quantitative data for the pollutant or briefly describe the reasons the pollutant is expected to be discharged. (See specific instructions on the form and below for Parts A through C.) Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, material management practices, maintenance chemicals, history of spills and releases, intermediate and final products and byproducts, and any previous analyses known to you of your effluent or similar effluent.

A. **Sampling:** The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater or storm water discharges. You may contact EPA or your State permitting authority for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative, to the extent feasible, of your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit, or at any site adequate for the collection of a representative sample.

For pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, and fecal coliform, grab samples taken during the first 30 minutes (or as soon thereafter as practicable) of the discharge must be used (you are not required to analyze a flow-weighted composite for these parameters). For all other pollutants both a grab sample collected during the first 30 minutes (or as soon thereafter as practicable) of the discharge and a flow-weighted composite sample must be analyzed. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period of greater than 24 hours.

All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area.

A grab sample shall be taken during the first thirty minutes of the discharge (or as soon thereafter as practicable), and a flow-weighted composite shall be taken for the entire event or for the first three hours of the event.

Grab and composite samples are defined as follows:

Grab sample: An individual sample of at least 100 milliliters collected during the first thirty minutes (or as soon thereafter as practicable) of the discharge. This sample is to be analyzed separately from the composite sample

Flow-Weighted Composite sample: A flow-weighted composite sample may be taken with a continuous sampler that proportions the amount of sample collected with the flow rate or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire event or for the first three hours of the event, with each aliquot being at least 100 milliliters and collected with a minimum period of fifteen minutes between aliquot collections. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. Where GC/MS Volatile Organic Analysis (VOA) is required, aliquots must be combined in the laboratory immediately before analysis. Only one analysis for the composite sample is required.

Data from samples taken in the past may be used, provided that:

All data requirements are met;

Sampling was done no more than three years before submission; and

All data are representative of the present discharge.

Among the factors which would cause the data to be unrepresentative are significant changes in production level, changes in raw materials, processes, or final products, and changes in storm water treatment. When the Agency promulgates new analytical methods in 40 CFR Part 136, EPA will provide information as to when you should use the new methods to generate data on your discharges. Of course, the Director may request additional information, including current quantitative data, if they determine it to be necessary to assess your discharges. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rainfall), protocols for collecting samples under 40 CFR Part 136, and additional time for submitting data on a case-by-case basis.

B. **Reporting:** All levels must be reported as concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper instead of filling out pages VII-1 and VII-2 if the separate sheets contain all the required information in a format which is consistent with pages VII-1 and VII-2 in spacing and in identification of pollutants and columns. Use the following abbreviations in the columns headed "Units."

Concentration		Mass	
ppm	parts per million	lbs	pounds
mg/l	milligrams per liter	ton	tons (English tons)
ppb	parts per billion	mg	milligrams
ug/l	micrograms per liter	g	grams
kg	kilograms	T	tonnes (metric tons)

All reporting of values for metals must be in terms of "total recoverable metal," unless:

(1) An applicable, promulgated effluent limitation or standard specifies the limitation for the metal in dissolved, valent, or total form; or

(2) All approved analytical methods for the metal inherently measure only its dissolved form (e.g., hexavalent chromium); or

(3) The permitting authority has determined that in establishing case-by-case limitations it is necessary to express the limitations on the metal in dissolved, valent, or total form to carry out the provisions of the CWA. If you measure only one grab sample and one flow-weighted composite sample for a given outfall, complete only the "Maximum Values" columns and insert "1" into the "Number of Storm Events Sampled" column. The permitting authority may require you to conduct additional analyses to further characterize your discharges.

If you measure more than one value for a grab sample or a flow-weighted composite sample for a given outfall and those values are representative of your discharge, you must report them. You must describe your method of testing and data analysis. You also must determine the average of all values within the last year and report the concentration mass under the "Average Values" columns, and the total number of storm events sampled under the "Number of Storm Events Sampled" columns.

C. **Analysis:** You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding time, preservation techniques, and the quality control measures which you used. If you have two or more substantially identical outfalls, you may request permission from your permitting authority to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the permitting authority, on a separate sheet attached to the application form, identify which outfall you did test, and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

Part VII-A

Part VII-A must be completed by all applicants for all outfalls who must complete Form 2F.

Analyze a grab sample collected during the first thirty minutes (or as soon thereafter as practicable) of the discharge and flow-weighted composite samples for all pollutants in this Part, and report the results except use only grab samples for pH and oil and grease. See discussion in General Instructions to Item VII for definitions of grab sample collected during the first thirty minutes of discharge and flow-weighted composite sample. The "Average Values" column is not compulsory but should be filled out if data are available.

Part VII-B

List all pollutants that are limited in an effluent guideline which the facility is subject to (see 40 CFR Subchapter N to determine which pollutants are limited in effluent guidelines) or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See discussion in General Instructions to item VII for definitions of grab sample collected during the first thirty minutes (or as soon thereafter as practicable) of discharge and flow-weighted composite sample. The "Average Values" column is not compulsory but should be filled out if data are available.

Analyze a grab sample collected during the first thirty minutes of the discharge and flow-weighted composite samples for all pollutants in this Part, and report the results, except as provided in the General Instructions.

Part VII-C

Part VII-C must be completed by all applicants for all outfalls which discharge storm water associated with industrial activity, or that EPA is evaluating for designation as a significant contributor of pollutants to waters of the United States, or as contributing to a violation of a water quality standard. Use both a grab sample and a composite sample for all pollutants you analyze for in this part except use grab samples for residual chlorine and fecal coliform. The "Average Values" column is not compulsory but should be filled out if data are available. Part C requires you to address the pollutants in Table 2F-2, 2F-3, and 2F-4 for each outfall. Pollutants in each of these Tables are addressed differently.

Table 2F-2: For each outfall, list all pollutants in Table 2F-2 that you know or have reason to believe are discharged (except pollutants previously listed in Part VII-B). If a pollutant is limited in an effluent guideline limitation which the facility is subject to (e.g., use of TSS as an indicator to control the discharge of iron and aluminum), the pollutant should be listed in Part VII-B. If a pollutant in table 2F-2 is indirectly limited by an effluent guideline limitation through an indicator, you must analyze for it and report data in Part VII-C. For other pollutants listed in Table 2F-2 (those not limited directly or indirectly by an effluent limitation guideline), that you know or have reason to believe are discharges, you must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

Table 2F-3: For each outfall, list all pollutants in Table 2F-3 that you know or have reason to believe are discharged. For every pollutant in Table 2F-3 expected to be discharged in concentrations of 10 ppb or greater, you must submit quantitative data. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4,6 dinitrophenol, you must submit quantitative data if any of these four pollutants is expected to be discharged

in concentrations of 100 ppb or greater. For every pollutant expected to be discharged in concentrations less than 10 ppb (or 100 ppb for the four pollutants listed above), then you must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

Small Business Exemption - If you are a "small business," you are exempt from the reporting requirements for the organic toxic pollutants listed in Table 2F-3. There are two ways in which you can qualify as a "small business". If your facility is a coal mine, and if your probable total annual production is less than 100,000 tons per year, you may submit past production data or estimated future production (such as a schedule of estimated total production under 30 CFR 795.14(c)) instead of conducting analyses for the organic toxic pollutants. If your facility is not a coal mine, and if your gross total annual sales for the most recent three years average less than $100,000 per year (in second quarter 1980 dollars), you may submit sales data for those years instead of conducting analyses for the organic toxic pollutants. The production or sales data must be for the facility which is the source of the discharge. The data should not be limited to production or sales for the process or processes which contribute to the discharge, unless those are the only processes at your facility. For sales data, in situations involving intracorporate transfer of goods and services, the transfer price per unit should approximate market prices for those goods and services as closely as possible. Sales figures for years after 1980 should be indexed to the second quarter of 1980 by using the gross national product price deflator (second quarter of 1980 = 100). This index is available in National Income and Product Accounts of the United States (Department of Commerce, Bureau of Economic Analysis).

Table 2F-4: For each outfall, list any pollutant in Table 2F-4 that you know or believe to be present in the discharge and explain why you believe it to be present. No analysis is required, but if you have analytical data, you must report them. **Note:** Under 40 CFR 117.12(a)(2), certain discharges of hazardous substances (listed at 40 CFR 177.21 or 40 CFR 302.4) may be exempted from the requirements of section 311 of CWA, which establishes reporting requirements, civil penalties, and liability for cleanup costs for spills of oil and hazardous substances. A discharge of a particular substance may be exempted if the origin, source, and amount of the discharged substances are identified in the NPDES permit application or in the permit, if the permit contains a requirement for treatment of the discharge, and if the treatment is in place. To apply for an exclusion of the discharge of any hazardous substance from the requirements of section 311, attach additional sheets of paper to your form, setting forth the following information:

1. The substance and the amount of each substance which may be discharged.
2. The origin and source of the discharge of the substance.
3. The treatment which is to be provided for the discharge by:
   a. An onsite treatment system separate from any treatment system treating your normal discharge;
   b. A treatment system designed to treat your normal discharge and which is additionally capable of treating the amount of the substance identified under paragraph 1 above; or
   c. Any combination of the above.

See 40 CFR 117.12(a)(2) and (c), published on August 29, 1979, in 44 FR 50766, or contact your Regional Office (Table 1 on Form 1, Instructions), for further information on exclusions from section 311.

Part VII-D

If sampling is conducted during more than one storm event, you only need to report the information requested in Part VII-D for the storm event(s) which resulted in any maximum pollutant concentration reported in Part VII-A, VII-B, or VII-C.

Provide flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, the method of flow measurement, or estimation. Provide the data and duration of the storm event(s) sampled, rainfall measurements, or estimates of the storm event which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event.

Part VII-E

List any toxic pollutant listed in Tables 2F-2, 2F-3, or 2F-4 which you currently use or manufacture as an intermediate or final product or byproduct. In addition, if you know or have reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) is discharged or if you use or manufacture 2,4,5-trichlorophenoxy acetic

acid (2,4,5,-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5,-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); O,O-dimethyl O-(2,4,5-trichlorphenyl) phosphorothioate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophene (HCP); then list TCDD. The Director may waive or modify the requirement if you demonstrate that it would be unduly burdensome to identify each toxic pollutant and the Director has adequate information to issue your permit. You may not claim this information as confidential; however, you do not have to distinguish between use or production of the pollutants or list the amounts.

Item VIII

Self explanatory. The permitting authority may ask you to provide additional details after your application is received.

Item X

The Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(c)(4) of the Clean Water Act provides that "Any person who knowingly makes any false material statement, representation, or certification in any application, . . . shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than 2 years, or by both. If a conviction of such person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or by both." 40 CFR Part 122.22 requires the certification to be signed as follows:

(A) For a corporation: by a responsible corporate official. For purposes of this section, a responsible corporate official means (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note: EPA does not require specific assignments or delegation of authority to responsible corporate officers identified in 122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate position under 122.22(a)(1)(ii) rather than to specific individuals.

(B) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(C) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

Table 2F-1
Codes for Treatment Units

	Physical Treatment Processes		
1-A	Ammonia Stripping	1-M	Grit Removal
1-B	Dialysis	1-N	Microstraining
1-C	Diatomaceous Earth Filtration	1-O	Mixing
1-D	Distillation	1-P	Moving Bed Filters
1-E	Electrodialysis	1-Q	Multimedia Filtration
1-F	Evaporation	1-R	Rapid Sand Filtration
1-G	Flocculation	1-S	Reverse Osmosis (Hyperfiltration)
1-H	Flotation	1-T	Screening
1-I	Foam Fractionation	1-U	Sedimentation (Setting)
1-J	Freezing	1-V	Slow Sand Filtration
1-K	Gas-Phase Separation	1-W	Solvent Extraction
1-L	Grinding (Comminutors)	1-X	Sorption
	Chemical Treatment Processes		
2-A	Carbon Adsorption	2-G	Disinfection (Ozone)
2-B	Chemical Oxidation	2-H	Disinfection (Other)
2-C	Chemical Precipitation	2-I	Electrochemical Treatment
2-D	Coagulation	2-J	Ion Exchange
2-E	Dechlorination	2-K	Neutralization
2-F	Disinfection (Chlorine)	2-L	Reduction
	Biological Treatment Processes		
3-A	Activated Sludge	3-E	Pre-Aeration
3-B	Aerated Lagoons	3-F	Spray Irrigation/Land Application
3-C	Anaerobic Treatment	3-G	Stabilization Ponds
3-D	Nitrification-Denitrification	3-H	Trickling Filtration
	Other Processes		
4-A	Discharge to Surface Water	4-C	Reuse/Recycle of Treated Effluent
4-B	Ocean Discharge Through Outfall	4-D	Underground Injection
	Sludge Treatment and Disposal Processes		
5-A	Aerobic Digestion	5-M	Heat Drying
5-B	Anaerobic Digestion	5-N	Heat Treatment
5-C	Belt Filtration	5-O	Incineration
5-D	Centrifugation	5-P	Land Application
5-E	Chemical Conditioning	5-Q	Landfill
5-F	Chlorine Treatment	5-R	Pressure Filtration
5-G	Composting	5-S	Pyrolysis
5-H	Drying Beds	5-T	Sludge Lagoons
5-I	Elutriation	5-U	Vacuum Filtration
5-J	Flotation Thickening	5-V	Vibration
5-K	Freezing	5-W	Wet Oxidation
5-L	Gravity Thickening		

Table 2F-2

Conventional and Nonconventional Pollutants Required To Be Tested by Existing Discharger if Expected To Be Present

Bromide
Chlorine, Total Residual
Color
Fecal Coliform
Fluoride
Nitrate-Nitrite
Nitrogen, Total Kjedahl
Oil and Grease
Phosphorus, Total Radioactivity
Sulfate
Sulfide
Sulfite
Surfactants
Aluminum, Total
Barium, Total
Boron, Total
Cobalt, Total
Iron, Total
Magnesium, Total
Molybdenum, Total
Magnesium, Total
Tin, Total
Titanium, Total

Table 2F-3

Toxic pollutants required to be identified by applicant if expected to be present

Toxic Pollutants and Total Phenol

Antimony, Total	Copper, Total	Silver, Total
Arsenic, Total	Lead, Total	Thallium, Total
Beryllium, Total	Mercury, Total	Zinc, Total
Cadmium, Total	Nickel, Total	Cyanide, Total
Chromium, Total	Selenium, Total	Phenols, Total

GC/MS Fraction Volatiles Compounds

Acrolein	Dichlorobromomethane	1,1,2,2,-Tetrachloroethane
Acrylonitrile	1,1-Dichloroethane	Tetrachloroethylene
Benzene	1,2-Dichloroethane	Toluene
Bromoform	1,1-Dichloroethylene	1,2-Trans-Dichloroethylene
Carbon Tetrachloride	1,2-Dichloropropane	1,1,1-Trichloroethane
Chlorobenzene	1,3-Dichloropropylene	1,1,2-Trichloroethane
Chlorodibromomethane	Ethylbenzene	Trichloroethylene
Chloroethane	Methyl Bromide	Vinyl Chloride
2-Chloroethylvinyl Ether	Methyl Chloride	
Chloroform	Methylene Chloride	

Acid Compounds

2-Chlorophenol	2,4-Dinitrophenol	Pentachlorophenol
2,4-Dichlorophenol	2-Nitrophenol	Phenol
2,4 Dimethylphenol	4-Nitrophenol	2,4,6-Trichlorophenol
4,6-Dinitro-O Cresol	p-Chloro-M-Cresol	

Base/Neutral

Acenaphthene	2-Chloronaphthalene	Fluoranthene
Acenaphthylene	4-Chlorophenyl Phenyl Ether	Fluorene
Anthracene	Chrysene	Hexachlorobenzene
Benzidine	Dibenzo(a,h)anthracene	Hexachlorobutadiene
Benzo(a)anthracene	1,2-Dichlorobenzene	Hexachloroethane
Benzo(a)pyrene	1,3-Dichlorobenzene	Indeno(1,2,3-cd)pyrene
3,4-Benzofluoranthene	1,4-Dichlorobenzene	Isophorone
Benzo(ghi)perylene	3,3'-Dichlorobenzidine	Naphthalene
Benzo(k)fluoranthene	Diethyl Phthalate	Nitrobenzene
Bis(2-chloroethoxy)methane	Dimethyl Phthalate	N-Nitrosodimethylamine
Bis(2-chloroethyl)ether	Di-N-Butyl Phthalate	N-Nitrosodi-N-Propylamine
Bis(2-chloroisopropyl)ether	2,4-Dinitrotoluene	N-Nitrosodiphenylamine
Bis(2-ethylhexyl)phthalate	2,6-Dinitrotoluene	Phenanthrene
4-Bromophenyl Phenyl Ether	Di-N-Octylphthalate	Pyrene
Butylbenzyl Phthalate	1,2-Diphenylhydrazine (as Azobenzene)	1,2,4-Trichlorobenzene

Pesticides

Aldrin	Dieldrin	PCB-1254
Alpha-BHC	Alpha-Endosulfan	PCB-1221
Beta-BHC	Beta-Endosulfan	PCB-1232
Gamma-BHC	Endosulfan Sulfate	PCB-1248
Delta-BHC	Endrin	PCB-1260
Chlordane	Endrin Aldehyde	PCB-1016
4,4'-DDT	Heptachlor	Toxaphene
4,4'-DDE	Heptachlor Epoxide	
4,4'-DDD	PCB-1242	

Table 2F-4

Hazardous substances required to be identified by applicant if expected to be present

Toxic Pollutant

Asbestos

Hazardous Substances

Acetaldehyde	Dinitrobenzene	Napthenic acid
Allyl alcohol	Diquat	Nitrotoluene
Allyl chloride	Disulfoton	Parathion
Amyl acetate	Diuron	Phenolsulfonate
Aniline	Epichlorohydrin	Phosgene
Benzonitrile	Ethion	Propargite
Benzyl chloride	Ethylene diamine	Propylene oxide
Butyl acetate	Ethylene dibromide	Pyrethrins
Butylamine	Formaldehyde	Quinoline
Carbaryl	Furfural	Resorcinol
Carbofuran	Guthion	Stronthium
Carbon disulfide	Isoprene	Strychnine
Chlorpyrifos	Isopropanolamine	Styrene
Coumaphos	Kelthane	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)
Cresol	Kepone	TDE (Tetrachlorodiphenyl ethane)
Crotonaldehyde	Malathion	2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Cyclohexane	Mercaptodimethur	Trichlorofan
2,4-D (2,4-Dichlorophenoxyacetic acid)	Methoxychlor	Triethylamine
Diazinon	Methyl mercaptan	Trimethylamine
Dicamba	Methyl methacrylate	Uranium
Dichlobenil	Methyl parathion	Vanadium
Dichlone	Mevinphos	Vinyl acetate
2,2-Dichloropropionic acid	Mexacarbate	Xylene
Dichlorvos	Monoethyl amine	Xylenol
Diethyl amine	Monomethyl amine	Zirconium
Dimethyl amine	Naled	

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To Virvnaga	From Fujisaki
Co.	Co
Dept	Phone #
Fax #	Fax #

VOL 23

JAN - 9 1991

OFFICE OF GENERAL COUNSEL

MEMORANDUM

SUBJECT: Compliance With Water Quality Standards in NPDES Permits Issued To Municipal Separate Storm Sewer Systems

FROM: E. Donald Elliott ED Elliott
Assistant Administrator and
General Counsel (LE-130)

TO: Nancy J. Marvel
Regional Counsel
Region IX

In your memorandum of August 9, 1990, you have asked for our views on the following two issues:

ISSUES

1) Must NPDES permits for municipal separate storm sewer systems ("MS4s") issued under Section 402(p)(3)(B) of the Clean Water Act (CWA) include requirements necessary to achieve water quality standards (WQS), as generally required by Section 301(b)(1)(C) for all NPDES permits?

2) If permits issued to MS4s must comply with WQS, by what date must the permit ensure compliance?

SHORT ANSWERS

1) The better reading of Sections 402(p)(3)(B) and 301(b)(1)(C) is that all permits for MS4s must include any requirements necessary to achieve compliance with WQS.

2) Sections 402(p)(4)(A) and (p)(4)(B) give "large" and "medium" MS4s three years to comply with permit conditions from the date of permit issuance. This three year compliance date also applies to WQS-based permit requirements.

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DISCUSSION

1. Statutory Background

Section 402(a)(1) requires that all NPDES permits comply with the applicable provisions of section 301. This includes compliance with appropriate technology-based standards and effluent limits (sections 301(b)(1)(B), 301(b)(2)). Permits must include "any more stringent limitation" necessary to meet WQS. Section 301(b)(1)(C). In addition, Section 401 requires that any applicant for a federal permit (including NPDES permits issued by EPA) must provide the permitting agency a certification from the State in which the discharge originates that the discharge will comply with the State's WQS.

As part of the 1987 amendments to the Clean Water Act, Congress added Section 402(p) to the Act, related to storm water discharges. Congress exempted some storm water discharges from the requirement to obtain an NPDES permit until after October 1, 1992. Section 402(p)(1). For certain specific categories of storm water discharges, this permit "moratorium" is not in effect, including discharges "associated with industrial activity," discharges from large and medium municipal separate storm sewer systems (i.e., systems serving a population over 250,000 or systems serving a population between 100,000 and 250,000, respectively). Section 402(p)(2).

For industrial and municipal storm water discharges, EPA was instructed to promulgate new regulations specifying permit application requirements. Congress mandated EPA to issue permits no later than February 4, 1991 (for industrial and large municipal discharges) or February 4, 1993 (for medium municipal discharges). Section 402(p)(4). These permits shall provide for compliance "as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit." Id.

Section 402(p) also specified the levels of control to be incorporated into storm water permits. Permits for discharges associated with industrial activity are to require compliance with all applicable provisions of Sections 301 and 402 of the CWA, i.e., all technology-based and water quality-based requirements. Section 402(p)(3)(A). By contrast, permits for discharges from municipal separate storm sewers "shall require controls to reduce the discharge of pollutants to the maximum extent practicable" ("MEP"). Section 402(p)(3)(B)(iii).

2. Analysis

A. WQ-based Requirements in Municipal Storm Water Permits

The relationship of Section 402(p)(3)(B)(iii) to Section 301(b)(1)(C) is not clear, either on the face of the statute or in legislative history. Section 402(p)(3) is clearly intended to draw a distinction between the requirements on industrial and municipal storm water discharges. Section 402(p)(3)(A) states that industrial discharges shall comply with the applicable provisions of section 301, i.e., BAT/BCT technology-based requirements as well as any more stringent WQ-based requirements pursuant to 301(b)(1)(C). In the next sub-paragraph, Congress requires municipalities to control storm water to the MEP standard: no mention is made of section 301. The juxtaposition of (p)(3)(A) and (p)(3)(B) gives rise to the argument that Congress may have intended to waive all section 301 requirements for municipal discharges in favor of the MEP standard. On the other hand, one could read (p)(3)(B)(iii) as modifying only technology-based requirements for municipal storm water (i.e., MEP substitutes for BAT/BCT); any WQ-based requirements would still be necessary in a municipal permit, even if those requirements are more stringent than "practicable." The legislative history of Section 402(p) provides no guidance as to how Congress intended the MEP standard to operate.

Where Congressional intent behind a statutory provision is ambiguous in light of the language or legislative history, the Agency charged with administering that statute may adopt any reasonable interpretation consistent with the goals and purposes of the statute. Chevron, U.S.A. v. NRDC, 467 U.S. 837 (1984). Therefore, EPA has a large degree of discretion to choose how it will interpret the applicability of WQS to municipal storm water discharges. The only interpretation by EPA to date, contained in its proposed rulemaking, has been that WQS would continue to apply to permits for municipal storm water discharges. See, e.g., 53 Fed. Reg. 49,457 (Dec. 7, 1988) (priorities for controls in municipal storm water management programs will be developed to ensure achievement of water quality standards and the CWA).[1] There has been no intervening interpretation expressed by EPA on this issue. It is the opinion of the Office of General Counsel that the interpretation adopted by the Agency in the proposal is a reasonable one, for the following reasons.

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[1] EPA's intent to apply WQS to municipal storm water discharges can also be inferred by the fact that the 1988 proposal did not propose to alter 40 CFR 122.44(d), which provides that all NPDES permits must contain water quality-based requirements more stringent than technology-based requirements, where necessary to achieve WQS.

First, to support the opposite reading (i.e., that WQ-based requirements do not apply to municipal storm water permits), one would have to assert that Congress implicitly waived section 301(b)(1)(C) requirements for municipal storm water. One would further have to assume that Congress impliedly exempted municipal storm water permits from the Section 401 certification requirements. Implied repeals of statutory provisions are generally disfavored. Morton v. Mancari, 417 U.S. 535, 549 (1974). A court generally will find a statute impliedly repealed only if the later enacted provision is in "irreconcilable conflict" with the earlier provision. Kremer v. Chemical Construction Corp., 456 U.S. 461, 468 (1982) (citations omitted). In this case, the statutory provisions are not in irreconcilable conflict; rather, as discussed above, one may read Section 301(b)(1)(C) as requiring "any more stringent limitation" necessary to meet a WQS in every NPDES permit, including permits for discharges from municipal separate storm sewers which are subject to the MEP standard. Such a reading would harmonize the two provisions and give effect to the policy behind Sections 301(b)(1)(C) and 401, i.e., to ensure that WQS are met, regardless of practical considerations (such as the availability of treatment technology or the "practicability" of MS4 permit requirements).

To read Section 402(p)(3)(B) as overriding 301(b)(1)(C) requirements would also cause a conflict between Section 402(p) and the general focus of the provisions in the 1987 Amendments, many of which reflect a Congressional desire to improve compliance with the WQ-based requirements of the Act. The amendments to/additions of sections 303(c)(2)(B), 304(l), 319, 320, 402(o) all reflect Congressionel concern with the improvement of water quality through the NPDES and other CWA programs. It would be particularly difficult to argue that the storm water provisions, a major part of the 1987 Amendments, were intended to create an exemption from the general rule regarding WQ-based requirements without an explicit acknowledgment of that result. We think the approach taken in the proposed rule is preferable.

B. Compliance Date for WQ-Based Limits in Municipal Storm Water Permits

In contrast to the issue of whether WQ-based requirements apply at all to MS4s, Congress had indeed spoken to the compliance date issue. Section 402(p)(4) requires compliance with all permit conditions no later than three years from the date of issuance. In light of the express language, we believe the Agency may reasonably interpret the three-year compliance provisions in Section 402(p)(4) to apply to all permit

conditions, including those imposed under 301(b)(1)(C).[2]

There are arguments which support the reasonableness of this interpretation. First, EPA has issued few, if any storm water permits to MS4s to date. Many of these systems will face NPDES permit conditions for the first time, and I understand immediate compliance for these systems is likely to be unrealistic. The compliance date in Section 402(p)(4) apparently reflects a Congressional realization of that reality. Second, EPA has already construed another very similar provision of the 1987 Amendments in the same manner. Section 304(l) establishes an identical three-year compliance date for achieving water quality standards in Individual Control Strategies issued under that section. EPA has interpreted that provision, while not repealing Section 301(b)(1)(C), to allow for three-year compliance with new effluent limits established to meet WQS on 304(l)-identified streams. 54 Fed. Reg. 23,889 (Jun. 2, 1989). Given that 304(l) deals directly with WQ-based standards and permit requirements, a consistent interpretation with respect to 402(p)(3) and (p)(4) (which, as we have seen, is silent on the role of WQ-based requirements for MS4s) is certainly reasonable.[3]

If you have any questions regarding this memorandum, please contact Randy Hill of my staff, FTS 382-7700.

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[2] There may be some municipal separate storm sewer systems which are unable to meet even the three-year compliance date in their permits. The Agency retains the discretion to issue an administrative order fixing a schedule for compliance if compliance is not achieved in that three-year period.

[3] The decision of the Administrator in the Star-Kist permit appeal does not affect this analysis. Indeed, the decision itself supports the reading that compliance schedules under Section 304(l) (and, by extension, schedules under Section 402(p)(4)) are unaffected by the holding in that decision. Cf. Order on Petition for Reconsideration, In the Matter of Star-Kist Caribe, Inc., NPDES Appeal No. 88-5, (Apr. 17, 1990), at 6 n.5 (because decision does not prevent all post-1977 compliance schedules, arguments regarding 304(l) are not pertinent); (order stayed Sept. 4 1990).

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cc: LaJuana Wilcher
Jim Strock
James Elder
Cynthia Dougherty
Fred Stiehl
Regional Counsels, Regions I-VIII, X
Water Management Division Directors, Regions I-X
ORC Water Branch Chiefs, Regions I-X

VOL 23

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of CITIZENS FOR A BETTER ENVIRONMENT, SAVE SAN FRANCISCO BAY ASSOCIATION, AND SANTA CLARA VALLEY AUDUBON SOCIETY For Review of Waste Discharge Requirements Order No. 90-094 of the California Regional Water Quality Control Board, San Francisco Bay Region. Our File No. A-695.	ORDER NO. WQ 91-03

BY THE BOARD:

On July 23, 1990, the State Water Resources Control Board (State Board) received a petition from Citizens for a Better Environment, Save San Francisco Bay Association and Santa Clara Valley Audubon Society (petitioners). The petition sought review of waste discharge requirements adopted by the Regional Water Quality Control Board, San Francisco Bay Region (Regional Board) in Order No. 90-094, regulating discharges of storm water[1] from municipal separate storm sewers throughout the Santa Clara Valley. The storm drains discharge to creeks and streams which are tributary to South San Francisco Bay (South Bay).

The issues raised in the petition are complex, and concern two major federal regulatory programs--storm water

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1 *There are variant spellings of 'storm water' and 'stormwater' found in the relevant statutes, regulations, and case law. We will adopt 'storm water', but quoted materials using 'stormwater' will also appear in this Order.*

regulation and regulation of water bodies which do not attain water quality standards. Given the complexity of these issues, we will review the background and requirements of these programs, and the application of these programs to municipal storm water discharges throughout the Santa Clara Valley.

We note that the Regional Water Quality Control Board, Los Angeles Region, issued a separate permit regulating storm water discharges from municipalities in the Los Angeles area, which we have also reviewed. Order No. WQ 91-04, which is also being issued today, explores many of the same issues as this Order. In preparing this Order, we have reviewed the documents submitted by persons interested in the Los Angeles petition.

I. BACKGROUND

A. The Need for a Storm Water Regulatory Program

Through the natural hydrologic cycle, precipitation condenses from clouds and falls on land surfaces where it disperses in several ways. Water may be temporarily captured in the soil so plants may use and then transpire it. Rain or snowfall may also quickly evaporate or may infiltrate the surface soil to replenish ground water. Rain water and snow melt flow over land areas and replenish creeks, streams, rivers and lakes. But this runoff accumulates a variety of pollutants including minerals, nutrients, bacteria, suspended material, heavy metals and debris as it flows through the natural environment. Surface runoff also becomes degraded as plants and animals use it. Though gravitational flow eventually returns water to the ocean

and evaporation again transforms this water on a broad scale, the accumulation of pollutants in runoff water may substantially diminish water quality in a microcosm and thereby alter the balance of important natural cycles.

In addition to the pollutants which accumulate in storm water runoff, pollutants also enter surface waters during dry weather through storm drain systems. Pollutants may be transported by wet weather flows or even by direct discharge to the storm drains, and later released to surface waters, even during times when there is no rainfall or snow melt. Examples of these dry-weather pollutant discharges include water line flushing, landscape irrigation, diverted stream flows, rising ground waters, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, and individual residential car washing.

While there is some confusion in the terminology which is used in the regulatory documents, the former type of discharge, which occurs as a direct result of storm events, is usually referred to as "storm water discharge," while the latter form of dry weather discharge is referred to as "urban runoff." Together, we shall most commonly refer to the phenomenon as "storm water discharge."[2] Storm water discharges may be significant contributors of pollutants to surface waters.

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2 In regulations, the Environmental Protection Agency (EPA) adopted recently, "storm water" is defined as "storm water runoff, snow melt runoff, and surface runoff and drainage". 40 CFR Section 122.26(a)(13). While "storm water" thus includes urban runoff, it must be noted that discharges which are not composed of "storm water" (such as illicit discharges to the municipal system from industrial facilities) are prohibited by the regulations. Thus, many forms of urban runoff may in fact be prohibited.

B. Municipal Separate Storm Sewer Systems

Municipal separate storm sewer systems essentially act as conduits for pollutants from diffuse sources throughout the urban environment and from discrete point sources associated with industrial activities. The systems to which we shall refer in this Order are owned or operated by public agencies, are designed or used for collecting or conveying storm water, and are not a combined sewer.[3] While separate storm sewer systems are legally characterized as point sources within the meaning of the Clean Water Act, as discussed hereinafter, the waste which they discharge mostly originates as nonpoint, diffuse waste flows from urban development and activities (including residences, streets and commercial establishments). Municipal separate storm sewer systems are somewhat analogous to municipal sanitary sewer systems where those systems convey industrial wastewaters along with domestic sewage. The sanitary sewers simply transport industrial wastes to the treatment facility and then to the receiving water. However, storm water discharges, and the pollutants therein, are also highly variable, being affected greatly by such factors as storm events, land uses and receiving water conditions, and thus present even greater challenges for their regulation and control.

3 *40 CFR Section 122.26(b)(8).*

C. Early Attempts to Regulate Storm Water Discharges

In 1972, Congress adopted the Federal Water Pollution Control Act Amendments of 1972,[4] which created a comprehensive program to protect surface waters. The Clean Water Act emphasizes the control, treatment and elimination of all pollutant sources in order to protect vital uses of the nation's waters. Because scant information about runoff existed in 1972, the Clean Water Act mandated further assessment of runoff, its constituent pollutants, the consequent water quality effects, and applicable control measures. Section 105 of the Act specified that the development and application of "waste management methods" to prevent, reduce, or eliminate pollutants from storm water runoff would be a national priority.[5]

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4 *Public Law 92-500 (86 Stat. 816, enacted October 18, 1972); 33 USC Section 1151 et seq. Although characterized in the official title as "amendments", the 1972 FWPCA essentially rewrote the pre-1972 Federal Water Pollution Control Act. The 1972 amendments are commonly referred to as the Clean Water Act, and we will follow that practice. We shall use the enumeration of Clean Water Act sections, rather than the comparable United States Code designations.*

5 *The pertinent portions of Section 105 state:*

> *"(a) The Administrator [of the Environmental Protection Agency] is authorized to conduct in the Environmental Protection Agency and to make grants to any state, municipality, or intermunicipal or interstate agency for the purpose of assisting in the development of (1) any project which will demonstrate a new or improved method of preventing, reducing, and eliminating the discharge into any waters of pollutants from sewers which carry storm water or both storm water and pollutants...."*
>
> * * *
>
> *(d) In carrying out the provisions of this section, the Administrator shall conduct, on a priority basis, an accelerated effort to develop, refine, and achieve practical application of:*
> *(1) waste management methods applicable to point and nonpoint sources of pollutants to eliminate the discharge of pollutants, including, but not limited to, elimination of runoff of pollutants and the effects of pollutants from inplace or accumulated sources...."*

The Clean Water Act also included a major new regulatory program intended to implement the Act's stated goal of eliminating the discharge of pollutants into surface waters by 1985. Section 301 of the Act prohibits the discharge of any pollutant to navigable waters from a "point source"[6] unless the discharge is authorized by a national pollutant discharge elimination system (NPDES) permit. The provisions for adoption of NPDES permits are contained in Section 402 of the Clean Water Act.[7]

In 1973, EPA issued regulations which exempted certain categories of point sources of pollution from the permit requirements of Section 402.[8] One of the categories of discharges exempted by the 1973 regulations was separate storm sewers containing only storm runoff uncontaminated by any industrial or commercial activity. In Natural Resources Defense Council v. Costle (D.C.Cir. 1977) 568 F.2d 1369, the court held

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6 A "point source" is defined in Section 502(14) as "any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." It is important to note that, while the discharge of storm water to surface waters is a discharge from a point source from a legal standpoint, these discharges have often been referred to in official documents as "nonpoint" discharges, in recognition of the manner in which they travel over land to the point of discharge.

7 Section 402 authorizes states to administer the NPDES program within their boundaries. EPA has approved California's NPDES program. Pursuant to the provisions of the Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.), NPDES permits are issued by the Regional Water Quality Control Boards in California.

8 See 38 Fed. Reg. 18000 (1973).

that the Clean Water Act required NPDES permits for all discharges of pollutants from point sources, specifically including the discharge of storm water. In that opinion, the court encouraged the use of general permits and "alternative" permit conditions for storm water permits. It was not until 1990, after several aborted attempts, that EPA finally issued regulations for the issuance of storm water permits.[9]

D. Basin Planning Activities by the Regional Board

In 1975, the Regional Board adopted its Water Quality Control Plan for the San Francisco Bay Region (1975 Basin Plan).[10] The 1975 Basin Plan broadly characterized suspected constituents in runoff and roughly estimated pollutant mass loadings from runoff throughout the region. These estimates were derived from several earlier, but limited runoff emission studies. In the 1975 Basin Plan, the Regional Board acknowledged the necessity to obtain further knowledge about storm water runoff and to undertake regulatory actions. Four fundamental control strategies were described for urban runoff: (1) Prevent contaminants from reaching urban land surfaces; (2) Improve street cleaning and cleansing of other public areas;

9 *40 CFR Parts 122, 123, and 124. See 55 Fed. Reg. 47990 (November 16, 1990).*

10 *The 1975 Basin Plan was approved by the State Board in Resolution No. 75-28.*

(3) Treat runoff prior to discharge to receiving waters; and (4) New controls on land use and development.[11]

The 1975 Basin Plan concluded that until more definitive research and study about runoff control strategies was conducted, the prudent regulatory path was to adopt and maintain reasonable source control measures and comprehensive monitoring programs. In approving the 1975 Basin Plan, the State Board stipulated that various actions in the Plan, including the urban runoff strategies, constituted recommendations which the State Board, the Regional Board and other agencies should consider further.[12]

The 1975 Basin Plan identified beneficial uses for specified water bodies and listed water quality objectives to protect such uses. Among the water quality objectives listed in the 1975 Basin Plan was a narrative toxicity objective.[13] Compliance with the narrative toxicity objective was to be determined by bioassays. The Basin Plan further specified "limiting concentrations" for inorganic chemical constituents (primarily heavy metals) in waters used as domestic and municipal supply.[14]

The 1975 Basin Plan did not specify numeric water quality objectives for the South Bay. It instead prohibited

11 1975 Basin Plan, Chapter 5, "Nonpoint Source Measures", pages 5-39 through 5-41.

12 State Board Resolution No. 75-28.

13 The objective requires that all waters be maintained free of toxic substances in toxic amounts. 1975 Basin Plan, page 4-11.

14 1975 Basin Plan, at page 4-18.

continued wastewater discharges to the South Bay, with specified exceptions to this prohibition.[15] The Basin Plan also referred to various plans and policies of the State Board, including the "Water Quality Control Policy for the Enclosed Bays and Estuaries of California."[16] However, the 1975 Basin Plan explicitly stated that this policy does not apply to wastes from "land runoff".[17]

After approval of the Basin Plan by the State Board, the beneficial uses and water quality objectives contained therein were approved by EPA as water quality standards within the meaning of the Clean Water Act. Thus, in 1976 there were no numeric water quality objectives for the South Bay, and there was a general prohibition against discharges thereto, which did not apply to storm water discharges.

In 1986, the Regional Board made substantial revisions to the Basin Plan.[18] The 1986 Basin Plan included numeric objectives for specific toxic pollutants (primarily heavy metals) in some of the surface waters in the Region. For surface waters

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15 1975 Basin Plan, pages 5-6 through 5-12 and 5-47.

16 The "Bays and Estuaries Policy", as this document is commonly known, was adopted on May 16, 1974.

17 1975 Basin Plan, "Bays and Estuaries Policy", section at page 4-11. In the Bays and Estuaries Policy, the State Board had prohibited continued wstewater discharges to the South Bay, based on limited assimilative capacity, generally shallow depth and hydrodynamic circumstances restricting free movement and wide dispersion.

18 The Regional Board amended the Basin Plan in Resolution No. 86-14, on December 17, 1986. This document will be referred to as "1986 Basin Plan". The State Board approved the revisions on May 21, 1987.

downstream from Carquinez Straits, the Regional Board adopted water quality objectives in Table III-2A, which were to be included in NPDES permits.

The 1986 Basin Plan reiterated the necessity of site-specific, numeric water quality objectives for the South Bay, and did not apply the Table III-2A objectives there. The 1986 Basin Plan explained:

> "The South Bay below the Dumbarton Bridge is a unique, water quality limited, hydrodynamic and biological environment which merits continued special attention by the Board. Site specific water quality objectives are absolutely necessary in this area for two reasons. First, its unique hydrodynamic environment dramatically affects the environmental fate of pollutants. Second, potentially costly nonpoint source pollution control measures must be implemented to attain any objectives in this area. The costs of those measures must be factored into economic impact considerations by the Board in adopting any objectives for this area. Nowhere else in the Region will nonpoint source economic considerations have such an impact on the attainability of objectives. Therefore, for this area, the objectives contained in Tables III-2A and III-2B will be considered guidance only, and should be used as part of the basis for site specific objectives. Programs described in Chapter IV will be used to develop site specific objectives for it. Ambient conditions shall be maintained until site specific objectives are developed."[19]

The 1986 Basin Plan identified existing and potential beneficial uses for the South Bay and its tributary surface waters. Uses for the South Bay include industrial service supply, navigation, body contact and non-contact recreation, commercial and sport fishing, wildlife and rare and endangered species habitat, fish migration and spawning, shellfish

19 *1986 Basin Plan, page III-5.*

harvesting and estuarine habitat.[20] For the numerous surface water bodies tributary to the South Bay, the beneficial uses typically include municipal supply, agricultural supply, ground water recharge, body contact and non-contract recreation, cold and warm freshwater habitat, wildlife habitat, and fish migration and spawning.

In order to protect beneficial uses, the 1986 Basin Plan contained a four-part implementation plan. The plan included point source control measures, nonpoint source control measures, estuarine management actions, and continued planning actions. While the plan for point sources included either specific effluent limitations to be included in NPDES permits or alternative limits based on site-specific water quality objectives, the plan for nonpoint sources did not contain such specific controls. It was noted in the 1986 Basin Plan that wastes from diffuse sources such as agricultural operations, onsite treatment and disposal systems, construction activities, urban runoff, spills and dredging had not been thoroughly investigated.[21]

While the 1986 Basin Plan did not call for the immediate regulation of storm water runoff, the Plan did

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20 1986 Basin Plan, Table 2-1.

21 As was noted earlier, while storm water runoff is legally a point source and must be regulated as such, many historical documents describe such discharges as nonpoint sources. Regardless of the nomenclature, such documents must be read in context. Where, as here, the Regional Board distinguished between point sources and nonpoint sources including storm water or urban runoff, we must interpret its intent to exclude storm water runoff from the rules for other point sources. In the Basin Plan, it is obvious that the Regional Board considered both storm water and urban runoff as nonpoint sources.

summarize the findings of several local and national studies concerning urban and storm water runoff.[22] Collectively, these studies indicated that runoff varies considerably, but likely contributes significant quantities of pollutants, especially heavy metals, to the surface waters. The 1986 Basin Plan instituted actions to identify more thoroughly local runoff problems, to evaluate existing control measures, and to develop specific additional measures. Local governmental agencies and owners or operators of storm drain systems in the South Bay were required to submit detailed information and to identify and implement runoff control measures.

E. Preliminary Control Activities in the Santa Clara Valley Storm Water System

The information required by the 1986 Basin Plan provided some data regarding operation of the municipal separate storm sewer system in the Santa Clara Valley. Throughout the Valley, a relatively flat region spanning approximately 700 square miles between the Santa Cruz Mountains and the Diablo Range, a complex network of storm sewers and natural drainage courses collect and transport intermittent urban runoff and storm waters from urban, industrial, residential and undeveloped areas. The County of Santa Clara, the Santa Clara Valley Water District, and 13 cities[23] own, operate, or maintain the municipal separate

22 *1986 Basin Plan, pages IV-39 through IV-41.*

23 *The cities and towns are Campbell, Cupertino, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga and Sunnyvale. They are sometimes referred to in the record as "Santa Clara Valley Nonpoint Source Agencies".*

storm sewers within the system. The collected flows are conveyed and discharged into numerous creeks, streams, rivers and other surface water bodies which comprise the Santa Clara hydrologic unit of the San Francisco hydrologic basin, and which are ultimately tributary to the South Bay.[24]

In response to the 1986 Basin Plan requirements, the local agencies which discharge storm water runoff from their storm drain systems into Santa Clara Valley drainage courses developed an action plan to initiate a storm water runoff control program.[25] The program consisted of three principal phases: (1) Dry- and wet-weather investigation and monitoring of pollutants in runoff flows and in receiving waters; (2) Identification and evaluation of alternative pollutant control measures; and (3) Development of an implementation plan. The local agencies and their consultants prepared and submitted reports when they completed each phase of the program. The "Implementation Program", the final phase, was completed in March 1990. This report described numerous individual and jurisdiction-wide runoff pollutant control measures and the institutional arrangement to implement them.

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24 The eleven principal drainages or "watersheds" of the Santa Clara Valleys include: Calabazas Creek, Coyote Creek and its tributaries, Guadalupe River and its tributaries, San Tomas Aquinos Creek, Saratoga Creek, Sunnyvale East drainage, Sunnyvale West drainage, Stevens Creek, Permanente Creek, San Francisquito Creek, and Adobe, Matadro, and Barron Creeks.

25 Santa Clara Valley Nonpoint Source Discharge Evaluation Action Plan (July 1987).

F. Water Quality Act of 1987

1. Storm Water Provisions

In 1987, the federal Clean Water Act was amended[26] to add provisions specifically requiring a regulatory program for storm water discharges. Section 402 of the Clean Water Act was amended to add subsection 402(p), which establishes NPDES permit application requirements for municipal storm water discharges and for storm water discharges associated with industrial activities.[27]

Section 402(p)(1) provides that prior to October 1, 1992, NPDES permits shall not be required for discharges composed entirely of storm water. Exceptions to this prohibition include discharges from municipal separate storm sewer systems serving a population of 250,000 or more (Section 402(p)(2)(C)) and where the "stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States". Section 204(p)(2)(E). Regarding municipal discharges, Section 402(p)(3)(B) provides:

> "Permits for discharges from municipal storm sewers--(i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and

26 *The amendments are entitled Water Quality Act of 1987, Public Law 100-4 (February 4, 1987).*

27 *Section 405(p) of the Water Quality Act of 1987.*

engineering methods, and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." (Emphasis added.)

The issues raised in this petition concern the portions of Section 402(p) addressing municipal discharges, especially the meaning of the requirement that municipalities must control and reduce pollutant discharges to the "maximum extent practicable". These issues will be discussed in detail hereafter.

On December 7, 1988, EPA issued draft regulations intended to implement Section 402(p). However, despite the statutory requirement that EPA promulgate regulations by February 4, 1989, the final regulations were not promulgated until November 16, 1990,[28] after the Regional Board had issued the permit which we are reviewing.

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28 55 Fed. Reg. 47990.

2. Section 304(l)

The Water Quality Act of 1987 also added Subsection 304(l) to the Clean Water Act.[29] Section 304(l) generally requires states to identify those surface waters which are adversely affected by toxic, conventional, and nonconventional pollutants. The surface waters may be included on any of three lists which must be prepared. The list which we shall discuss herein includes waters which are not expected to meet applicable standards, "due entirely or substantially to discharges from

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29 Section 308(a) of the Water Quality Act of 1987 added Section 304(l)(1), which states:

"Not later than 2 years after February 4, 1987, each State shall submit to the Administrator for review, approval, and implementation under this subsection--

(A) a list of those waters within the State which after the application of effluent limitations required under section 1311(b)(2) of this title cannot reasonably be anticipated to attain or maintain (i) water quality standards for such waters reviewed, revised, or adopted in accordance with section 1313(c)(2)(b) of the title, due to toxic pollutants, or (ii) that water quality which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water,

(B) a list of all navigable waters in such State for which the State does not expect the applicable standard under section 1313 of this title will be achieved after the requirements of sections 1311(b), 1316, and 1317(b) of this title are met, due entirely or substantially to discharges from point sources of any toxic pollutants listed pursuant to section 1317(a) of this title;

(C) for each segment of the navigable waters included on such lists, a determination of the specific point sources discharging any such toxic pollutant which is believed to be preventing or impairing such water quality and the amount of each such toxic pollutant discharged by each such source; and;

(D) for each such segment, an individual control strategy which the State determines will produce a reduction in the discharge of toxic pollutants from point sources identified by the State under this paragraph through the establishment of effluent limitations under section 1342 of this title and water quality standards under section 1313(c)(2)(B) of this title, which reduction is sufficient, in combination with existing controls on point and nonpoint sources of pollution, to achieve the applicable water quality standard as soon as possible, but not later than 3 years after the date of the establishment of such strategy."

point sources". Section 304(l)(1)(B). The list is commonly known as the "B list".

Section 304(l) also requires states to prepare "individual control strategies" ("ICS") to control toxic pollutant discharges. To implement Section 304(l), EPA promulgated regulations on June 2, 1989.[30] The regulations interpret an "individual control strategy" to mean "a final NPDES permit with supporting documentation showing that effluent limits are consistent with an approved wasteload allocation, or other documentation which shows that the applicable water quality standards will be met not later than three years after an individual control strategy is established."[31]

The ICS or permit must reduce toxic pollutant discharges from identified point sources "in combination with existing controls on point and nonpoint sources of pollutants".[32] The regulations require ICS's for surface waters on the B list, i.e. for waters which do not or are not expected to achieve applicable water quality standards "due

30 *54 Fed. Reg. 23896.*

31 *40 CFR Section 123.46(c).*

32 *40 CFR Section 123.46(a).*

entirely or substantially to discharges from point sources" of toxic pollutants.[33]

On February 3, 1989, the State Board sent EPA its B list of impaired waters and contributing point sources. The South Bay was included on this list because conditions violated the narrative receiving water quality objective for toxicity. Point sources which were identified as contributing to the violation of standards included three municipal wastewater treatment plants,[34] and "stormdrains." The list identified seven toxic pollutants (cadmium, copper, lead, mercury, nickel, selenium and silver) as causing the impairment.

G. Adoption of the Permit

In an attempt to fulfill the numerous requirements of the 1986 Basin Plan amendments, the provisions of state law regarding adoption of waste discharge requirements,[35] the Clean Water Act provisions regarding storm water permits and

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33 40 CFR Section 130.10(d). The regulations only require ICS's for those surface waters identified on the B list. 40 CFR Section 123.46(a). In a recent court decision, it was held that this interpretation was too narrow, and the regulations were remanded to EPA for reconsideration. Natural Resources Defenses Council v. Environmental Protection Agency (9th Cir. 1990) 915 F.2d 1314. The other lists required under Section 304(l) are the "A(i) list" of surface waters not expected to attain water quality standards due to toxic pollutants (Section 304(l)(1)(A)(i)) and the "A(ii) list" of surface waters which will not attain water quality which "assure[s] protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recretional activities in and on the water". Section 304(l)(1)(ii).

34 See our earlier order regarding these plants, Order No. WQ 90-5.

35 California Water Code Section 13000 et seq.

Section 304(l), and the federal regulations regarding Section 304(l), the Regional Board issued a draft NPDES permit for the Santa Clara Valley Nonpoint Sources Agencies' (the dischargers) storm water discharges throughout Santa Clara Valley. Public hearings were held by the Regional Board on May 16 and on June 20, 1990, and on the latter date the Regional Board adopted the NPDES permit (NPDES permit CA0029718; Regional Board Order No. 90-094). Subsequently, the petitioners filed a timely petition for review of the NPDES permit. On September 28, 1990, EPA approved the permit as an ICS.[36]

II. CONTENTIONS AND FINDINGS

The petition raises a number of contentions which all address whether the permit must include numeric, water quality-based effluent limitations. The petitioners argue that, both as an NPDES permit regulating storm water discharges and as an ICS, the permit must prescribe numeric effluent limitations for toxic pollutants (specifically cadmium, copper, lead, mercury, nickel, selenium, silver and "toxic organic pollutants") in regulated storm water discharges.

The petitioners' arguments contend that numeric effluent limitations are required both pursuant to the legal

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36 The document transmitting EPA's approval constituted EPA's final agency action and is entitled, "Decision of the United States Environmental Protection Agency on Listings under Section 304(l) of the Clean Water Act Regarding the State of California." This Decision will be referred to as "304(l) Decision." On page 20, EPA states: "EPA approves NPDES permit CA0029718 as the individual control strategy for the South San Francisco Bay Stormdrains. The permit requires attainment of water quality standards in South San Francisco Bay."

requirements for NPDES permits generally and for ICS's specifically. The petitioners generally contend that the dischargers are causing pollutants to enter the South Bay and to violate water quality standards there, and that the only acceptable means to control this impact is to place numeric limitations on the dischargers' effluent. The petitioners also contend that the permit does not comply with statutory deadlines in the Clean Water Act. Finally, the petitioners seek inclusion of specified measures to reduce pollutants from transportation facilities and practices.

In order to address the various arguments made by the petitioners, we must discuss some of the factual assumptions which the petitioners have made, along with the legal contentions. Our order of presentation varies somewhat from the petitioners', but all of the major points are covered.[37]

A. Location of the Storm Water Discharges in the Santa Clara Valley

The petitioners' arguments are based on the premise that the dischargers' municipal separate storm sewer system discharges pollutants to the South Bay and that these discharges are significantly impairing its beneficial uses. The petitioners contend that these beneficial uses are jeopardized by the failure of the permit to contain numeric effluent limitations. As we shall explain, the petitioners' broad assertions vastly oversimplify the complex nature of the dischargers' flood control

37 Any issue not specifically discussed herein is dismissed for failure to raise substantial issues appropriate for review. 23 Calif. Code of Regulations, Section 2052(a)(1).

and drainage facilities, imply that the storm sewer system discharges only into the South Bay, and misconstrue ambient water quality criteria, receiving water quality standards and effluent limitations.

The storm drains are generally point sources,[38] which discharge upstream from the South Bay.[39] While pollutants may be transported from the storm drains to the South Bay, the process of this transportation and the amounts of pollutants reaching the South Bay are unknown.

The documents and reports required by the 1986 Basin Plan, and which accompanied the permit application, describe the dischargers' municipal separate storm sewer system. This system, a vast network of catchments, street gutters, conduits, pipes and channels, collects urban runoff flows and storm water flows from eleven distinct watersheds and a land area greater than 700 square miles. Numerous outfalls (point sources) exist throughout the entire Santa Clara Valley, which discharge urban runoff and storm water flows into nearby natural surface waters. The permit

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38 The term "point source" is defined in the Clean Water Act as:

> *"...any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged..." Section 502(14).*

39 The documents prepared by the State Board and EPA pursuant to Section 304(1) speak only vaguely of "stormdrains" and do not specify to which specific stormdrains they refer. We do acknowledge that the petitioners may have read these documents to mean that a determination had been made that storm water discharges are known to contribute significant pollutants directly to the South Bay. However, as we will explain infra, the decision to list "stormdrains" as a point source on the B list was based on minimal information and a reading of Section 304(1) requiring listing under the circumstances.

covers the dischargers' entire jurisdiction. Many of the surface waters are separately identified in the Basin Plan, and water quality standards are established, as described above. The surface waters then flow into the South Bay.

While the precise location of each outfall is not apparent in the record (and may not be known at this time), the dischargers' storm sewers generally convey waste to specific, identified receiving waters other than the South Bay. The permit contains a finding regarding the point of discharge:

> "Discharge consists of the surface runoff generated from various land uses in all the hydrologic subbasins in the basin which discharge into watercourses which in turn flow into South San Francisco Bay."[40]

The natural water courses to which the storm sewers discharge are not in themselves part of the dischargers' municipal separate storm sewer system. The EPA regulations define the term "municipal separate storm sewer" as "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains)...."[41] In the Santa Clara Valley, the storm sewer outfalls discharge to the water courses upstream

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40 *Permit, Finding Number 3.*

41 *40 CFR Section 122.26(b)(8).*

from the South Bay These water courses are themselves waters of the United States.[42]

Storm water discharge, which originates as a diffuse, nonpoint source flow, becomes a "point source" addition of pollutants at the discrete intersection of the conveyance (outfall) and waters of the United States. While there may be cases where it is difficult to distinguish waters of the United States from the dischargers' conveyance systems, where the outfall leads to a natural stream with designated beneficial uses and water quality objectives, the outfall is the point source. The mouth of the river or creek at the South Bay is not a point source. The dischargers' storm sewer system conveys waste, though numerous point source outfalls, to Santa Clara Valley's creeks, streams and rivers. Few storm sewers discharge directly into South San Francisco Bay.

B. Conditions of the Receiving Waters

Both the South Bay and the water courses which receive the storm water discharges have beneficial uses. However, the uses of the streams, creeks, and rivers in the Santa Clara Valley are not the same as the uses of the South Bay. (This point is obvious since the upstream waters are fresh and the Bay is

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42 *The EPA regulations provide:*

> *"'Outfall' means a 'point source' as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States." 40 CFR Section 122.26(b)(9).*

estuarine.) The Valley surface waters are chiefly used for municipal supply, agricultural supply, ground water recharge, body contact and non-contact recreation, cold and warm freshwater habitat, wildlife habitat, and fish migration and spawning, and, in some cases, for freshwater replenishment, navigation, and rare and endangered species habitat.[43]

As described above, the objectives contained in Table III-2A of the 1986 Basin Plan are not applicable to the South Bay.[44] Even though the Basin Plan appears to state that these objectives may apply to the Santa Clara Valley surface waters, the marine water criteria which are enumerated in Table III-2A clearly do not. Criteria intended to protect marine or estuarine water uses, especially aquatic habitat, cannot simply be interpolated for freshwater uses such as drinking water supply, since the bases for the criteria are different.

A better reading of the 1986 Basin Plan is that EPA's ambient fresh water criteria, which are also the water quality objectives in Table III-2B, apply to the upstream water courses. Table III-2A states that EPA fresh water criteria[45] "can be applied seasonally, where appropriate."[46] It appears that the Regional Board intended that such fresh water criteria may be

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43 1986 Basin Plan.

44 In Order No. WQ 90-5, we recently directed the Regional Board to adopt numeric water quality objectives for toxic pollutants in the South Bay.

45 EPA's most recent compilation of water quality criteria is the "Gold Book", entitled Quality Criteria for Water 1986 (EPA 440/5-86-001). These criteria have not been adopted as rules or regulations.

46 1986 Basin Plan, Table III-2A, footnote b.

applied to such water courses as the Santa Clara Valley surface waters. We reach this conclusion because ambient criteria for protection of uses in freshwater are clearly more appropriate than the estuarine or marine water criteria. The record indicates that the water courses upstream of the South Bay may be impaired or threatened by a variety of pollutant sources, including storm drains and nonpoint sources, such as abandoned mines. However, none of the upstream water bodies was included on the Section 304(l) "B" list.

The petitioners argue that by including "stormdrains" as contributors to impairment of the South Bay on the B list, "[t]oxic pollutants and toxicity known to be present in the dischargers' (sic) discharges are known to violate water quality standards and impair uses."[47] We find, instead, that the decision to list storm drains as a point source on the B list was based on the available evidence at the time, and a broad reading of the types of pollutant sources to the South Bay which should be listed. In making the findings for the listing, we stated:

> "Our review of the data, therefore, concerning the relative metals loadings from point and nonpoint sources indicates that impairments of water quality in the South Bay cannot be attributed to one or the other category of source. Rather, any regulatory strategy to improve the water quality and protect beneficial uses in the South Bay must take both categories or sources into account."[48]

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47 *See Exhibit 2 to Petition, page 11.*

48 *State Board Order No. WQ 90-5 at page 55.*

On April 11, 1991, we adopted the Statewide Water Quality Control Plans for Inland Surface Waters of California (Inland Plan) and for Enclosed Bays and Estuaries of California (Bays and Estuaries Plan), which include numeric water quality objectives which will apply to the surface waters of Santa Clara Valley and to the South Bay. The plans provide five years for the Regional Board to determine what actions are appropriate to ensure that storm water discharges are in compliance with the numeric objectives. The Plans further provide: "All dischargers shall be given a maximum of 10 years from the date of adoption of this plan to come into compliance with the numerical objectives in this plan." See, March 26, 1991 Draft, at page A-28.

C. Storm Water Discharge Characteristics

Pursuant to the 1986 Basin Plan requirements, the dischargers conducted dry- and wet-weather monitoring to characterize urban runoff and storm water flows from the municipal separate storm sewer system. From these investigations, cadmium, chromium, copper, lead, nickel and zinc were found in detectable concentrations in residential, commercial and industrial land use runoff and in the Santa Clara Valley surface waters. Arsenic, mercury, selenium and silver were seldom detected.[49] Further, significant differences were recorded between dry-weather and wet-weather stream concentrations, and runoff pollutant concentrations varied

[49] *Santa Clara Valley Nonpoint Source Study, Volume I: Loads Assessment Report*.

considerably between storms and between locations. The evidence suggests that storm water and urban runoff transport heavy metals which are then deposited with sediments in the Santa Clara Valley creeks and streams. The physical aspects of runoff (that is, the erosion and scour of these sediments in the receiving waters) resuspends pollutants during storm events. Wet weather flow in the natural water courses likely transports resuspended pollutants to the South Bay.

In comparing storm water runoff and receiving water concentrations to EPA's criteria, heavy metals concentrations were typically less than the chronic toxicity criteria during dry-weather periods. Copper and, to a lesser extent, zinc, lead and cadmium, exceeded the acute toxicity criteria values during wet-weather. Laboratory tests were also performed to study toxicity using undiluted, static-renewal effluent samples for both dry-and wet-weather periods. The dry-weather test results were inconsistent and inconclusive. In the dischargers' wet-weather laboratory samples, approximately 75 percent of these samples significantly affected Ceriodaphnia test organisms. Even though a few heavy metals did exceed acute toxicity criteria in the same samples, the lethal effects could not be definitively correlated to the presence of particular heavy metals alone. Test results suggest the presence of other, unmeasured chemical agents or factors.

The results of the characterization studies indicate that the nature and effects of storm water discharges are

complicated. While we are concerned about the effects of the dischargers' storm water discharges on aquatic life and other beneficial uses, we also note that the various point sources and nonpoint sources affect these uses in a complicated and little-understood fashion. In attempting to solve the problems of the South Bay we must ensure that the Regional Board uses its authority to control both point and nonpoint sources in the most effective manner possible.

D. The Regional Board's Pollution Control Strategy

As we have discussed above, the dischargers' municipal separate storm sewer system generally discharges waste into numerous receiving waters, and not directly into the South Bay. The characterization studies which have been performed do suggest that potential threats exist and warrant appropriate control. Following the requirements of the 1986 Basin Plan and Clean Water Act Section 402(P), the Regional Board adopted the NPDES permit as an initial element of its storm water control strategy for protecting the surface waters of the Santa Clara Valley.

The NPDES permit employs a two-fold strategy; it prohibits non-storm water discharges and illicit connections, and it requires a comprehensive series of regulatory, governmental, and educational control measures. The first element effectively prohibits unpermitted industrial discharges into the storm sewer

system, and should also prohibit most dry-weather "urban runoff" discharges.[50]

The second element prescribes area-wide and community-specific source reduction, hydraulic, and treatment-based control measures. For example, some of the regulatory measures include local ordinances to prohibit litter and hazardous waste disposal, regulations governing oil and grease disposal, provisions for construction site drainage, and increased use of permeable landscaping and surfaces. Public agency control measures include intensified street sweeping, bimonthly community cleanup days, illegal dumping investigations, and detention and infiltration projects. As potential contaminants in storm sewer flows substantially originate from human activities, the permit requires extensive educational and outreach programs geared toward residents and small businesses.

The method by which the specific control activities will be implemented is that the dischargers must submit a Management Plan for approval by the Regional Board, and then must implement the Plan. Thus, the permit lists some, but not all of the management practices which will be undertaken. The dischargers have already identified a list of practices from which the individual entities will select. The specific

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50 "Illicit discharge" is defined in EPA's regulation as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for dischages from the municipal separate storm sewer) and discharges resulting from fire fighting activities." 40 CFR Section 122.26(b)(2). While this regulation was adopted subsequent to issuance of the permit, it is assumed that this definition will apply.

practices will be selected over a two-year period starting with adoption of the NPDES permit.

In addition to the basin-wide and community-specific "best management practices" required by the permit and the prohibitions against discharging non-storm water, the permit also prohibits discharges of storm water which cause or contribute to violation of receiving water limitations. The receiving water limitations disallow the creation of conditions of pollution or nuisance in the receiving waters. In addition, the discharge may not cause a violation of "any applicable water quality objective for receiving waters."[51]

The permit does not include specific, numeric effluent limitations which would be measured at the outfalls. This omission is the crux of the petitioners' complaints.

E. Legal Requirements of Clean Water Act Sections 301 and 402(p)

The petitioners contend that the Clean Water Act, and regulations and court decisions interpreting the Act, require the inclusion of numeric effluent limitations in NPDES permits for the discharge of storm water from a municipal separate storm sewer system. We have reviewed these authorities, and also opinions we have received from EPA, and conclude that numeric effluent limitations are not legally required. Further, we have determined that the program of prohibitions, source control

51 *Permit, Receiving Water Limitation B.2.*

measures and "best management practices" set forth in the permit constitutes effluent limitations as required by law.

First and foremost, the petitioners contend that by virtue of the absence of numeric effluent limitations, the permit contains no "effluent limitations" or "water quality-based effluent limitations."[52] The petitioners assert that effluent limitations can only be numeric concentration values for individual constituents. Our review of the relevant law reveals that the permit's scheme of prohibitions, source control measures and best management practices constitutes valid effluent limitations consistent with requirements of "maximum extent practicable" controls and water quality standards.

Before we address the acceptability of practices as "effluent limitations" we shall review the mandate contained in the Clean Water Act that NPDES permits in general must contain effluent limitations, and we shall decide whether that mandate applies to permits regulating municipal discharges of storm water in particular.

Section 301 of the Clean Water Act prohibits the discharge of any pollutant,[53] unless pursuant to a NPDES permit

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52 Indeed, even among Regional Board staff and the dischargers there appeared to be confusion regarding the term "effluent limitation". See e.g., transcript from May 16, 1990 Regional Board hearing, at page 11. All parties to the permit appeared to be under the impression that the permit did not contain effluent limitations. As we will explain, however, our determination that best management practices may constitute effluent limitations is certainly not novel.

53 "Discharge of a pollutant" is defined to include "any addition of any pollutant to navigable waters from any point source." Clean Water Act Section 502(12).

(or other method in compliance with the Act). Section 301(b) further requires point sources to be in compliance with effluent limitations which require the application of "best practicable control technology currently available," and which are necessary to meet water quality standards established under state law, by July 1, 1977.[54] Section 301 also requires compliance with any more stringent effluent limitations which are necessary to protect water quality standards. The former effluent limitations are generally referred to as technology-based, while the latter are referred to as water quality-based.

Thus, the general rule in Section 301 is that point sources must comply with effluent limitations. These effluent limitations are contained in NPDES permits, for which standards are set out in Clean Water Act Section 402. Section 402(a)(1) provides that permits may allow the discharge of pollutants, so long as the permit requires compliance with applicable requirements including Section 301.

Subsection (p) was added to Section 402 in order to clarify the specific requirements relating to discharges of storm water. Section 402(p)(3) specifies the permit requirements for industrial and municipal discharges:

> "(A) Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 1311 [Section 301] of this title.
> "(B) Permits for discharges from municipal storm sewers--

54 *For certain pollutants, effluent limitations which require "best available technology economically achievable" must be met by March 31, 1989. As will be explained infra, the deadlines contained in Section 301(b) are clearly not applicable to municipal dischargers of storm water.*

"(i) may be issued on a system-or jurisdiction-wide basis;

"(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

"(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."55

While the permit requirements for industrial discharges require compliance with all applicable provisions of Section 402 and with Section 301, Section 402(p)(3)(B) is ambiguous as to whether municipal storm water discharges must comply with these general requirements (including effluent limitations). The requirements specified for municipal discharges are only a prohibition against non-storm water discharges and "controls to reduce the discharge of pollutants to the maximum extent practicable."56 Thus, the first issue which arises is whether the requirements of Section 301 and of Section 402, other than subsection 402(p), apply to municipal storm water discharges.

The petitioners claim that Section 402(p) requires the inclusion of effluent limitations in permits, and specifically effluent limitations necessary to meet water quality standards.

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55 It is clear that the time limitations in Section 301 do not apply to either type of discharge. Industrial and large municipal discharges are given three years after issuance to comply with permit terms. Section 402(p)(4)(A).

56 The third provision in the municipal requirements, issuance on a system- or jurisdiction-wide basis, is couched in permissive rather than mandatory terms.

The dischargers, along with many interested municipalities throughout the State, claim that the only standards which they must meet are the reduction of pollutants to the "maximum extent practicable" ("MEP") and the prohibition against non-storm water discharges.

In reviewing the terms of Section 402(p), we find that the meaning of the statute on its face is not clear. On the one hand, there is nothing in Section 402(p) which states that the general provisions of Sections 301 and 402 do not apply to municipal storm water discharges. This would lead us to conclude that these general provisions do apply. On the other hand, the subsection applying to industrial discharges specifies that those general provisions apply, while the subsection referring to municipal storm water discharges is silent on this point. Because the meaning of the statute is ambiguous, we will look to other sources to determine the legislative intent.[57]

The legislative history is generally silent on the meaning of the MEP standard and the distinction between industrial and municipal discharges.[58] However, we have obtained an interpretation from EPA, and that interpretation must be accepted as a valid interpretation of the federal law, unless

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57 See Cal. Jur. III, Vol. 58, Statutes, page 453.

58 1987 U.S. Code Cong. and Adm. News, pages 38-39. Senator Durenberger is quoted as saying that MEP includes such controls as "management practices, control techniques and systems, [and] design and engineering methods." Volume 132, No. 143 Congressional Record, S16443 (October 16, 1986).

it is manifestly unreasonable. National Wildlife Federation v. Gorsuch (D.C. Cir. 1982) 693 F.2d 156. In a memorandum from its Assistant Administrator and General Counsel,[59] EPA proceeds to consider two plausible interpretations: (1) Congress intended to waive all Section 301 requirements for municipal discharges in favor of the MEP standard, or (2) the MEP statutory requirement modified only the technology-based requirements contained in Section 301, and left in place the need for water quality-based requirements, even if those requirements would be more stringent than MEP. EPA concluded by adopting the latter interpretation.

EPA gave two reasons for its conclusion that municipal storm water discharges do not need to meet technology-based standards contained in Section 301, but that they must meet water quality-based standards. First, a contrary reading would require the conclusion that Congress implicitly repealed Section 301 as applied to these discharges. Such a conclusion would generally be disfavored by courts. Second, such a reading would interpret the Water Quality Act of 1987 as weakening the standards of the Clean Water Act, whereas the available legislative history indicates a desire to strengthen its provisions.

In reviewing EPA's interpretation, we cannot conclude that it is wholly unreasonable. Further, we have an interest as a state agency in supporting this rationale. It is the state-adopted water quality standards which EPA claims must be met by provisions of the permit. We must conclude that it is in the

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59 Memorandum from E. Donald Elliot to Nancy J. Marvel, Regional Counsel, EPA Region IX, regarding "Compliance with Water Quality Standards in NPDES Permits Issued to Municipal Separate Storm Sewer Systems", dated January 9, 1991.

interest of the State to be able to enforce its standards in the provisions of NPDES permits. See, Clean Water Act Section 510. Further, since the State has the authority to adopt the water quality standards, we believe that we can incorporate into these standards the necessary flexibility to allow realistic opportunity for compliance.[60] We have used this flexibility in our recently-adopted Inland Plan and Bays and Estuaries Plan. These provide ten years for storm water dischargers to come into compliance with numeric water quality objectives. In addition, the Plans emphasize source reduction of toxic pollutants and development of best management practices before costly end-of-the-pipe treatment is required. See, California Inland Surface Waters Plan, at page A-24.

We therefore conclude that permits for municipal separate storm sewer systems issued pursuant to Clean Water Act Section 402(p) must contain effluent limitations based on water quality standards. As we discussed earlier, the applicable water quality standards in this matter are those established for the creeks and streams which are predominantly the receiving waters of the storm water discharges. These standards appear generally to be EPA's fresh water criteria. The Inland Plan also contains applicable water quality objectives which will be submitted to EPA for approval as water quality standards. Dischargers of storm water are given a maximum of ten years to come into

60 The Regional Board adopts water quality objectives pursuant to its authority in Water Code Section 13240 and following. This Board may also adopt water quality objectives pursuant to Water Code Section 13170.

complaince with the numeric objectives contained in the Inland Plan. We will now consider whether "best management practices" constitute acceptable effluent limitations, or whether numeric effluent limitations based on numeric water quality standards are required.61

While the petitioners have correctly pointed to the absence of numeric effluent limitations, the permit prohibits non-storm water discharges, and includes receiving water limitations and a requirement that the discharge not cause the violation of any water quality objectives. The permit does, therefore require compliance with water quality standards. The major issue is whether numeric effluent limitations are also required.

As we stated above, the Regional Board and the dischargers assumed that the permit did not include effluent limitations. However, in its response to the petition, Region IX of EPA concludes that effluent limitations need not be numeric, and may instead constitute any measures to reduce pollutants in the discharge including "best management practices."62 This response is also consistent with EPA's 304(l) Decision, in which

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61 A point which is not directly at issue here is what sort of effluent limitations are required to meet the MEP standard set forth in Section 402(p). While the question of what actions are required to achieve MEP may indeed be a source of substantial controversy, it is clear that the inclusion of best management practices in a permit (rather than numeric effluent limitations) is an acceptable means of complying with the MEP requirement. See, Vol. 132, Congressional Record, S16443 (October 16, 1986).

62 See letter from Harry Seraydarian, Director, Water Management Division, to Elizabeth Miller Jennings, Senior Staff Counsel, State Water Resources Control Board, dated October 24, 1990.

it approved the permit as an ICS pursuant to Clean Water Act Section 304(1). Because EPA undertook a final action in the 304(1) Decision, approving the permit with best management practices rather than numeric effluent limitations, we assume that EPA's formal agency position is that expressed in the response from Region IX. Therefore, we shall follow this interpretation unless it is manifestly incorrect.

The statutory definition of "effluent limitation" is broad and supports EPA's contention that a numeric limit is not required:

> "The term 'effluent limitation' means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable water, the waters of the contiguous zone or the ocean, including schedules of compliance." Clean Water Act Section 502(11).

The definition of "effluent limitation" contained in EPA's regulations is similarly broad:

> "Effluent limitation means any restriction imposed by the Director [or a State] on quantities, discharge rates, and concentrations of 'pollutants' which are 'discharged' from 'point sources' into 'waters of the United States,' the waters of the 'continguous zone,' or the ocean." 40 CFR Section 122.2.

In a decision by a federal court of appeals, the court stated that it did not agree with the premise that effluent limitations must be articulated "in terms of a numeric effluent standard." Natural Resources Defense Council v. Costle (D.C. Cir. 1977) 568 F.2d 1369. Rather, the court stated that

Section 402 "gives EPA considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges. The permit may proscribe industry practices that aggravate the problem of point source pollution." 586 F.2d at 1380. (Emphasis added.) Costle concerned whether specific discharges, including storm water, must be regulated by NPDES permits. EPA had assumed that numeric effluent limitations were required, and argued that these would be infeasible. Instead, the court clarified that specific practices could be required, especially in cases such as storm water regulations, where numeric permit limitations would be difficult to enforce.

Following the Costle case, and several attempts by EPA to establish a regulatory program for storm water permits, the Clean Water Act was amended to incorporate Subsection 402(p). Given this background in the development of storm water regulations, it appears reasonable to assume that in adopting subsection 402(p), Congress intended to allow EPA to regulate "practices" as suggested by the court.

In a more recent decision by the Ninth Circuit court of appeals, it was held that numeric, technology-based effluent limitations may not always be appropriate, and that EPA must include in permits it adopts whatever effluent limitations are necessary to achieve state water quality standards. Trustees for Alaska v. Environmental Protection Agency (9th Cir. 1984) 749 F.2d 549. Section 302 of the Clean Water Act describes the use of effluent limitations to protect beneficial uses of water where

the application of technology-based standards is inadequate.[63] This section states that water quality-based effluent limitations may include "alternative effluent control strategies." Clean Water Act Section 302(a). Plainly, the term "alternative effluent control strategies" encompasses the types of control measures prescribed in the NPDES permit.[64] Costle, supra, at note 21.

Finally, EPA's storm water regulations, while not specifically addressing the contents of municipal permits, clearly emphasize a "best management practices" approach. The information which municipalities must submit in their applications concerns establishment of a control program with specific structural and non-structural controls. There is nothing in the storm water regulations which would indicate an approach which mandates numeric effluent limitations.

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63 Section 302(a) provides:

> *"Whenever, in the judgment of the Administrator or as identified under section [304(l)] of this title, discharges of pollutants from a point source or group of point sources, with the application of effluent limitations required under section [301(b)(2)] of this title, would interfere with the attainment or maintenance of that water quality in a specific portion of the navigable waters which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitation (including alternative effluent control strategies) for such point source or sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality." (Emphasis added.)*

64 EPA has also adopted regulations regarding the establishment of water quality-based effluent limitations. These regulations are discussed in the next section.

In conclusion, we agree with EPA that Sections 301 and 402 must be read to require municipal storm water discharges to meet MEP and also to achieve compliance with water quality standards. The most reasonable way of blending these two sections together is to write permits which seek implementation of water quality standards through the controls which constitute MEP. In other words, Section 402(p) should be read to require permits to include actions which constitute MEP for the first three years, and then an evaluation of further actions which must be taken if water quality standards are not protected. We do not believe this reading is inconsistent with EPA's requirement that standards be met within three years, since MEP will be the most effective method of achieving reductions in pollutants contained in storm water, as discussed below. Region IX of EPA expressed this policy well in their response to the petition:

> "Region 9 believes that it would be premature for a municipal storm water permit to include numerical effluent limitations. Storm drains raise unique problems and differ from other types of point source discharges in that only limited information is currently available concerning the sources and loadings of the pollutants and the effectiveness of many of the control measures. While NPDES permits have been issued since the mid-1970s for industrial dischargers and POTWs, permitting of municipal storm drains is still in its infancy and additional information is necessary to determine the best means for achieving compliance with water quality standards."

As a final point, we note that the provisions contained in the permit also comply with the state law requirements for

adoption of waste discharge requirements. Water Code Section 13263 provides that requirements:

> "...shall implement relevant water quality control plans, if any have been adopted, and shall take into consideration the beneficial uses to be protected, [and] the water quality objectives reasonably required for that purpose...."

We find that the permit includes a comprehensive and stringent program for reducing pollutants in storm water discharge, and that it will implement the Basin Plan, including the protection of beneficial uses.

F. Legal Requirements of Clean Water Act Section 304(l)

The NPDES permit was issued pursuant to both Clean Water Act Sections 402(p) and 304(l). Thus, the permit must be adequate not only as a NPDES permit regulating storm water under Section 402(p), but it must also meet the requirements of Section 304(l) and the regulations adopted thereunder.[65]

Section 304(l)(1)(B) required this Board to compile a list of surface waters for which we do not expect water quality standards will be achieved after requirements of Section 301 and other applicable sections are met, "due entirely or substantially to discharges from point sources" of specified toxic pollutants. In addition, for each segment of waters included on the B list, we were required to determine the "specific point sources

65 The Section 304(l) regulations concerning water quality-based effluent limitations, which we shall discuss in this section, are applicable whenever permits must require compliance with water quality standards, and not just where Section 304(l) is applicable. Therefore, these regulations would also have to be satisfied even if these storm drains had not appeared on the 304(l) B list.

discharging any such toxic pollutant which is believed to be preventing or impairing such water quality and the amount of each such toxic pollutant discharged by each such source." Section 304(l)(1)(C). Then, for each such segment, an individual control strategy [ICS] was required which "will produce a reduction in the discharge of toxic pollutants from point sources" identified on the B list. Section 304(l)(1)(D). In regulations adopted June 2, 1989, EPA set forth the requirements for producing lists and adopting ICS' under Section 304(l).[66]

As we discussed above, the South Bay was included on the B list, and "stormdrains" were named as contributing point sources. The first issue which we will discuss concerning Section 304(l) is what sort of factual determinations were made in the decision to list "stormdrains," and specifically what is meant by the term "entirely or substantially."

The EPA regulations require inclusion on the B list if a water meets either of two conditions:

> "(i) Existing or additional water quality-based limits on one or more point sources would result in the achievement of an applicable water quality standard for a toxic pollutant; or
> "(ii) The discharge of a toxic pollutant from one or more point sources, regardless of any nonpoint source contribution of the same pollutant, is sufficient to cause or is expected to cause an excursion above the applicable water quality standard for the toxic pollutant." 40 CFR Section 130.10(d)(5).

It should be noted that waters must be listed where, notwithstanding the impacts of nonpoint sources, the contribution of the point source "is expected to cause" the water body to

66 *54 Federal Register 23868-23899.*

exceed water quality standards. Section 130.10(d)(5)(ii). This means that waters may be put on the B list even where the nonpoint sources are the more significant contributors to the violation of water quality standards. Moreover, in its preamble to the 304(l) regulations, EPA noted two points especially relevant here. First, EPA noted the difficulty of developing ICS's for storm water outfalls. 54 Federal Register 23884 (1989). Second, EPA discussed the lack of available data to make the determinations required by Section 304(l) and the short time schedule available. Nonetheless, EPA directed the states to "rely on existing and readily available data" and discussed what it considered to be "the minimum existing and readily available water quality data and information that a state and EPA can reasonably attain." 54 Federal Register 23884 (1989).

Taking together 40 CFR 130.10(d)(5)(ii) and EPA's comments concerning storm water outfalls and scant available data, it is clear that there may be situations where point sources are included on the B list where at the time of listing, their proportionate wasteload contribution to the excursion of water quality standards is unknown, where regulation through traditional methods available for point sources is not feasible, and where any provisions requiring a reduction in the discharge of pollutants from these point sources may not be adequate to allow the receiving water to achieve water quality standards (in light of continuing contributions from nonpoint sources).

It appears that the instant matters includes all of these variables. As was discussed above, while the

dischargers' storm drains are point sources, they do not generally discharge directly to the South Bay, and their relative contribution, via riverine transport, to the South Bay's impairment is still unknown.[67] In short, given the available data, we do not believe that any restraints--that is, numeric effluent limitations--which could be imposed on the discharge of pollutants through the storm drain system would alone attain water quality standards in the South Bay.

We do note that EPA's definition of ICS may be read to require that ICS's be set so as to ensure that receiving waters will achieve water quality standards. In 40 CFR Section 123.46, EPA set forth the requirements of ICS. The term ICS is defined as: "a final NPDES permit with supporting documentation showing that effluent limits are consistent with an approved wasteload allocation, or other documentation which shows that applicable water quality standards will be met not later than three years after the [ICS] is established." Section 123.46(c). However, a recent court decision has brought this requirement into question. In Natural Resources Defense Council v. Environmental Protection Agency (9th Cir. 1990) 915 F.2d 1314, the court disapproved of one portion of EPA's Section 304(l) regulations, and remanded the

67 In EPA's response to comments regarding its final decision regarding lists of waters, sources and pollutants under Section 304(l), it conceded the lack of scientific data available concerning South San Francisco Bay. EPA concluded "that narrative standards for toxicity are being exceeded in South San Francisco Bay and that the exceedance is due substantially to POTW and storm drain point source discharges of toxic pollutants." To support this conclusion, EPA pointed to a final Staff Report of the State Board, supporting our Order No. WQ 90-5, wherein it is stated that "the State Board agrees that the relative contribution of point and nonpoint sources to ambient water conditions has not been established." 304(l) Decision.

regulations to EPA for reconsideration. The court determined that EPA must list point sources for all water bodies which appear on any of the Section 304(l) lists, not just the B list.[68] It did not reach the question whether ICS's are required for all listed point sources, or only for those related to B lists. This is the issue which was remanded to EPA. In reading this court decision, it is apparent that it is not expected that all point sources which are designated under Section 304(l) are capable of limiting pollutants to an extent that water quality standards will be met in the receiving water. Further, it is certainly questionable whether an ICS will be able to ensure that the receiving waters will achieve water quality standards.

The regulations themselves raise questions as to whether it will always be feasible to assure compliance with water quality standards simply through adoption of an ICS. The pollutants associated with storm water discharges are apparently bound up in sediments in dry weather periods and are resuspended and transported in storm events. The Preamble to the Section 304(l) regulations states that water quality impairments due to sediments contaminated and deposited by active point sources (such as storm drains) must be included on the B list.

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68 The other two lists are known as the "(A)(i) list" and the "(A)(ii) list." Section 304(l)(1)(A)(i) requires a list of water bodies in which water quality standards are not expected to be achieved after the application of effluent limitations to point sources. The list required by Section 304(l)(1)(A)(ii) must include waters which, after application of effluent limitations to point sources, are not expected to "assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water."

Nevertheless, NPDES permits do not apply to the sediments. 54 Federal Register 23883. Given the complicated and little understood process of transportation and resuspension of sediments, it is not possible to calculate numeric effluent limitations which would apply to storm drain outfalls and would be based upon water quality standards in downstream waters such as the South Bay.

Notwithstanding the ambiguities raised in interpreting Section 304(l), we must still address whether the effluent limitations contained in the permit are adequate as water quality-based effluent limitations pursuant to EPA's regulations. EPA adopted regulations at 40 CFR 122.44(d) which set forth requirements for water quality-based limitations. These regulations were adopted to comply with Section 304(l). See, 54 Federal Register 23870.

EPA's regulations concerning the establishment of limitations, standards, and other permit conditions, including effluent limitations, appear in 40 CFR 122.44. Section 122.44(d)(1) requires the inclusion of requirements in

NPDES permits necessary to achieve water quality standards.[69] That subsection requires the inclusion of effluent limitations for specific pollutants where those pollutants cause, have the reasonable potential to cause, or contribute to an in-stream excursion above narrative or numeric criteria within an ambient water quality standard.

The petitioners point to Section 122.44(d)(1) in claiming that numeric effluent limitations are required. However, the term "numeric" effluent limitation does not appear in Section 122.44(d)(1). Concededly, in most cases, the easiest and most effective chemical-specific limitation would be numeric.[70] However, there is no legal requirement that effluent limitations be numeric.

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69 Section 122.44(d)(1) provides, in relevant part, that NPDES permits must include:

> *"any requirements...necessary to...[a]chieve water quality standards....*
>
> *"(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard....*
>
> * * *
>
> *"(iii) When the permitting authority determines...that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.*
>
> * * *
>
> *"(v) ...[W]hen the permitting authority determines...that a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above a narrative criterion within a applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity."*

70 In fact, in our order regarding discharges from POTW's to the South Bay, we found that numeric effluent limitations were appropriate and feasible.

Even in Section 122.44 there is specific provision for best management practices in lieu of numeric effluent limitations. Section 122.44(k) states that NPDES permits should include "...best management practices to control or abate the discharge of pollutants when: ...(2) Numeric effluent limitations are infeasible...." As we shall describe below, we conclude that numeric effluent limitations are infeasible as a means of reducing pollutants in municipal storm water discharges, at least at this time. EPA Guidance allows further monitoring in lieu of immediate permit limitations. In EPA's Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants, numeric limits are not required.[71] Additionally, the Inland Plan provides up to ten years for storm water discharges to comply with numeric objectives and specifically endorses source reduction and best management practices to reduce pollutants.[72]

Finally, EPA has formally approved the permit as an ICS. In its 304(l) Decision, EPA stated:

> "EPA approves NPDES permit CA0029718 as the individual control strategy for the South San Francisco Bay Stormdrains. The permit requires attainment of water quality standards in South San Francisco Bay." (304(l) Decision, page 20.

This final agency action is entitled to great deference, as it is a determination by the administrative agency authorized to carry

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71 EPA Office of Water, July 1987 (EPA 440/4-87-005), Section 3.1.

72 We note here that there is certainly a lack of adequate information in the record concerning the specifics of the storm water system and its impacts. We point out, however, that regardless of how Section 122.44 is interpreted, municipal storm water dischargers have three years to come into compliance with permit terms, and the Regional Board incorporated a broad reopener provision into the permit, allowing the inclusion of more stringent effluent limitations as required.

out the program, and which adopted the regulations which we are now attempting to interpret. Clearly, EPA found that the effluent limitations contained in the permit were adequate to protect water quality standards and to comply with 40 CFR Section 122.44.

As a final point, we take note of the broad authority the Regional Board possesses to regulate nonpoint sources which contribute to degradation of the South Bay. While the permit program under the Clean Water Act is limited to point sources, the Porter-Cologne Water Quality Control Act allows the Regional Board to regulate directly all discharges to state waters, including nonpoint sources and impacts from existing sediments. When this broad authority to ensure compliance with water quality standards is considered, it is clear that this permit, along with other actions the Regional Board will take (as contemplated in the 1986 Basin Plan) provides adequate protection of the impaired waters. We conclude that the permit does comply with the requirements of Section 304(l) of the Clean Water Act.

G. The Appropriateness and Propriety of the Permit

Our review of the permit does not end with the conclusion that the permit is legally defensible. Water Code Section 13320 provides that this Board must determine whether the Regional Board's action was appropriate and proper. Even though numeric effluent limitations are not legally required, we will consider whether numeric effluent limitations would result in more effective regulation of the dischargers' storm water

discharges. We note, of course, that the Regional Board clearly left open the possibility of including numeric effluent limitations at a later date. The critical question before us, then, is whether it is appropriate and proper for numeric effluent limitations to be applied at this time at each outfall to receiving waters.

In order to obtain a realistic chance of compliance with numeric effluent limitations, dischargers would have to install some kind of end-of-pipe treatment technology. However, few such technologies have been investigated or developed for discharges of storm water and urban runoff. Available treatment technologies are limited because storm waters involve high volume, intermittent flows from a large number of outfalls. Physical treatment works generally necessitate interception and transport of storm sewer flows to central locations and require extensive land area for gravitational settling basins. The pollutant removal efficiencies of wet- and dry-detention basins were briefly examined in a national study conducted by EPA. For metals (the runoff constituents of most concern here), these physical treatment works varied in effectiveness. In the best cases, wet-detention basins removed 90 percent of the lead but only about 50 percent of the copper and zinc found in influent runoff. Consequently, conventional end-of-pipe treatment technologies have limited effectiveness.

Treatment techniques such as wet-detention basins also require large land areas to contain high volume, variable storm

flows. These techniques therefore result in extremely high costs. The County of Sacramento has submitted evidence to us estimating that its capital costs to build conveyance and wet detention treatment facilities would exceed $2 billion. Clearly, the potential costs for end-of-pipe treatment would be substantial, while the benefit to the receiving water would be difficult to predict accurately and reasonably. The impacts of holding large amounts of storm water for treatment may also pose potential adverse environmental impacts.

The inherent variability of storm water discharges also make numeric effluent limitations and end-of-pipe treatment impractical. The frequency, duration and magnitude of storm events and the constituents, concentrations, mechanisms, persistence and effects of runoff are poorly understood. As the current drought exemplifies, precipitation is highly variable temporally and spatially. The specific pollutants in runoff flows and their concentrations change dramatically from storm to storm and from location to location. The dischargers' monitoring investigation studies illustrate the variability of pollutants in the dischargers' runoff and possible receiving water effects. Similar regional and national studies of storm water and urban runoff discharges also reveal wide variability. The relative contribution and bioavailability of the potentially toxic trace metals in storm water remain uncertain. The mechanisms, nature, and potential threat of pollutant accumulation in sediments must be examined further.

The intermittent, irregular discharges of storm water also make it exceedingly difficult to formulate an appropriate numeric effluent limitation which would bear a reasonable relationship to established ambient water quality standards and criteria. The regulatory authority must minimally know the effluent flow rate (or the volume and duration), the receiving water flow and available dilution in order to establish numeric limitations. Without the necessary technical tools and a fundamental understanding of runoff variability, numeric effluent limitations cannot be legitimately developed or applied at this time.

In considering the anticipated effectiveness of the permit's best management practices approach, we consider that the discharges, while conveyed through point sources, are by nature more comparable to nonpoint sources. They derive from a vast variety of sources, including streets, residences, commercial areas, construction sites and industrial facilities. Source reduction and pollution prevention measures are, presently, the only practical means of controlling the truly nonpoint, diffuse waste flows from urban development. It is therefore apparent to us that a comprehensive and coordinated basin-wide approach, which stresses source reduction and elimination, will be most effective. This strategy focuses on the preventable causes rather than quantifying the tolerable effects of pollutants in runoff discharges.

At least at this preliminary point in the regulatory program for storm water discharges, it appears that an approach which implements "best management practices" to reduce sources and control pollutants is desirable. The Regional Board has taken this approach, but also has not foreclosed adding numeric, water quality-based effluent limits to the permit if it determines such limits are also necessary after receiving further monitoring data or after completion of a wasteload allocation for the South Bay.

We note also the probable impacts on the South Bay of mine drainage and resuspension of sediments. Just as we will rely on practices to reduce pollutants from storm water discharges, impacts from mine drainage and sediment resuspension must also be addressed if the South Bay is to achieve water quality standards and protection of beneficial uses. As we have stated, our interpretation of Section 304(l) of the Clean Water Act implies a coordination of activities intended to reduce impacts from all sources. The activities which the Regional Board has undertaken since 1986 are consistent with that approach. This is also the direction given this Board by the court in United States of America v. State Water Resources Control Board (1986) 182 Cal.App.3d 82, that we must assume a "global perspective" in water quality planning activities. In establishing objectives, we must consider all available remedial activities, and not just those which may be more readily regulated, such as point sources.

In summary, given the lack of clear evidence linking discharges of storm water in the Santa Clara Valley drainage courses to actual impacts in the South Bay, the difficulty of establishing numeric effluent limitations which have a rational basis, the lack of technology available to treat storm water discharges at the end of the pipe, the huge expenses such treatment would entail, and the level of pollutant reduction which we anticipate from the Regional Board's regulatory program, we conclude that the permit is proper and appropriate.

H. Transportation Control Measures

The petitioners contend that the permit must include specified transportation system control measures, or alternatively must name state and federal transportation entities as co-permittees, in order to regulate effectively runoff from streets, roads and highways. In support of these arguments, the petitioners contend that automobiles are the largest source of toxic pollutants in urban runoff and storm water discharges to the surface waters of the Santa Clara Valley. The specific control measures sought include extending regional transit systems, establishing inter-regional rail service, limiting further highway expansion, and enactment of "balanced growth" ordinances.

While runoff from highways and other transportation facilities undoubtedly contributes pollutants to the dischargers' municipal separate storm sewer system, for a number of reasons we decline to comply with the petitioners' requests.

First, while the permit was issued prior to promulgation of EPA's storm water regulations, the Regional Board proceeded in a manner consistent with those regulations in issuing the permit to municipalities with control over the municipal separate sewer system. Permits for municipal systems are to name only those municipal entities. Industrial discharges (and other discharges which contain other than storm water) are to be regulated both through the permits issued to the municipalities and through separate permits issued to industrial facilities.[73] Thus, it was not improper for the Regional Board to fail to name transportation authorities as dischargers.

Regarding the specified transportation measures requested by the petitioners, we find that the Regional Board's approach of requiring the municipalities to prepare a plan with proposed control measures for approval by the Regional Board preferable to specifying all such measures in the permit.[74] The permit does specifically require the dischargers to implement control measures focussing on transportation-related runoff.[75]

73 In Finding 5, the permit states the Regional Board's intent to issue separate NPDES permits to state or federal agencies including the California Department of Transportation.

74 We note that this approach is consistent with EPA's regulations, even though the procedure differs. The regulations require submission of a plan containing control measures as part of the application process. The final permit envisioned in the permit will presumably contain the specified control measures. In contrast, the instant permit was issued long before permits will be issued to large municipal dischargers under EPA's regulations, but development of the control program is a part of the permit's provisions. The result in both cases will be that a mandatory control program will be developed after review of the municipality's proposal. The final program will be developed at an earlier date under the instant permit than under EPA's regulations.

75 See Provision C.9. of the permit.

I. Time Schedule for Compliance

The petitioners contend that the permit violates the Clean Water Act by not requiring timely compliance with water quality standards. Both Clean Water Act Sections 304(l) and 402(p) require compliance with permit conditions within three years of issuance of the permit. We find that the permit contains provisions requiring such compliance.

Clean Water Act Section 304(l)(1)(D) provides that an ICS must "produce a reduction in the discharges of toxic pollutants from point sources identified," in order "to achieve the applicable water quality standard as soon as possible, but not later than 3 years after the date of the establishment of such strategy." EPA has interpreted this provision to mean "that Congress recognized that permittees will need a reasonable amount of time, not to exceed three years, to comply with new effluent limits that are necessary to achieve new water quality standards, or re-interpretations of existing water quality standards."[76]

Similarly, Clean Water Act Section 402(p)(4) requires compliance with all permit conditions by large and medium municipal storm water dischargers no later than three years from the date of issuance. EPA has interpreted this provision similarly to its interpretation of Section 304(l)(1)(D), as applying to all permit conditions, including the requirement of water quality-based effluent limitations.[77]

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76 *54 Federal Register 23889 (June 2, 1989).*

77 *General Counsel Memorandum.*

In reviewing the permit, we find that its provisions do require compliance with water quality standards and that all practices necessary to achieve such compliance must be in place within three years of adoption of the permit. Therefore, the permit complies with the time schedule requirements of the Clean Water Act. We note further that the permit specifically provides that it may be reopened for the inclusion of more stringent effluent limitations, including numeric effluent limitations if necessary. If it appears within the three-year period after issuance that new permit limitations are required, the Regional Board may proceed under the reopener provisions.[78]

III. CONCLUSIONS

After review of the record and consideration of the contentions of the petitioners, and for the reasons discussed above, we conclude:

1. Impacts of storm water discharges on South San Francisco Bay are complicated and, at this time, it would be infeasible to establish numeric effluent limitations on discharges to storm drains in the Santa Clara Valley which are validly associated with impacts on the South Bay.

2. Pollutants associated with these storm water discharges alone do not substantially impair or threaten the beneficial uses of South San Francisco Bay.

3. The permit adopted by the Regional Board requires implementation of specific source control measures and contains

[78] *See Permit, Finding 17 and Provision 12.*

general prohibitions against discharge of non-storm water and violation of water quality standards.

4. The provisions in the Clean Water Act regulating municipal storm water discharges require effluent limitations and achievement of water quality standards, but the limitations may consist of source control measures, rather than numeric effluent limitations.

5. The provisions in the Clean Water Act concerning impaired water bodies also allow the inclusion of source control measures rather than numeric effluent limitations in permits for point sources.

6. It is appropriate and proper to issue a permit regulating municipal separate storm sewer systems which requires specific practices, rather than containing numeric effluent limitations.

7. The specific transportation control measures requested by petitioners should be considered by the Regional Board when approval of the dischargers' control plan is sought, rather than by this Board.

8. The permit complies with the time schedule requirements of the Clean Water Act.

IV. ORDER

IT IS ORDERED that the petition is denied.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 16, 1991.

AYE: W. Don Maughan
Edwin H. Finster
Eliseo M. Samaniego
John Caffrey

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché
Administrative Assistant to the Board

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VOL 23

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of NATURAL RESOURCES DEFENSE COUNCIL, INC. For Review of Waste Discharge Requirements Order No. 90-079 of the California Regional Water Quality Control Board, Los Angeles Region for Los Angeles County and Co-Permittees. NPDES Permit No. CA0061654. Our File No. A-693.	ORDER NO. WQ 91-04

BY THE BOARD:

On July 18, 1990, the State Water Resources Control Board (State Board) received a petition from Natural Resources Defense Council, Inc. (petitioner), seeking review of waste discharge requirements which the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) adopted in Order No. 90-079, regulating discharges of storm water from municipal separate storm sewers throughout Los Angeles County.

Many of the issues raised by the petitioner are discussed in great detail in Order No. WQ 91-03, which we are also issuing today, and which concerns a permit issued by the Regional Water Quality Control Board, San Francisco Bay Region (San Francisco Bay Regional Board) regulating discharges of storm water from municipalities in the Santa Clara Valley. Given the similarity of these issues, we will discuss most of the

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petitioner's contentions in only a summary manner, and will refer to our determinations in Order No. WQ 91-03.[1] In adopting that Order, we did consider the petitioner's arguments, and also those of the Regional Board, the dischargers, and interested persons.

I. BACKGROUND

As we discussed in Order No. WQ 91-03, over the last twenty years, the Environmental Protection Agency (EPA), has developed a program to regulate discharges of storm water and urban runoff through the National Pollutant Discharge Elimination System (NPDES) of permits. The requirements for this program are contained in Clean Water Act Section 402(p). In this case, as in the case of the San Francisco Bay Regional Board, the Regional Board adopted its permit regulating discharges from municipal separate storm sewer systems prior to EPA's promulgation of regulations implementing Section 402(p).

As did the San Francisco Bay Regional Board, the Los Angeles Regional Board also proceeded to take earlier steps to study and control storm water discharges while EPA's program development was delayed. In 1975, the Regional Board adopted its Water Quality Control Plan (Basin Plan).[2] The Basin Plan characterized constituents commonly found in runoff and roughly estimated runoff wasteloads through the Los Angeles River and

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1 A major portion of our other Order involved discussion of Clean Water Act Section 304(l). That section does not apply here. However, the discussion concerning the regulations which EPA adopted to implement Section 304(l), i.e. 40 CFR Section 122.44(d), is also relevant to this matter.

2 Water Quality Plan Report, Santa Clara River Basin (4A) and Los Angeles River Basin (4B) (March 1975). The Basin Plan was approved by the State Board in Resolution No. 75-21.

Santa Clara River sub-basins.[3] The Basin Plan also compared local runoff data with the results of several investigations conducted elsewhere in the nation.

The Basin Plan identified beneficial uses of the surface waters within the region, established water quality objectives to protect and enhance these uses, and described a detailed "Implementation Plan" to achieve those objectives. The beneficial uses of the surfaces waters typically include ground water recharge (replenishment), contact and non-contact recreation and wildlife habitat.[4] A few creeks also support warm and cold water habitat, fish migration and fish spawning uses. Some reservoirs also provide municipal, industrial supply and industrial process water uses.[5] Rare and endangered habitat and agricultural supply were identified as existing beneficial uses of several surface waters also.[6] The Basin Plan listed marine habitat, contact and non-contact recreation, commercial and sport fishing, navigation, and shellfish harvesting as the beneficial uses of the Pacific Ocean.

The Basin Plan also established water quality objectives. First, it referred to several state policies for water quality control and statewide plans. These include the "Water Quality Control Policy for the Enclosed Bays and Estuaries

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3 *The 1975 Basin Plan divided its region into two sub-basins: the Santa Clara River Basin ("4A") and the Los Angeles River Basin ("4B").*

4 *1975 Basin Plan, Table 2-3.*

5 *Id.*

6 *Id.*

of California"[7] and the "Water Quality Control Plan for Ocean Waters of California".[8] The Basin Plan stated that the Ocean Plan and the Bays and Estuaries Policies established effluent quality requirements for certain discharges. "Land runoff", however, was specifically excluded from the effluent requirements.[9]

The receiving water quality objectives set forth in the Basin Plan included several general requirements and narrative objectives. For inland surface waters, enclosed bays, and estuaries in the Los Angeles River sub-basin, narrative receiving water quality objectives were specified for tastes and odors, floating material, suspended material, settleable material, oil and grease, sediment, turbidity, bacteria, and several other pollutants.[10] The narrative toxicity objective required that all waters be maintained free of "toxic substances in concentrations that are toxic to, or produce detrimental physiological responses in human, plant, animal, or aquatic life."[11] The Basin Plan

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7 The "Bays and Estuaries Policy", as this document is know, was adopted on May 16, 1974.

8 The State Board first adopted this plan, commonly known as the "Ocean Plan", on July 6, 1972. The State Board approved amendments to the Ocean Plan on March 22, 1990 by Resolution No. 90-27.

9 The 1975 Basin Plan states:

> *"This policy does not apply to wastes from vessels or land runoff except as specifically indicated for siltation and combined sewer flows." See page I-4-5.*

10 1975 Basin Plan, pages I-4-6 through I-4-8.

11 Ibid., at page I-4-8.

further specified "limiting concentrations" for inorganic chemical constituents (primarily heavy metals) in waters used as domestic and municipal supply.[12] It also prescribed "mean mineral quality objectives" for the Los Angeles River, the San Gabriel River and their "tributaries".[13]

The Basin Plan also contained an "Implementation Plan" to reduce wasteloads from various pollutant sources and their effects on the basin's waters. For urban runoff and storm water discharges, the Basin Plan indicated that the pollutants found in runoff discharges varied considerably and exhibited a seasonal nature. More specifically, the Plan stated that the "bulk of these mass emissions is normally experienced in only a few days of wet weather during the rainy season."[14] Although certain beneficial uses, such as groundwater recharge and recreational uses, may be temporarily impaired during storm flow conditions, the Basin Plan noted few traditional "end-of-pipe" controls existed for runoff flows. It explained:

> "...there is little, if anything, that can be done to mitigate the effects of such runoff except for improved air pollution control practices, improved urban housekeeping, and improved environmental levels of performance for automotive equipment."[15]

12 Ibid., at page I-4-9.

13 Ibid., at Table 4-1 and pages I-4-11 and I-4-12.

14 1975 Basin Plan, "Impact of Runoff Waste Loads", page II-15-94.

15 Id.

Although much runoff data was included in the Basin Plan, limited information about the significance or effects of runoff discharges on receiving water quality existed.

The Basin Plan specified requirements and controls for "traditional" point sources,[16] but storm water discharges were not covered, based on the difficulty of their regulation:

> "...no practical and economical means has yet been developed for containment and treatment of urban runoff wastes for reduction of pollutants prior to downstream release, nor are standards for such measures presently in existence or contemplated for the foreseeable future, at least on a widespread basis....There are presently no generally applicable effluent limits nor water pollution control facilities in connection with urban runoff that appear practical or economical. The emphasis for water quality control from this standpoint should be public education, public cooperation in improved (outdoor) housekeeping, and continued search of solutions to the air pollution problems."[17] (Emphasis added)

The Regional Board has not amended the portions of its Basin Plan relating to storm water and urban runoff since 1975. Therefore, we conclude that the Basin Plan does not address controls on such discharges, except for the few practices listed above. Clearly, the effluent limitations listed for other point sources are not meant to apply. In addition, there are no

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16 As was explained in Order No. WQ 91-03, throughout the years many documents have treated storm water discharge as a nonpoint source, even though it is legally a point source. This has led to some confusion in terminology. However, it is often obvious from statements in the document that decision makers have sought to exclude storm water from requirements otherwise applicable to point sources.

17 Ibid., at pages I-5-87 and I-5-88.

numeric water quality standards which have yet been developed.[18] On April 11, 1991, the State Board adopted the Water Quality Control Plan for Inland Surface Waters (Inland Plan) which is applicable here. The Inland Plan establishes numeric water quality objectives but allows dischargers of storm water a maximum of ten years to achieve compliance.

As was discussed in Order No. WQ 91-03, in 1987 the federal Clean Water Act was amended[19] to add provisions specifically requiring a regulatory program for storm water discharges. Section 402 of the Clean Water Act was amended to add subsection 402(p), which establishes NPDES permit application requirements for municipal storm water discharges and for storm water discharges associated with industrial activities.[20]

Section 402(p) includes the following requirements for municipal discharges of storm water:

> "Permits for discharges from municipal storm sewers--(i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." (Emphasis added.)

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18 The petitioner contends that numerical objectives contained in the Ocean Plan apply to discharges of storm water. We shall discuss that contention infra.

19 The amendments are entitled, Water Quality Act of 1987, Public Law 100-4 (February 4, 1987).

20 Section 405(p) of the Water Quality Act of 1987.

The Water Quality Act of 1987 also added Section 320 to the Clean Water Act. This amendment created the National Estuaries Program, an effort to develop and implement comprehensive conservation and management plans for estuaries of national importance. In December 1987, a federal appropriations act formally included Santa Monica Bay in EPA's National Estuaries Program.[21] The State of California then organized the Santa Monica Bay Restoration Project to coordinate local, state, and federal activities to develop the required plan which would improve the condition of Santa Monica Bay. The nomination document for this project indicated that urban runoff and storm water discharges may contain heavy metals, organic constituents, pathogens, and other pollutants that threaten or may impair the beneficial uses of Santa Monica Bay.[22] As a part of this project, the Los Angeles Regional Board--and the numerous local and regional governments and environmental interest groups that also participate in the project--began a more thorough investigation of runoff discharges to Santa Monica Bay. Because existing runoff data was incomplete or inconsistent, the Santa Monica Bay Restoration Project initiated detailed monitoring studies to identify pollutants in runoff flow, especially pathogens, and to assess their effects on the bay. This monitoring work is now in progress.

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21 *National Estuary Program, The Nomination of Santa Monica Bay, Environmental Affairs Agency, May 1988.*

22 *Ibid., see "Executive Summary", page viii, and "Storm Drains and Runoff", page 41.*

The permit which we are reviewing here was the result of a cooperative effort of the "Storm Water Permit Work Group," which was established to fulfill part of the objectives of the Santa Monica Bay Restoration Project. The Work Group assisted in drafting the permit.

In order to implement the Basin Plan, the provisions of state law regarding adoption of waste discharge requirements,[23] and the Clean Water Act provisions regarding storm water permits, the Regional Board issued a draft NPDES permit to regulate urban runoff and storm water discharged throughout Los Angeles County. The revised draft permit designated the County of Los Angeles as the "Principal Permittee" and 16 cities as "Co-permittees" (the dischargers). A workshop was held by the Regional Board on April 23, 1990, and a public hearing was held on June 18, 1990, and on the latter date the Regional Board adopted the NPDES permit (NPDES permit CA-0061654; Regional Board Order No. 90-079). Subsequently, the petitioner filed a timely petition for review of the NPDES permit.

II. CONTENTIONS AND FINDINGS

The petition raises a number of contentions which all address whether the permit must include numeric, water quality-based effluent limitations. The petitioner argues that the Clean Water Act requires permits regulating municipal discharges of storm water to prescribe numeric effluent limitations for toxic pollutants. The petitioner also contends that the permit does

23 *California Water Code Section 13000 et seq.*

not require controls which reduce pollutants to the "maximum extent practicable". Finally, the petitioner argues that the permit does not comply with the three-year time schedule required in Clean Water Act Section 402(p).

A. The Need for Numeric Effluent Limitations

The petitioners' arguments are based on the premise that the dischargers' municipal separate storm sewer system discharges pollutants to Santa Monica Bay, and that these discharges violate numeric water quality standards in the bay. The numeric standards which the petitioner relies upon are found in the Ocean Plan. As we shall explain, the petitioner's broad assertions vastly oversimplify the complex nature of the dischargers' flood control and drainage facilities, imply that the storm sewer system discharges only into Santa Monica Bay, and misconstrue ambient water quality criteria, receiving water quality standards and effluent limitations.

The County of Los Angeles, Department of Public Works' municipal separate storm sewer system serves a geographic area greater than 4,000 square miles[24] and includes more than 87 overlapping local governmental jurisdictions. This system, a vast network of catchments, street gutters, conduits, pipes, and channels that were designed for drainage and flood control purposes, collects urban runoff flows and storm water flows from throughout Los Angeles County. The County's Department of Public Works and 87 cities own, operate, or maintain this enormous

24 *See Regional Board's Response to Petition, page 10.*

municipal separate storm sewer system. More than 5,000 outfalls or "point sources" discharge these runoff flows into both constructed works and the natural streams, rivers, and other surface water bodies that comprise the Los Angeles River hydrologic unit.

As we discussed in Order No. WQ 91-03, the specific location at which the storm water outfall intersects receiving waters is where the "point source" discharge occurs. While the precise location of each of the several thousand outfalls in Los Angeles County is understandably omitted from the record, the substantial majority of these outfalls discharge urban runoff and storm water flows to surface waters--such as Ballona Creek, Coyote Creek, and San Antonia Creek, the Los Angeles River and the San Gabriel River, Rio Hondo, and other water bodies--throughout the hydrologic basin.[25]

Obviously, not all of the dischargers' 5,000 municipal separate storm sewer system outfalls actually discharge directly to Santa Monica Bay. Although the numerous natural water courses which receive storm water generally are ultimately tributary to Santa Monica Bay, they are the receiving waters. As such, these natural water courses cannot be considered elements of the dischargers' municipal separate storm sewer system. In fact, many of these surface waters are clearly identified in the Los Angeles Regional Board's Basin Plan.

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25 The nomination document for the Santa Monica Bay Restoration Project stated that "over 60 storm drains" empty into the Bay.

In the Los Angeles Basin, the storm sewer outfalls generally discharge to the water courses upstream from Santa Monica Bay. Both Santa Monica Bay and the water courses which receive the storm water discharges have beneficial uses. However, the uses of the streams, creeks, reservoirs and rivers in the Los Angeles River Basin are not the same as the uses of Santa Monica Bay. The upstream waters support fresh water uses, while Santa Monica Bay sustains marine water uses.

As was described above, while the Basin Plan does include narrative water quality objectives for the upstream surface waters, the Regional Board has not yet developed numeric objectives for all of the pollutants the petitioner enumerates. Although the Inland Plan does contain numeric objectives, up to ten years is allowed for compliance. The Ocean Plan also includes numeric standards, but these do not apply to discharges of storm water.

The Ocean Plan states that all parts are applicable to point source discharges to the ocean. Narrative water quality objectives and toxic materials limitations (Table B) do apply to nonpoint sources, but compliance is determined by direct measurement in receiving waters. The petitioner requests that the storm water discharges be subject to Table B, and also to Table A (which is meant only to apply to publicly-owned treatment works).

While on its face, Table B may appear to apply to storm water discharges, it is clear from reading the Functional

Equivalent Document,[26] which was adopted by the State Board at the same time as the Ocean Plan, that neither Table A nor Table B are meant to apply to storm water discharges:

> "The attainability analysis did not include stormwater discharges because there are few data available on pollutant concentrations in stormdrains. EPA's proposed regulations for stormwater discharges do not use water quality-based effluent limits for stormdrains.[27] Instead, an approach based on Best Management Practices is proposed, following an initial period of characterization.
>
> "We do not propose to apply water quality-based effluent limits such as Table B to stormdrains at this time. Technology-based standards will not be based on Table A, but on Best Management Practices. Since the Table B objectives represent levels of pollutants that are protective of beneficial uses they may be applied to stormdrains at some future date. We do not anticipate that this would occur until adequate characterization data are available so that attainability can be assessed and implementation measures established."

Following the above statement, the Functional Equivalent Document states that the Plan explains how to apply Table B objectives to nonpoint sources. From this statement, it is clear that in drafting the Ocean Plan the State Board was viewing storm water discharges as nonpoint sources. This characterization is understandable. Storm water discharges,

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26 Functional Equivalent Document, Amendment of the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (March 1990), at pages 33 and 34.

27 It appears that the reference here was to numeric water quality-based limitations, since such limitations are required in Table B. As we explained in Order No. WQ 91-03, water quality-based limitations need not always be numeric.

while ultimately flowing through a point source to receiving waters, are by nature more akin to nonpoint sources as they flow from diffuse sources over land surfaces. This point is discussed in the Preamble to EPA's storm water regulations:

> "For the purpose of [national assessments of water quality], urban runoff was considered to be a diffuse source or nonpoint source pollution. From a legal standpoint, however, most urban runoff is discharged through conveyances such as separate storm sewers or other conveyances which are point sources under the [Clean Water Act]." 55 Federal Register 47991.

We therefore conclude that the petitioner has misinterpreted appropriate criteria and the applicability of Ocean Plan provisions to storm water. There are no numeric objectives or numeric effluent limits required at this time, either in the Basin Plan or in any statewide plan that apply to storm water discharges. This absence, however, will not in any way diminish the permit's enforceability or its ability to reduce pollutants in storm water discharges substantially. While numeric objectives are contained in the Inland Plan, these need not be achieved for up to ten years. In addition, the Plan endorses the application of "best management practices" rather than numeric limitations as a means of reducing the level of pollutants in storm water discharges.

The permit which the Regional Board adopted is very similar to that reviewed in Order No. WQ 91-03. The NPDES permit employs a two-fold strategy: It effectively prohibits non-storm

water discharges and illicit connections; and, it requires a comprehensive series of regulatory, governmental, and educational control measures.

As in the case of the permit issued by the San Francisco Bay Regional Board, the method by which the specific control activities will be implemented is that the dischargers must submit an Implementation Plan for approval by the Regional Board's Executive Officer, and then must implement the Plan. Thus, the permit lists some, but certainly not all of the management practices which will be undertaken. The remaining specific practices will be developed over a two-year period starting with adoption of the NPDES permit. In addition, the "co-participant" cities, which have not yet been added to the permit, are also being required to select appropriate control measures.

Although the permit does not make specific reference to violation of water quality standards, the permit will be read so as to require the implementation of practices which will achieve compliance with applicable standards. Such a requirement is implicit in the issuance of an NPDES permit, since that is a minimum requirement of a permit, as we discussed in Order No. WQ 91-03. The requirement is also a part of the California Water Code. Water Code Section 13263. The permit does provide that the Regional Board may, in the future adopt numeric water quality objectives and limitations.[28]

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28 Permit, Finding 19.

We concluded in Order No. WQ 91-03 that permits for municipal separate storm sewer systems issued pursuant to Clean Water Act Section 402(p) must contain effluent limitations based on water quality standards. In addition, the applicable water quality standards are those established for the receiving waters of the storm water discharges. We further concluded there that even if such effluent limitations are intended to require compliance with water quality standards, "best management practices" constitute legally acceptable effluent limitations. We find here, as we did in Order No. WQ 91-03, that the permit includes a comprehensive and stringent program for reducing pollutants in storm water discharge, and that it will implement the Basin Plan, including the protection of beneficial uses.

We note that the dischargers argued in their response that the fact that the permit was derived from a cooperative effort, prior to the promulgation of regulations by EPA, had relevance to its enforceability. While we are certainly pleased that the dischargers and the Regional Board have been able to work together in a cooperative and positive manner, the permit which was adopted is a lawfully adopted NPDES permit, and is fully enforceable as such. The fact that it was adopted prior to the deadline for adoption of such permits, and prior to promulgation of the regulations, has no relevance to its enforceability. The prohibitions and practices contained in the

permit must be obeyed, and those prohibitions and practices must result in compliance with any applicable water quality standards.

Just as in our review of the San Francisco Bay Regional Board's permit, we have reviewed the appropriateness and propriety of this permit. We find here also that the approach of the Regional Board, requiring the dischargers to implement a program of best management practices which will reduce pollutants in runoff, and prohibiting non-storm water discharges, is appropriate and proper. We base our conclusion on the difficulty of establishing numeric effluent limitations which have a rational basis, the lack of technology available to treat storm water discharges at the end of the pipe, the huge expense such treatment would entail, and the level of pollutant reduction which we anticipate from the Regional Board's regulatory program. We feel compelled to note here our agreement with the Regional Board that this permit does truly represent a massive undertaking. No other permit in the State, and perhaps in the nation, will control the number of outfalls in a metropolitan area as this permit undertakes to regulate.

B. The Maximum Extent Practicable Standard

The petitioners contend that the permit must include specified management practices in order to comply with the requirement in Clean Water Act Section 402(p) of reducing pollutants in municipal separate storm sewer discharges to the maximum extent practicable (MEP). The petitioner states that MEP means, "what can be done now, must be done now." As we stated in

Order No. WQ 91-03, however, we find that the Regional Board's approach of requiring the dischargers to prepare a plan with proposed control measures for approval by the Regional Board is preferable to specifying all such measures in the permit. The petitioner gives as an example a requirement for catch basin cleaning, which it claims would reduce pollutants. However, an effective and cost-effective storm water program requires an analysis of the specific area subject to regulation, and should not involve a simple listing of practices that all municipalities must follow. As EPA stated in its Preamble to the draft storm water regulations:

> "A wide variety of control measures to reduce the discharge of pollutants from municipal storm sewer systems are currently available. The performance of appropriate control measures is highly dependent on site-specific factors. It is therefore not practicable to define one standard set of controls which will control all pollutants in all municipalities." 53 Federal Register 49456[29]

We also note that, while we share the petitioner's goal of rapid achievement of an effective practices program, the Clean Water Act does not require implementation of all measures now, but rather has set forth a three-year time schedule for compliance. We shall discuss this point further in the next section.

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29 This point was also made in the preamble to EPA's final regulations. 55 Fed. Reg. 48038. There a reference to the legislative history of Clean Water Act Section 402(p) makes clear that Congress' intent was not to dictate specific practices.

C. Time Schedule for Compliance

The petitioner contends that the permit violates the Clean Water Act by not requiring timely compliance with water quality standards. We addressed this point in Order No. WQ 91-03. Here, also, we find that the permit contains provisions requiring such compliance.

The permit includes a very aggressive and comprehensive program of developing and implementing best management practices over a three-year period. The permit does require a program aimed at compliance with applicable water quality standards and all practices necessary to achieve such compliance must be in place within three years of adoption of the permit. Therefore, the permit complies with the time schedule requirements of the Clean Water Act. The permit also specifically provides that the Regional Board may include more stringent effluent limitations, including numeric effluent limitations if necessary.

III. CONCLUSIONS

After review of the record and consideration of the contentions of the petitioners, and for the reasons discussed above, and in Order No. WQ 91-03, we conclude:

1. Impacts of storm water discharges on receiving waters and Santa Monica Bay are complicated, and at this time, it would be infeasible to establish numeric effluent limitations on

discharges to storm drains in the Los Angeles River Basin, which are validly associated with impacts in Santa Monica Bay.

2. The permit adopted by the Regional Board requires implementation of specific source control measures and effectively prohibits discharges of non-storm water and violation of water quality standards.

3. The provisions in the Clean Water Act regulating municipal storm water discharges require effluent limitations and achievement of water quality standards, but the limitations may consist of source control measures, rather than numeric effluent limitations.

4. It is appropriate and proper to issue a permit regulating municipal separate storm sewer systems which requires specific practices, rather than containing numeric effluent limitations.

5. The specific control measures requested by the petitioner should be considered by the Regional Board when approval of the dischargers' control plan is sought, rather than by this Board.

6. The permit complies with the time schedule requirements of the Clean Water Act.

IV. ORDER

IT IS ORDERED that the petition is denied.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 16, 1991.

AYE: W. Don Maughan
Edwin H. Finster
Eliseo M. Samaniego
John Caffrey

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché
Administrative Assistant to the Board

United States
Environmental Protection
Agency

Office of Water
Washington, DC 20460

EPA 841-R-92-001
June 1992

EPA ENVIRONMENTAL IMPACTS OF STORMWATER DISCHARGES

A National Profile

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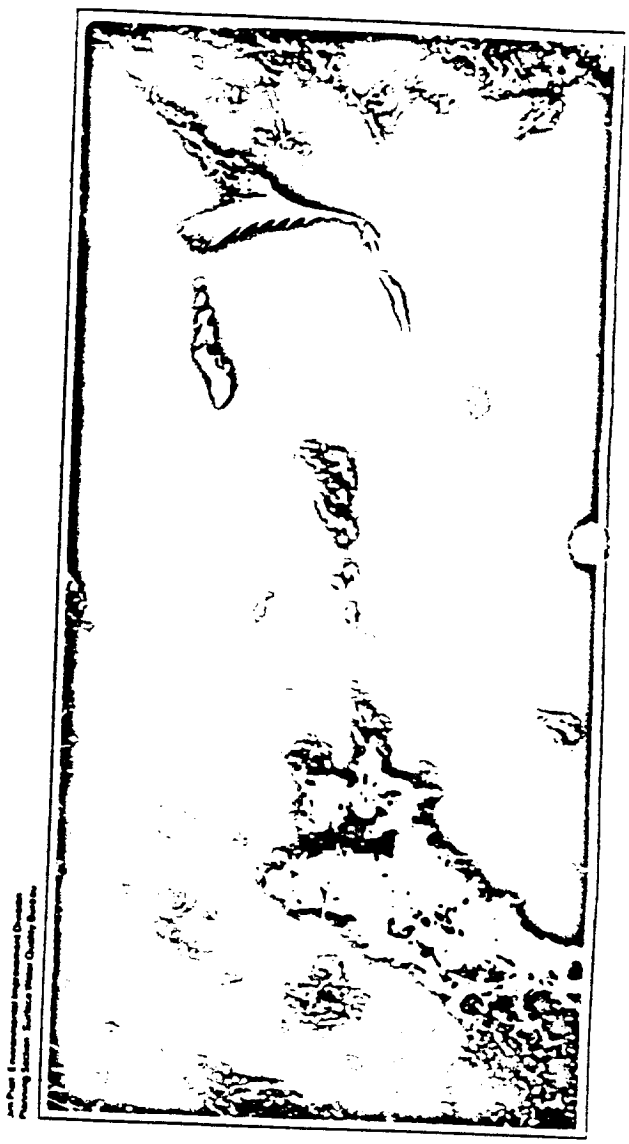


ENVIRONMENTAL IMPACTS OF STORMWATER DISCHARGES

Introduction

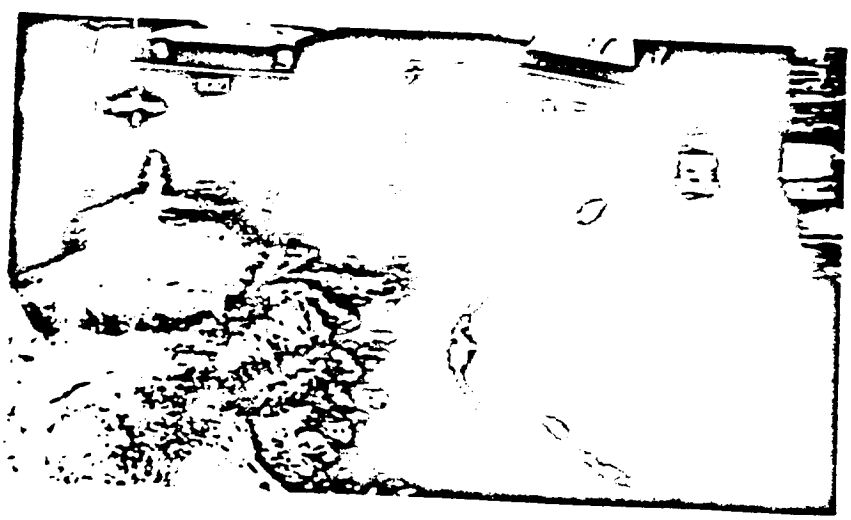
What constitutes stormwater discharges? What pollutants are associated with stormwater and why? In comparison to other pollution sources, how does stormwater affect the Nation's rivers, lakes, and estuaries? What sources of stormwater pollution are not currently regulated under the NPDES program and what are their impacts? What have we learned in our efforts to control and manage sources of stormwater pollution?

These questions and others face al, state, and federal water qual- managers as they struggle to implement cost effective control strategies which target stormwater and other pollutant discharges in areas where the greatest risks to water quality impairment exist. This booklet was prepared based on the best available current information, to assist managers in answering the above questions. It is intended as a capsule summary of national level information on water quality drawn from various EPA program reports (i.e., the Section 305(b) National Water Quality Inventory, the Section 319 Nonpoint Source Program, and the Nationwide Urban Runoff Program – NURP), as well as from more site-specific information and data generated by local agencies and researchers over the last decade.

The remainder of this booklet is in three parts. In the first part, we define the general nature of and impacts from stormwater discharges and compare, on a national scale, stormwater pollution to other point and nonpoint pollution sources. A differentiation is made between stormwater discharges that are currently regulated versus not regulated under the NPDES program. A discussion of the relationship between land use/land disturbance and the magnitude of stormwater pollution is provided.

In the second part we examine in more detail, the pollutant characteristics and impacts of stormwater runoff. This is presented by a series of site specific examples where environmental impacts caused by various types of stormwater sources have been observed and documented.

In the third and last part, we examine lessons learned from recently implemented stormwater control strategies which have shown promise in effectively minimizing impacts in areas of greatest risk.



STORMWATER POLLUTION - A NATIONAL CONCERN

Defining the Problem

As human activities alter the watershed landscape, adverse impacts to receiving waters may result from changes in the quantity and quality of stormwater runoff. Rain (and snow) falling onto the surface of unmanaged urbanizing watersheds results in a predictable increase in the quantity of runoff (and snowmelt) volume flowing to receiving waters. If left unmanaged, the hydraulic impacts (e.g., flooding, erosion, channelization) associated with the increased water volumes may be several orders of magnitude higher than that of the undisturbed watershed. In addition to causing runoff volume impacts, stormwater can also be a major nonpoint pollution source in many watersheds, which is the focus of the remainder of this booklet.

Table 1. Examples of Pollutant Characteristics Found in Stormwater Runoff from Various Land Uses in the Great Lakes Region[a]

Land Use	Suspended Sediment (kg/ha-yr)	Total Nitrogen (kg/ha-yr)	Total Phosphorus (kg/ha-yr)	Lead (kg/ha-yr)
General Agriculture	5-8000	0.8-75	0.1-9	0.003-0.09
Cropland	30-7500	6-60	0.3-7	0.006-0.007
Improved Pasture	50-90	5-15	0.1-0.6	0.005-0.02
Forested/Wooded	2-900	1-8	0.03-0.7	0.01-0.05
Idle/perennial	9-900	0.6-7	0.03-0.7	0.01-0.05
General Urban	300-2500	8-10	0.5-4	0.2-0.6
Residential	900-4000	6-9	0.6-1	0.08[b]
Commercial	75-1000	3-12	0.09-0.9	0.3-1.0
Industrial	750-2000	3-13	0.9-8	[c]
Developing Urban	>10,000[b]	90[b]	>10[b]	3.0-7.0

[a] *Source: Novotny and Chesters, 1981*
[b] *Only one value reported.*
[c] *Not assumed.*

There are six primary nonpoint source activities associated with stormwater runoff pollution. They are (in no particular order):

- Agriculture,
- Silviculture,
- Mining,
- Construction,
- Urban activities, (including storm sewers, industrial and commercial operations, urban growth, land disposal[a], and hydromodification[a]), and
- Atmospheric deposition.

The first five are the traditional nonpoint sources; the sixth, atmospheric deposition, has also been recognized as a major contributor of nitrogen, sulfates, and trace metals to stormwater runoff in highly urbanized areas (Halverson, et al., 1984).

The types and amounts of pollutants carried by stormwater runoff, commonly resulting in nonpoint source pollution of receiving waters, are highly variable (USEPA, 1983a). The pollutant characteristics of stormwater runoff are largely based on land use characteristics (as illustrated in Table 1) and vary with the duration and the intensity of rainfall events (Metropolitan Washington Council of Governments, 1980). Table 1 illustrates the high variability of pollutant loads associated with stormwater runoff. For example, Table 1 shows loads of suspended sediment vary considerably within a land use and among land uses. Pollutant characteristics from stormwater runoff also vary regionally.

Recent regulatory efforts have focused almost exclusively on point sources (e.g., municipal and industrial wastewater discharges). In the early 1970s, however, it was recognized that nonpoint sources, including pollutants originating from agri-

[a] *An undefined portion of land disposal and hydromodification activities occurs in rural areas.*

Table 2(a). Degree of Designated Use Support in the Nation's Assessed Waters[a]

	River Miles	Lake Acres*	Estuary Square Miles
Do not Support Uses	9.5% (62,218)	21% (3,940,277)	8% (2,064)
Partially Support Uses	21% (134,472)	19% (3,471,633)	25% (6,573)
Threatened	6.5% (43,214)	16% (2,902,808)	11% (3,052)
Fully Support Uses	63% (407,162)	44% (8,173,817)	56% (15,004)
Assessed	647,066	18,488,636	26,693
Total in U.S.**	1,800,000	39,400,000	35,624

*Not including Great Lakes

**Total waters based on State-reported information in America's Clean Water: The States' Nonpoint Source Assessment, ASIWPCA, 1985. Total U.S. estuarine square miles based on 1990 State reported 305(b) data and excludes Alaska, New Jersey, Pennsylvania, and Island Territories.

[a]*Source: National Water Quality Inventory: 1990 Report to Congress*

culture, mining, and land disposal activities, as well as stormwater and diffuse urban sources such as construction sites, impervious surfaces, and unsewered residential areas, were contributing significantly to the impairment of the Nation's surface and groundwaters.

A National Ranking

Based in part on national assessments conducted by the U.S. Environmental Protection Agency (EPA) it is now recognized that nonpoint sources and certain diffuse point sources[a] (e.g., stormwater discharges) are responsible for between one-third to two-thirds of existing and threatened impairments of the Nation's waters (USEPA, 1991a). Under Sections 305(b) and 319(a) of the Clean Water Act, states report to the EPA on the quality of their rivers, streams, lakes, estuaries, coastal waters, wetlands, and groundwater. EPA, in turn, prepares summary reports to Congress called the National Water Quality Inventory [for 305(b)], and Managing Nonpoint Source Pollution [for 319(a)]. These reports contain national statistics on the degree of impairment of assessed waters [see Table 2(a)]. Impairment is measured according to the level at which the designated uses of the waterbody are attained or supported [see Table 2(b)]. For example, as shown in Table 2(a), of the waters assessed by the States under 305(b) (approximately one-third of

Table 2(b). Designated uses and support levels

Wildlife	Fish & wildlife
Fishery	Warm water fishery Cold water fishery
Shellfishery	Shellfish protection
Drinking	Domestic water supply
Agriculture	Agriculture Irrigation Livestock watering
Industry	Industrial
Recreation	Recreation Primary contact Secondary contact Noncontact
Navigation	Navigation
High Quality	High Quality/ Nondegradation
Supported	= all uses supported
Partial Support	= one use *not* supported
Non-support	= 2 or more uses not supported
Threatened	= all uses supported but one or more uses threatened

Pollution Source Categories Considered
(legend to Figure 1)

	305(b)	319
Agriculture	✓	✓
Silviculture	✓	✓
Mining	✓	✓
Construction	✓	✓
Urban Runoff[a]	✓	✓
Combined Sewers	✓	
Land Disposal	✓	
Hydromodification	✓	✓
Municipal Pt.Source	✓	✓
Industrial Pt.Source	✓	
Other[b]		✓
Unknown		✓

[a]*Urban runoff includes sewered and unsewered urban areas including industrial and commercial; under 319 also includes combined sewers.*

[b]*Other includes atmospheric deposition, storage/tank leaks, highway runoff, spills, in-place, natural, recreational and urban growth.*

Pollutant Categories Considered
(legend to Figure 1)

	305(b)	319
unknown toxicity		✓
pesticides	✓	✓
priority organics		✓
nonpriority organics		✓
metals	✓	✓
ammonia		✓
chlorine		✓
other inorganics		✓
nutrients	✓	✓
pH	✓	✓
siltation	✓	✓
organic enrichment/DO	✓	✓
salinity	✓	✓
thermal modification	✓	✓
flow alteration	✓	✓
other habitat alterations	✓	✓
pathogens	✓	✓
radiation		✓
oil and grease		✓
not reported		✓
suspended solids	✓	

[a]*In this report, point sources are pollutant loads discharged at a specific location from pipes, outfalls, and conveyance channels (ditches, grass swales) from either municipal/industrial wastewater treatment facilities or from urban, suburban, or industrial/commercial ...*

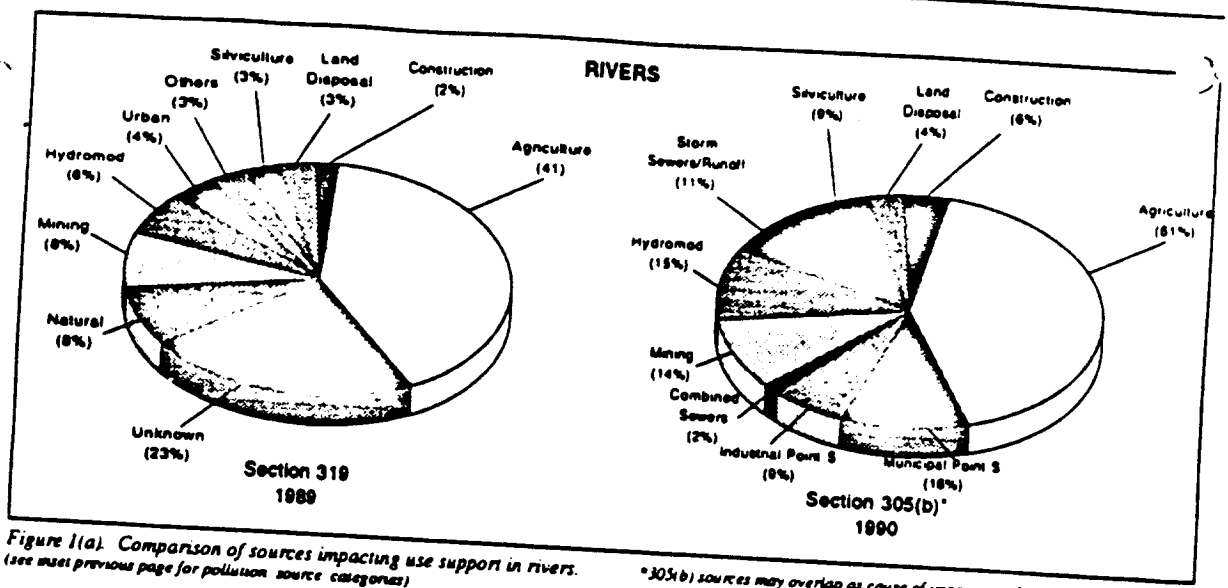


Figure 1(a). Comparison of sources impacting use support in rivers. (see inset previous page for pollution source categories)

*305(b) sources may overlap as cause of impairment for a given waterbody, accounting for total pie percentage of 147%.

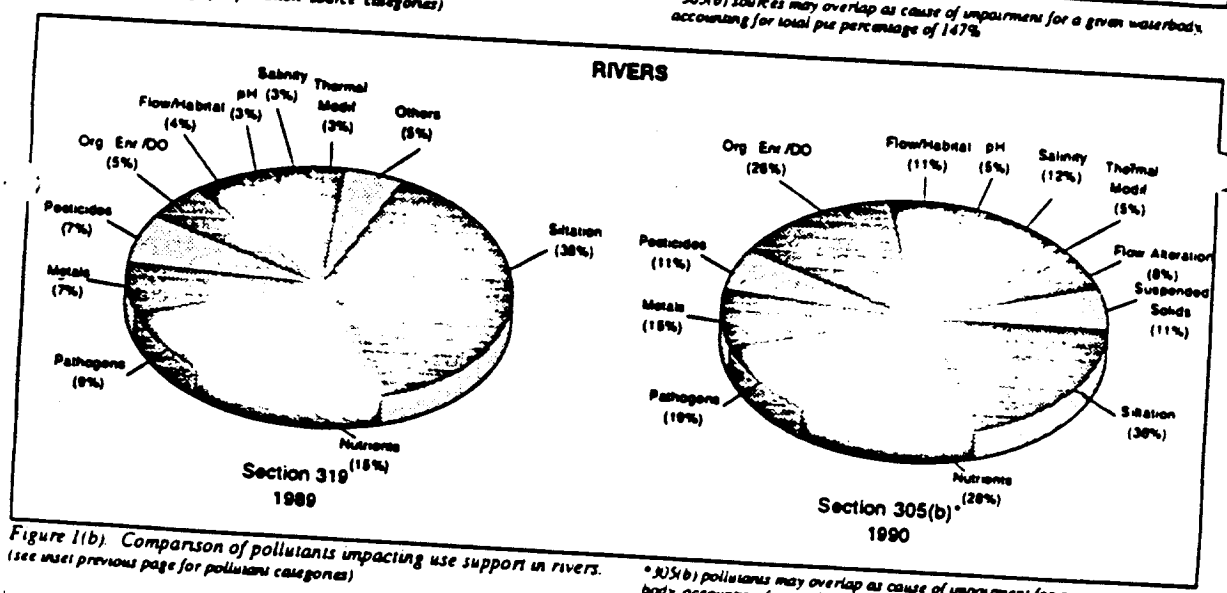


Figure 1(b). Comparison of pollutants impacting use support in rivers. (see inset previous page for pollutant categories)

*305(b) pollutants may overlap as cause of impairment for a given waterbody, accounting for total pie percentage of 187%.

river miles, one-half of lake acres and three-quarters of estuarine waters), roughly 50 to 60 percent are fully supporting the uses for which they are designated.

Although methodologies used by the states to report and analyze data differ between the 319 and 305(b) reports according to the different requirements of the Clean Water Act, their general conclusions are nonetheless comparable. Both methods, for instance, use similar pollution source categories and pollutant categories (see insets previous page) to track the relative causes of use impairment. Figure 1 compares, for example, the reported pollution sources and pollutants impacting use support in rivers for the two methods. Note that, for rivers, **both the 319 and 305(b) methods show agriculture to be the primary source contributing to use impairment; siltation/suspended solids and nutrients are the pri-**

ary pollutants causing riverine impacts, followed by pathogens, metals, and pesticides. Other nonpoint pollution sources contributing to use impairment in rivers and whose individual levels of contribution are similar for both 305(b) and 319 are construction, land disposal, silviculture, urban runoff/storm sewers, hydromodification, and mining. A major uncertainty is the

Table 3. Pollution Sources - Regulating the Risk (a comparison of pollution sources contributing to the Nation's surface water impairment)

Pollution Source Category[a]	% Impairment[b] Rivers 305(b)	Rivers 319	Lakes 305(b)	Lakes 319	Estuaries 305(b)	Estuaries 319	Currently Regulated Under NPDES	Currently Not Regulated Under NPDES
Rural Nonpoint Sources:								
Agriculture[c]	61	41	57	23	18	7	only large feed lots	all other including ag. storm and return flows
Mining	14	8	9	7	2	5	only sites > 2 ha (5 ac)	all sites < 2ha (5 ac)
Silviculture	9	3	3	—	2	1		✓
Subtotal	84[f]	52[f]	69	30	22	13		
Urban Nonpont Sources:								
Storm Sewers/Urban Runoff	11	4	28	6	30	11	industrial sites and cities and counties with pop. ≥ 100,000	all cities and counties with pop. < 100,000
Combined Sewers	2	—	0	—	6	—	✓	
Hydro/Habitat Modification[d]	15	6	40	6	5	—		✓
Land Disposal[d]	4	3	24	4	19	8	all but septic tanks	septic tanks
Construction	6	2	3	2	11	—	only sites > 2ha (5ac)	all sites < 2ha (5ac)
Others[e]	—	3	—	16	—	49		✓
Subtotal	38	18	95[f]	34[f]	71[f]	82[f]		
Point Sources:								
Municipal Point Sources	16	—	17	—	35	—	✓	
Industrial Point Sources	9	—	9	—	10	—	✓	
Subtotal	25	—	26	—	45	—		
Other Sources:								
Unknown	—	23	—	21	—	4	?	?
Natural[e]	—	8	—	10	—	5		✓
In-place[e]	—	—	—	3	—	16		✓
Total Percent	147	100	190	100	138	100		

[a] See explanation of pollution sources on next page.
[b] Percent of impaired river miles, lake acres, and estuary square miles affected by each pollution source.
[c] See 319 agriculture breakdown on next page.
[d] An undefined portion of use impairment from hydro/habitat modification and land disposal is attributable to rural areas resulting in an overestimation of urban contribution to impairment.
[e] Others include, in addition to natural and in-place, atmospheric deposition, waste storage/storage tank leaks, highway maintenance and runoff, spills, recreational activities, and urban growth.
[f] Box indicates largest contributor to use impairment by category group (i.e., rural nonpoint, urban nonpoint, point, or other).

Agriculture Subcategories Under 319[a] (legend to Table 3)

	% Impairment		
	Rivers (miles)	Lakes (acres)	Estuaries (Sq. miles)
Nonirrigated crops	5.7	2.3	0.3
Irrigated crops	1.9	3.8	0.0
Specialty crops	0.1	0.4	0.0
Pastureland	1.4	0.9	0.6
Rangeland	2.1	0.5	0.8
Feedlots—all types	2.4	0.7	0.1
Aquaculture	0.0	0.0	0.0
Animal Holding areas	1.4	0.7	0.4
Streambank erosion	0.7	0.1	0.0
Unspecified/odd	25.2	13.7	4.8
Total	41.0	23.0	7.0

[a]*Source: Managing Nonpoint Source Pollution: 1991 Report to Congress*

23% unknown sources identified in the 319 program for rivers.

Table 3 extends the comparison between 319 and 305(b) methods for pollution sources causing impairment of assessed river miles, lake acres (excluding Great Lakes) and estuary square miles, as reported in the most recent 305(b) document (USEPA, 1992), and 319 document (USEPA, 1991a). Pollution source categories are grouped into rural nonpoint sources, urban nonpoint sources, point sources, and other sources. As seen in Table 3, the level of contribution to reported impairment caused by a given 319 or 305(b) source category varies between waterbody types, however, the general trend is similar for both methods. For example, for rivers, rural nonpoint sources represent the largest contribution to impairment under both 319 and 305(b) methods, followed by urban nonpoint sources. For lakes and estuaries, however, the largest contributors to use impairment are reported to be urban nonpoint sources, regardless of which method is used.

Stormwater runoff from agriculture and from urban areas are the two present leading causes of surface water quality impairment nationwide, except for estuaries (where point sources are shown to be the second largest contributor to impairment behind urban nonpoint sources)

Furthermore, while urban population areas (greater than 2500 inhabitants as defined by the Bureau of Census) take up only about 2.5% of the total land surface of the country, stormwater pollution from these urban areas and associated urban activities (i.e., storm sewers/urban runoff, combined sewers, hydromodification, land disposal, construction, urban growth, etc.) accounts for a proportionately high degree of water quality impairment (i.e., 18% of impaired river miles, 34% of impaired lake acres, and 62% of impaired estuary square miles reported under 319) when compared to that (see Table 3) from rural activities (i.e., agriculture, silviculture, and mining) which take up approximately 53% of the total land surface (USDA, 1992).

Explanation of 305(b)/319 Pollution Sources (legend to Table 3)

Agriculture:	Runoff from crop production, pastures, rangeland, feedlots, and irrigated return flows
Silviculture:	Runoff from forest management, harvesting, and road construction
Mining:	Runoff and process fluids from mining, petroleum drilling, and mine tailing sites
Construction:	Runoff from highway building and land development
Urban Runoff:	Runoff from sewered and unsewered urban areas, including industrial and commercial activities; under 319 also includes combined sewers
Combined Sewers:	Storm and sanitary sewers combined, which may discharge untreated wastes during storms
Land Disposal:	Runoff and leachate from landfills, septic tanks, and hazardous waste disposal sites
Hydromodification:	Channelization, dredging, dam construction, and streambank modification
Municipal Point Source:	Discharge from POTW (publicly owned treatment works)
Industrial Point Source:	Discharge from industrial processes
Other:	Includes atmospheric deposition, waste storage/tank leaks, highway runoff, spills, in-place contaminants, natural, and recreational and urban growth
Unknown:	Unknown

This indicates the importance of focusing efforts on the management and control of stormwater discharges from urban areas and associated urban activities (i.e., storm sewers/urban runoff, combined sewers, hydromodification, land disposal, construction, urban growth, etc.) since the potential for future urban growth and cumulative impacts from increased stormwater discharges from expanding urban activities is relatively great.

The above analysis, although an approximation, indicates the relative importance of urban stormwater discharges as a major contributor to the impairment of the Nation's waters. This is consistent with the National Oceanic and Atmospheric Administration (NOAA) findings that urban runoff is a leading cause of impairment to shellfish growing waters (NOAA; 1988; 1989; 1990). This qualitative analysis does not allow, however, for a detailed ranking of all subcategories of stormwater discharges, including industrial and commercial activities occurring in urban areas. Certain source categories included under 319 and 305(b) that do correlate well with industrial activities are land disposal, mining, and construction and these are shown to be important contributors to water quality impairment (see Table 3).

It is not readily apparent as to what degree stormwater discharges are currently regulated in relation to the level of impairment reported. For example, although agriculture is a major nonpoint source contributor to water quality impairment, currently only the largest animal feedlots require stormwater discharge permits. Table 3 shows the status of National Pollutant Discharge Elimination System (NPDES) permit requirements for each pollution source category and we discuss this status in more detail below.

Regulating the Risk

The 1987 amendments to the Clean Water Act require EPA to develop NPDES permit application requirements for the following "Phase I" classes of stormwater discharges:

- discharges from large municipal separate storm sewer systems (systems serving a population of 250,000 or more) and medium municipal separate storm sewer systems (systems serving a population of 100,000 or more, but less than 250,000);
- stormwater discharges associated with industrial activity [identified by Standard Industrial Classification (SIC) codes]; and
- discharges which are designated by EPA or an NPDES approved State as needing an NPDES permit because the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

Statutorily excluded from the NPDES requirements under the Clean Water Act are general agricultural stormwater, irrigation return flows, and uncontaminated runoff from oil and gas or mining operations.

The CWA creates a temporary moratorium on the general requirement of the CWA that point source discharges of pollutants to waters of the United States must be authorized by an NPDES permit. Under the moratorium, EPA is prohibited from issuing NPDES permits for non-Phase I discharges composed entirely of stormwater prior to October 1, 1992. EPA is required to issue regulations by no later than October 1, 1992 which designate additional "Phase II" stormwater discharges to be regulated to protect water quality and establish a comprehensive program to regulate such designated sources. The program must, at a minimum:

(A) establish priorities,

(B) establish requirements for State stormwater management programs, and

(C) establish expeditious deadlines.

The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

Phase I Stormwater Discharges. On November 16, 1990, EPA published regulations specifying permit application requirements for industrial activities and large/medium municipal separate storm sewer systems, the two major classes of Phase I stormwater sources (see inset next page).

Municipal - The November 16, 1990 regulations defined a municipal separate storm sewer system serving a population of 100,000 or more to include municipal separate storm sewers within the boundaries of 173 incorporated cities, and within unincorporated portions of 47 counties that were identified as

Defining Stormwater Discharges

As "Phase I" Discharges:

Municipal:

- Separate storm sewers* in incorporated (city) and unincorporated (county) urban areas with population of 100,000 or more
- Combined sewer overflows (subject to NPDES permit requirements prior to Phase I)

Industrial:

- Heavy manufacturing facilities
- Medium manufacturing facilities with materials exposed to rainfall
- Priority oil and gas facilities
- Active and inactive mines
- Construction sites greater than 2ha(5ac)
- Landfills, storage or disposal facilities handling industrial/hazardous wastes
- Scrapyards/salvage yards
- Runoff from sewage treatment plants
- Selected transportation facilities
- Steam electric power plants
- Large animal feedlots (subject to NPDES permit requirements prior to Phase I)

Statutorily Excluded:

- Agricultural stormwater
- Irrigation return flows
- "Uncontaminated" runoff from oil and gas or mining operations

*Separate storm sewers include pipe conveyance as well as ditches, and grass swales in suburban areas

having populations of 100,000 or more in unincorporated, urbanized portions of the county. In addition, the regulations allowed for additional municipal separate storm sewers to be designated by the Director of the NPDES program as being part of a large or medium municipal system. **The inclusion of these 173 cities and 47 urban counties in the Phase I program recognizes that stormwater runoff from high density urbanized areas has a significant potential to impact receiving waters** due to the greater concentration of commercial and industrial activities; the existence of leaks, cross connections and illicit discharges into sewer systems; and the large impervious areas which normally exist.

Industrial - The November 16, 1990 regulations also defined the term "storm water discharges associated with industrial activity" broadly to include 11 categories of industrial facilities (see Phase I inset). EPA estimates that over 100,000 industrial facilities are addressed by this definition. Many of the Phase I industrial facilities (e.g., mining, landfills, construction, etc.) have previously been addressed by the NPDES program as traditional sources.

For example, stormwater discharges from mining sites have long been recognized as having significant impacts on receiving water quality, and national effluent guideline limitations under NPDES have been developed for most types of mining activities to control surface drainage (but not groundwater seepage). A wide variety of waste materials can be exposed to stormwater at waste disposal sites and scrap yards, which now require NPDES permits. Under RCRA Subtitle D, States reported that of the 1,100 municipal solid waste landfills which monitored discharges to surface water, 660 were cited for surface water impacts. Older landfills are of most concern because they may have received large volumes of hazardous waste and, in general, their use of design controls was very limited. Runoff generated from construction activities has the potential for serious water quality impacts from sediments and other land related pollutants. Annually, about 1.6 million acres of land are disturbed by construction activities nationwide. Only construction sites larger than 5 acres are currently required to be permitted under NPDES.

Pollutant concentrations in runoff from industrial facilities located in urban areas can be significantly higher than from residential or commercial areas due to the increased presence and amounts of toxic materials (Roesner, 1978). In general, the level of pollutants from industrial facilities is related to the type of activities occurring at the site, and the degree to which these activities are exposed to precipitation. Illicit connections, cross connections, improper waste disposal, and spills may also contribute sanitary or industrial waste waters directly to municipal storm sewer systems, leading to high metal, nutrient, or bacterial concentrations. A high priority has been set under the Phase I NPDES stormwater permit program to identify and bring these "non-stormwater pollution discharges" under control.

Phase I Implementation - The Phase I stormwater program takes two very different approaches to defining the roles of EPA and authorized NPDES States in controlling pollutants in stormwater discharges. With respect to permits for large and medium municipal systems, the efforts of the NPDES permitting authority (EPA or an authorized NPDES State) are directed to ensuring that municipalities develop and implement stormwater management programs to control pollutants to the maximum extent practicable. Municipal programs address ways to reduce pollutants in stormwater from privately-owned lands (e.g., commercial operations, houses) that discharge to a municipal system, as well as modifying municipal activities (e.g., road deicing and maintenance, flood control efforts, maintenance of municipal lands, etc.) to address stormwater quality concerns. NPDES permit activities can define the role of municipalities under this program in a flexible manner that allows local governments to assist in identifying individual priority pollutant sources (e.g., industrial sources, illicit connections, spills, etc.) within the municipality and to develop and implement appropriate controls for such discharges.

With respect to permits for stormwater discharges associated with specific Phase I industries identified in the November 1990 regulations, the NPDES permitting authority has a more direct role in regulating these facilities. In addition, NPDES permits for discharges from large and medium municipal separate storm sewer systems will establish municipal responsibilities for assisting EPA and authorized NPDES States in implementing controls to reduce pollutants in stormwater discharges associated with Phase I industrial activities which discharge through municipal systems.

Phase II Stormwater Discharges. EPA is currently evaluating a number of options for identifying Phase II stormwater discharges to be regulated to protect water quality. **Of the options being considered, perhaps the most difficult to address is whether to expand the categories of individual facilities (such as commercial or light industrial facilities) requiring permits, or rather to include these within an expansion of municipal separate storm sewer systems requiring permits.** Addressing additional municipal separate storm sewer systems would result in requiring the selected municipalities to:

(A) identify individual priority pollutant sources within the municipality (e.g., industrial sources, illicit connections, spills, etc.), and

(B) develop and implement appropriate controls for such discharges.

On the other hand, individual facilities specifically identified as new categories under Phase II of the NPDES stormwater permit program would primarily be regulated directly through requirements in NPDES permits. These two classes of Phase II sources (i.e., individual and municipal) are discussed in more detail below.

For **individual facilities under Phase II**, EPA could specify new categories of stormwater discharges (in addition to the existing 11 categories) to be regulated separately or under Phase II municipal separate storm sewer systems. Among the discharges that EPA could include for Phase II requirements are the 13 categories of stormwater sources identified in the inset above. The number of individual facilities within these new categories under consideration is currently unknown.

Defining Stormwater Discharges

As "Phase II" Discharges:

Municipal:

- **Separate storm sewers[a] in incorporated (city) and unincorporated (county) urban areas with populations less than 100,000**

Individual facilities:

- **Industrial facilities owned or operated by municipalities with a population less than 100,000**
- **Light industrial facilities**
- **Medium industrial facilities without materials exposed to rainfall**
- **Gas stations and automobile related facilities**
- **Tank farms**
- **Abandoned mine sites**
- **Construction sites less than 2ha(5ac)**
- **Runoff from construction projects for roads used for silviculture**
- **Municipal landfills that do not receive industrial waste**
- **Large parking lots (shopping centers, stadiums, etc)**
- **Military bases**
- **Research centers**
- **Animal feedlots not currently subject to NPDES permit requirements**

[a]Separate storm sewers include pipe conveyance as well as ditches, and grass swale in suburban areas

For municipal separate storm sewer systems under Phase II, EPA is considering expanding NPDES requirements to urban areas having populations less than 100,000. Under Phase I, EPA defined municipal separate storm sewer systems on the basis of political boundaries, including 173 incorporated cities (having a population of 100,000 or more) and 47 of 500 counties having an unincorporated urban population of 100,000 or more. The counties that were addressed by the 11/16/90 regulation were in a handful of States, primarily MD, VA, FL, and CA. **While the current regulations indirectly address suburban growth in these States, in most parts of the country, the regulations only address core cities and exclude suburban or "urban fringe" development.** This is typified in Figure 2 for the Milwaukee, Wisconsin area, where only the incorporated city of Milwaukee and none of the urban fringe area within Washington, Waukesha, Ozaukee, Milwaukee, and Racine Counties is required to apply for a stormwater permit. The 1990 population for the Milwaukee urbanized area is about twice that of Milwaukee City and population densities are similar.

The Bureau of Census has defined 396 "urbanized areas" (UAs) based on the 1990 Census to define large metropolitan population patterns. UAs are comprised of a central "core" city (or cities) with a surrounding closely settled area. The population of the entire urbanized area must be greater than 50,000 people, and the closely settled area outside the city, the urban fringe, must have a population density generally greater than 1,000 persons per square mile (just over 1.5 persons per acre) to be included. **These 396 UAs contain over 158 million people, or over 63% of the Nation's total population. However, UAs only occupy about 1.5-2% of the Nation's land area.** Urban fringe areas surrounding core cities are typically divided into numerous local governments, as defined in Table 4 based on 1990 Census data.

Table 4. Municipalities Associated With Urbanized Areas (UAs)[a]

Size of UA	Number of UAs	Number of Incorporated Places[b]	Number of Minor Civil Divisions[c]	Number of County Equivalents[d]
250,000 or more	172	3,674	880	470
100,000-250,000	121	930	362	200
50,000-100,000	103	829	315	258

[a] Based on 1990 Census data
[b] Incorporated places include incorporated cities, towns, villages, and boroughs
[c] Minor civil divisions include unincorporated towns and townships in 20 States
[d] County equivalents include counties, parishes in LA, and boroughs in Alaska. Some double counting of counties occurred as portions of several UAs may be in one county (for example, the portions of the Washington UA, Baltimore UA, and Annapolis UA are in Anne Arundel County, MD)

The 220 Phase I NPDES municipalities have a combined urban population of 78 million. The remaining 80 million people located in urbanized areas are outside of Phase I municipalities. **Most urban growth occurs in the urban fringe areas outside of core cities.** For example, between 1970 and 1980, the population of incorporated cities with a population of 100,000 or more (Phase I cities) increased by only 0.6 million, with the population of many of these cities decreasing. Between 1970 and 1980, the population of urbanized areas outside of cities with a population of 100,000 or more increased 30 times more (an increase of 18.9 million) than the population of these core cities. This is important from a stormwater perspective as numerous studies (e.g., NURP) have shown that **it is much more cost effective to develop measures to prevent or reduce pollutants in stormwater during new development than it is to correct these problems later on.**

Addressing new development is generally considered to be institutionally feasible as many municipalities already have some form of approval or permit program in place that can be modified to address stormwater concerns. In addition, the economic achievability of implementing stormwater controls is expected to be greater for new development versus established core cities since: (1) structural controls and therefore costs can be minimized; (2) new development often absorbs a significant portion of infrastructure capital costs; and (3) the tax base on a per capita basis in urban fringe areas is likely to be

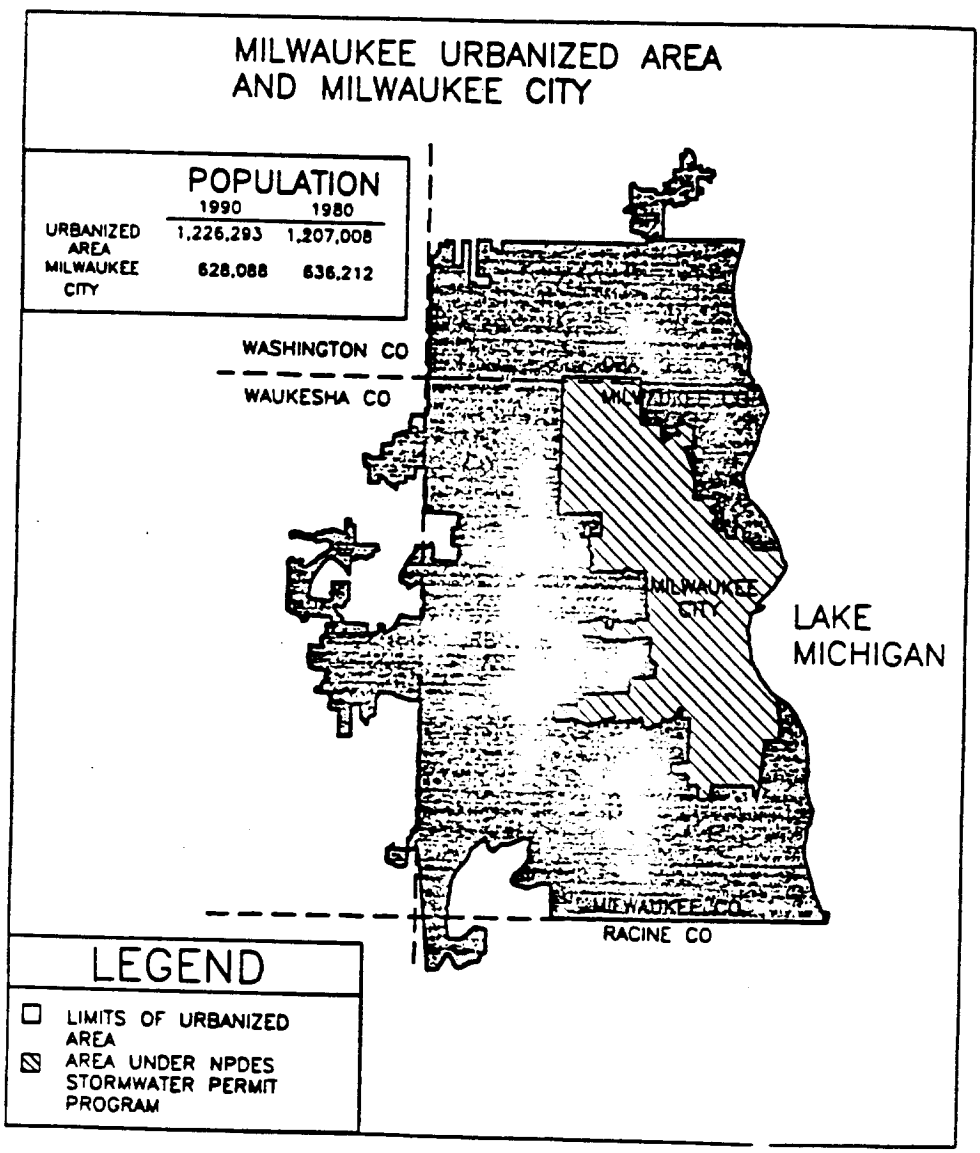


Figure 2. Jurisdiction of Phase I NPDES Stormwater Permit Program in Milwaukee, Wisconsin

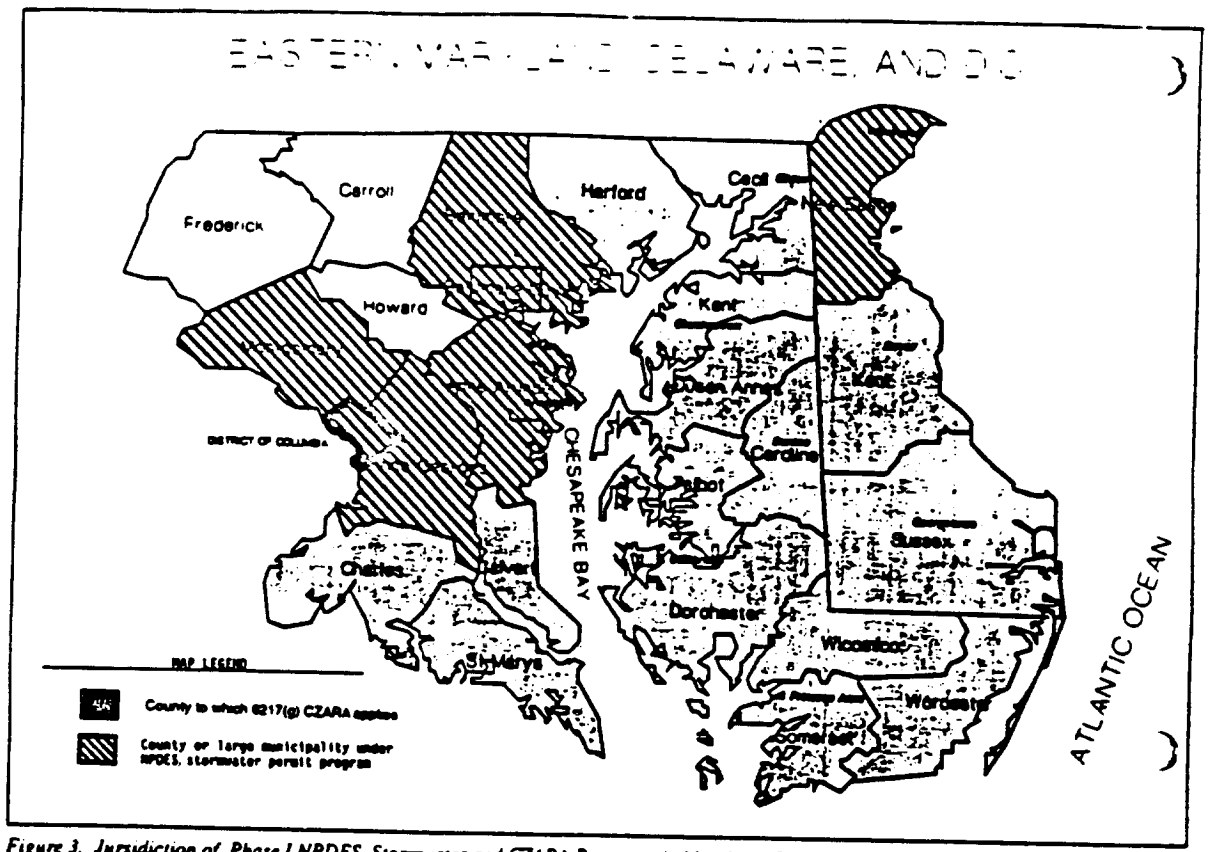


Figure 3. Jurisdiction of Phase I NPDES Stormwater and CZARA Programs in Maryland, Delaware, and Washington, DC

greater (National League of Cities, 1991).

Relationship of NPDES to Other Programs. Figure 3 illustrates the current jurisdiction of the Phase I NPDES stormwater discharge permit program and the Coastal Nonpoint Pollution Control Program under Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), respectively, in Maryland, Delaware, and Washington, DC. Although not a permit program, the CZARA program is intended to foster the development and implementation of management measures for nonpoint source pollution control to restore and protect coastal waters in conformance with guidance developed by EPA (USEPA, 1991c). "Management measures" are defined under CZARA as economically achievable measures to control the addition of pollutants to coastal waters, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives. CZARA management measures include a mix of non-structural and structural control practices in order to optimize costs and pollutant removal effectiveness over a range of land uses and activities.

For the example presented in Figure 3, two cities in close proximity (Washington, DC and Baltimore, MD) and the urbanized counties which surround these cities are addressed by the Phase I NPDES program. **However, incorporated towns or cities with populations less than 100,000 within the NPDES counties are exempt from the NPDES program,** such as the city of Annapolis, MD, as well as 43 other incorporated towns in Anne Arundel, Prince Georges, and Montgomery Counties (MD). Since Maryland is an approved

astal zone State[a], the areas within the coastal zone that are exempt from NPDES requirements will be included in the State's approved Coastal Nonpoint Pollution Control Program under CZARA. Counties and municipalities landward of the coastal zone with populations less than 100,000 are currently not addressed by either the Phase I NPDES or CZARA programs and fall under the jurisdiction of other nonpoint source management programs including Section 319 of the Clean Water Act and US Department of Agriculture conservation programs.

[a] *There are 29 federally approved State and Territorial coastal zone programs, including states bordering the Great Lakes (e.g., Wisconsin). The definition of the approved coastal zone boundary varies substantially by State.*

.ormwater and the Urban- ation Process

As pointed out by Novotny (1992), the extent and nature of **stormwater pollution is characterized not only by meteorologic conditions, type of land surface, and its inherent difficulty to measure or quantify, but perhaps most importantly by its relationship to the level and type of activity, or disturbance, occurring on the land surface in question.**

In the EPA Nationwide Urban Runoff Program (NURP), significant differences in measured pollutant concentrations, reported as event mean concentrations (EMCs), were not detected among the three major urban land use categories (i.e., residential, commercial, and mixed ban). Only open/non-urban lands e significantly different from the previous three land use types (USEPA, 1983b). The NURP data point out the existence of high variability in urban stormwater runoff quality and the need to characterize urban runoff for individual urban areas when conducting site-specific designs for stormwater controls. Data on pollutant loadings given in Table 1 also demonstrate the wide variations in loads associated with traditional land use categories.

In contrast to land use, land disturbance through urbanization, (i.e., cor :truction, deforestation, wetland drainage, channelization) is perhaps more directly correlated to the level of pollutant loadings and impacts caused by stormwater runoff. **Urbanization alters the natural vegetation and natural infiltration characteristics of the watershed, causing runoff from an urban area to have a much higher surface flow, a much smaller interflow, and a somewhat reduced baseflow (see Figure 4).** Urbanization also can create water quality impacts by increasing the amount of sediment, nutrients, metals, and other pollutants associated with land disturbance and alteration activities, as well as with the permanent increase in the impervious urban surfaces created . Thus urbanization tends to increase both runoff volumes and pollutant loadings to the receiving waterbody.

Effects of Urbanization-Developing Areas. The change of land use from natural or agricultural to

Phases of Urbanization

Suburban/Urban Area Development -
Land conversion through deforestation and drainage/filling creates extensive erosion and changes the hydrologic balance of the watershed. Soil loss from uncontrolled construction can reach a magnitude of over 100 ton/ha.yr. Shifts from the natural watershed flow and stream channel conditions greatly reduce the habitat value of the stream.

Suburban/Urban Areas - Post Development-
Once stabilized, pollutants accumulate on impervious surfaces and are washed off. Primary pollutant sources are atmospheric deposition, urban surfaces (roofs, autos on streets), and miscellaneous activities (animals, litter, spills, fertilizer application, street salting, septic system failures, etc.). Loading rates of pollutants are generally correlated with degree of imperviousness, land area size, and type of drainage system.

Fully Developed (Core)Urban Areas -
Sewered watersheds are characterized by extensive impervious areas, large runoff volumes during storms, and increased loadings of pollutants from similar sources (see above). Older urban areas commonly are served by combined sewers which often overflow during wet weather releasing pathogens and industrial toxicants. Increased industrial and commercial activities (land disposal, storage piles, vehicle maintenance, spills, etc.) create opportunities for release of toxic substances into separate and combined sewer systems.

urban occurs in several steps (see inset previous page) that range from developing suburban/urban areas to fully developed cities serviced by extensive sewer networks and transportation corridors.

During the construction phase of suburban/urban land development, the hydrology of a stream changes in response to initial site clearing and grading. Trees that had interrupted rainfall are felled (see Figure 4a). Natural depressions that temporarily ponded water are graded to a uniform slope. The thick humus layer of the forest floor that had absorbed rainfall is scraped off or eroded away. **Having lost much of its natural storage capacity, the cleared and graded construction site can no longer prevent rainfall from being rapidly converted to runoff** (Schueler, 1987).

Pollutant export increases dramatically both during and after development. **Unless adequate erosion controls are installed and maintained at the site, enormous quantities of sediment are delivered to the stream channel, along with attached soil nutrients and organic matter.** Uncontrolled construction site sediment loads have been reported to be on the order of 35 to 45 tons/acre/year (Novotny and Chesters, 1981; Wolman and Schick, 1967; Yorke and Herb, 1976, 1978).

After construction is completed, roof tops, roads, parking lots, sidewalks, and driveways make much of the site impervious to rainfall. Unable to percolate through the soil, rainfall is converted to runoff. The excess runoff becomes too great for the existing drainage system to handle. As a result, the drainage network must be improved to direct and convey the runoff away from the site (Schueler, 1987). **Downstream of the land development activity, impacts in the form of streambank erosion, channelization, and elimination/alteration of habitat occur due to increases in streamflow volumes, flooding frequency, peak flows, and movement of sediment.** The effect of development on stream hydrology in a typical, moderately developed watershed is shown in Figure 4b,c and summarized in the inset (next page) by Scheuler (1987).

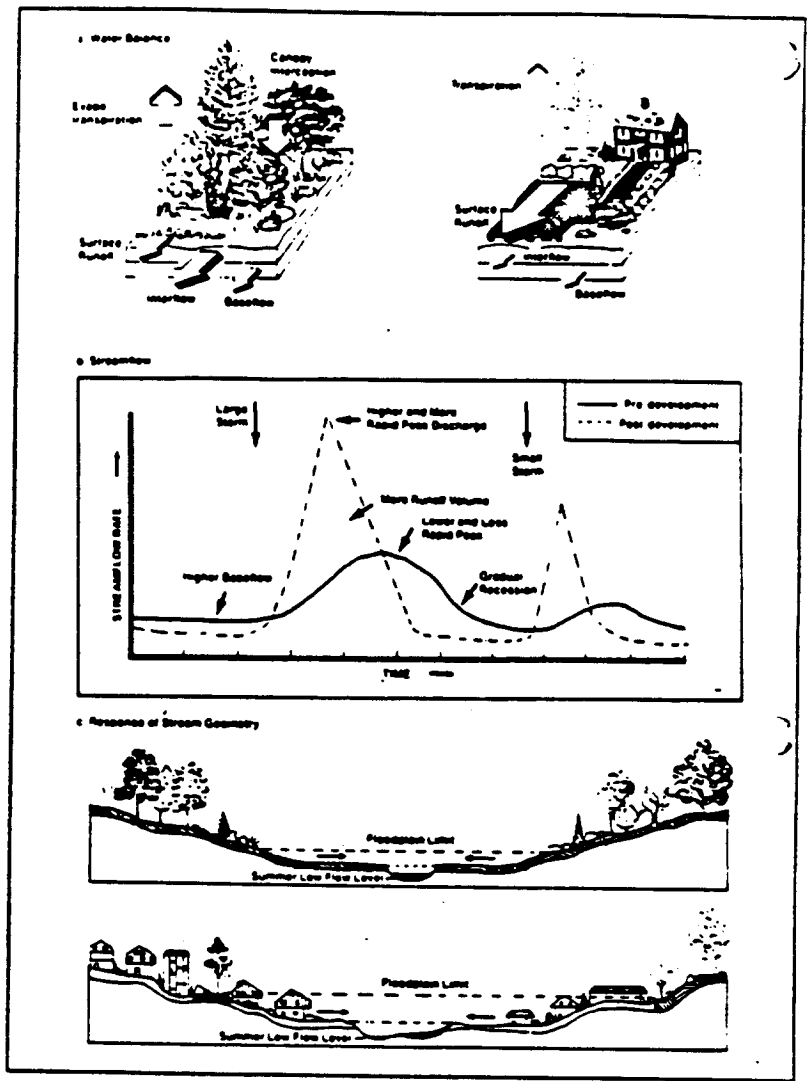


Figure 4. Changes in Watershed Hydrology as a Result of Urbanization (Schueler, 1987)

Construction activities are tempo rary, but the permanent chan

Changes in Stream Hydrology from Urbanization[a]

- Increased peak discharges compared to predevelopment levels (Leopold, 1968; Anderson, 1970);
- Increased volume of storm runoff produced by each storm in comparison to predevelopment conditions;
- Decreased time needed for runoff to reach the stream (Leopold, 1968), particularly if extensive drainage improvements are made;
- Increased frequency and severity of flooding;
- Reduced streamflow during prolonged periods of dry weather due to the reduced level of infiltration in the watershed; and
- Greater runoff velocity during storms, due to the combined effect of higher peak discharges, rapid time of concentration and the smoother hydraulic surfaces that occur as a result of development.

[a] *Scheuler (1987)*

Table 5. Average Annual Atmospheric Deposition Rates for the Washington, D.C. Area[a]

Pollutant	Rural (a)	Suburban (b) (lbs/acre/year)	Urban (c)
Total Solids	99	155	245
Chemical Oxygen Demand	199	133	210
Total Nitrogen	19.9	12.8	17.0
Nitrate-N	9.4	5.6	6.8
Ammonia-N	5.5	1.1	1.0
Total Kjeldahl-N	10.5	7.2	10.2
Total Phosphorus	0.71	0.50	0.84
Ortho-phosphorus	0.28	0.26	0.35
Trace Metals			
Cadmium	ND	0.09	0.003
Copper	ND	0.21	0.61
Lead	0.06	0.44	0.53
Iron	ND	1.57	5.60
Zinc	0.67	1.35	0.65

[a] *MWCOG (1983a). Note: ND = no data*

in land use and the hydraulic and pollutant characteristics associated with the transformed urban landscape produce lasting effects. Most of these impacts are caused by the net increase in impervious surfaces. In developed suburban/urban areas, pollutants accumulate rapidly on impervious surfaces and are easily washed off. Measured rates of atmospheric deposition of pollutants in the Washington D.C. area are summarized in Table 5. Halverson et al. (1984) reported that the contribution of precipitation to runoff pollution from paved surfaces was 100% for ammonia and nitrate nitrogen. They also reported values of 28 percent for sulfate and 13 percent for phosphorus. They suggested that nitrogen, sulfate and phosphorus should be considered when assessing urban runoff quality. **The type of surfaces in the urban landscape are also an important source of pollutants in runoff.** Trace metals, for example, are a common component of surfaces such as roofing materials, downspouts, galvanized pipes, metal plating, paints, wood preservatives, catalytic converters, brake linings, and tires. Over time, these surfaces corrode, decay, or leach out, releasing metals into the runoff (Scheuler, 1987). **Other sources of pollutants that accumulate and subsequently wash off impervious surfaces include pet droppings, lawn fertilizer and pesticides, organic matter, litter, used motor oil, and road salt (see Table 6).**

Gwinnett County, Georgia, An Urban Fringe Area. Stormwater runoff characteristics also vary with the age of the development and the rate at which natural and agricultural lands are converted to urban areas. This rate of change depends on the land location and its proximity to other urban areas and core cities. **Urban fringe areas are experiencing the largest land use changes due to rapid growth in population resulting in an excessive net increase in pollution loadings. Many of these fringe areas are not currently covered under the Phase I NPDES stormwater program.** A typical rapidly growing fringe area not initially regulated under the NPDES program, Gwinnett County, GA

Table 6. Sources of Urban Runoff Pollutants

Source	Pollutant of Concern
Erosion	Sediment and attached soil nutrients, organic matter, and other adsorbed pollutants
Atmospheric Deposition	Hydrocarbons emitted from automobiles, dust, aromatic hydrocarbons, metals, and other chemicals released from industrial and commercial activities.
Construction Materials	Metals from flashing and shingles, gutters and downspouts, galvanized pipes and metal plating, paint, and wood preservatives.
Manufactured Products	Heavy metals; halogenated aliphatics; phthalate esthers; PAHs; other volatiles; phenols and oil from automobile-use, zinc and cadmium from tire wear, and pesticides and phenols from other uses including industrial.
Landscape Maintenance	Fertilizer and pesticides. Generally as impervious area increases, nutrients build up on surfaces and runoff transport capacities also rise resulting in high loads. Exceptions include intensively landscaped areas (e.g., golf courses, cemeteries).
Plants and Animals	Plant debris, animal excrement.
Septic Tanks	Coliform bacteria, nitrogen/NO_3
Non-stormwater Connections	Inadvertent or deliberate discharges of sanitary sewage and industrial wastewater to storm drainage systems, including illicit connections, leaking sanitary collection systems, spills, industrial and commercial activities, construction activities, infiltration of contaminated groundwater, and improper disposal.
Accidental Spills	Pollutants of concern depend on the nature of the spill.

[a] *Based in part on Woodward-Clyde Consultants, 1990.*

(see Figure 5) has experienced an increase in population from abo 72,000 to 275,000 during the 1975 to 1986 period, and significant conversion of forest and agricultural lands to urban areas. Urban areas increased from about 50,000 acres in 1975 to over 100,000 acres in 1990 (Atlanta Regional Commission land use database - unpublished). This urban fringe growth rate, although high, was not significantly different from that of all urban areas in the entire country during this same time period, according to Bureau of Census data (USDA, 1992). Based on analysis of Census data, the projected population of Gwinnett County is expected to exceed 700,000 by year 2012 (also county estimate). Consequently, the corresponding increase in urban areas may be expected to exceed 170,000 acres or about 300% of the 1975 values

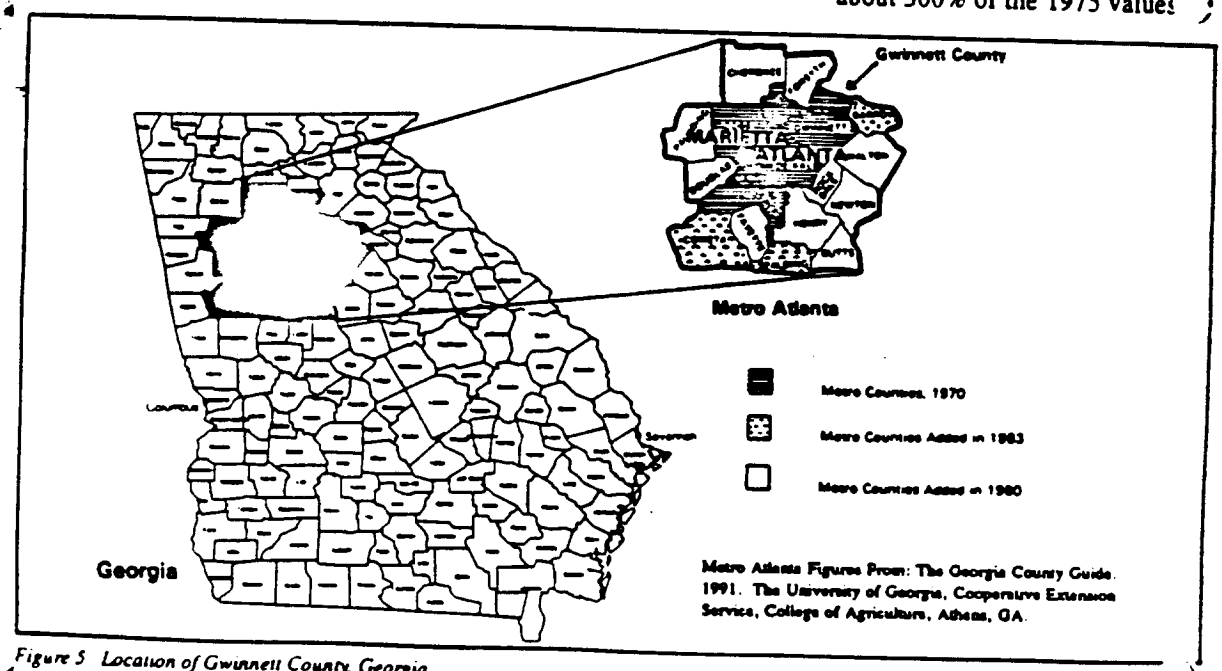


Figure 5 Location of Gwinnett County, Georgia

illustrates the observed (1[illegible] and expected (1985-20[illegible] of change in land use distribution as the population increases.

In the absence of a comprehensive urban planning program addressing stormwater runoff in particular, such rapid land conversion and associated land disturbances due to construction activities will yield high sediment and pollutant loadings. Furthermore, the permanent change in land use activities will result in dramatic changes in hydrologic and pollutant characteristics. Current NPDES regulations address construction activities (>5 acres) but do not address the longer term cumulative effects of urbanization.

The long-term rates of change of nutrient loadings in Gwinnett county were roughly estimated using a generalized loading function model and existing information from the Census and National Resource Inventory files. Nutrient load estimates were derived for the years 1975, 1980, and 1985 based on existing land use and population data, and for the year 2012 based on projected land use distribution (Figure 6b). Projected population and land use distributions for 2012 were estimated based on the mean annual rate of change during the 1975-1985 period. Temporary sediment and nutrient loadings due to construction activities were not considered in these estimates. Currently, construction activities are regulated under Federal or State approved NPDES programs. The 2012 nutrient loading projections indicate a relative increase in nitro-

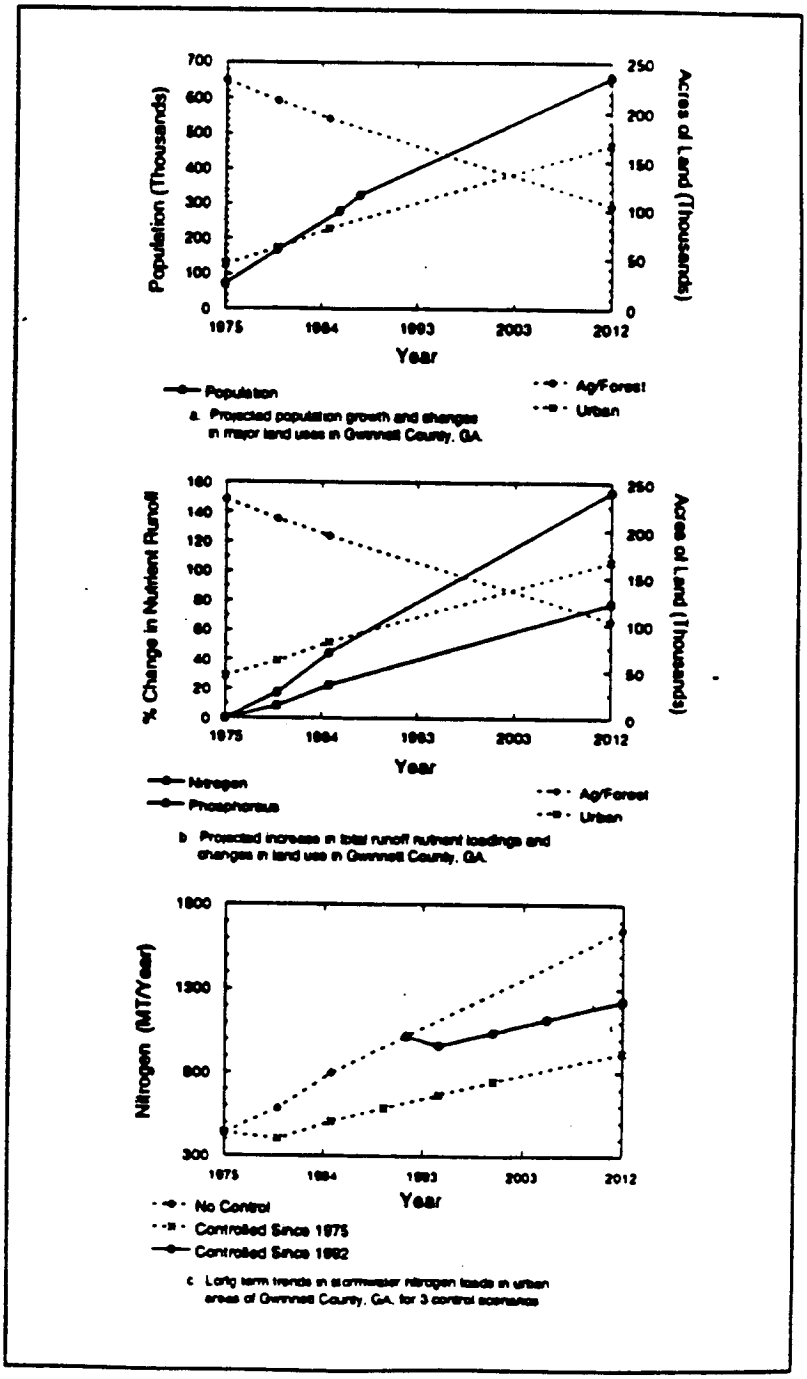


Figure 6. Comparison of population, land use, and pollutant loadings for Gwinnett County, Georgia

Table 7. Ranges in Pollutant Concentrations Found in Runoff[a] From Commercial and Residential Areas

Constituent	Mean Concentration in Runoff: 10th Percentile Urban Site	Median Urban Site	90th Percentile Urban Site
Total suspended solids (mg/L)	35	125	390
BOD (mg/L)	6.5	12	20
COD (mg/L	40	80	175
Total Phosphorus (mg/L)	0.18	0.41	0.93
Soluable Phosphorus (mg/L)	0.10	0.15	0.25
Total Kjeldahl nitrogen (mg/L)	0.95	2.00	4.45
Nitrate-nitrogen (mg/L	0.40	0.90	2.20
Total Copper (µg/L)	15	40	120
Total Lead (µg/L)	60	165	465
Total Zinc (µg/L)	80	210	540

[a] *Source: Woodward-Clyde Consultants, 1990.*

gen of about 154% and phosphorous of about 79% above the 1975 levels.

The importance of addressing stormwater runoff in the early stages of urban land development is illustrated by the temporal increase in nitrogen load from urban areas under three control scenarios: no control, control beginning in 1975, and control beginning in 1992 (Figure 6c). The nitrogen loadings under the no control condition were derived based on urban development trends in Gwinnett county. The control conditions for each of the treatment scenarios consisted of a 50% reduction goal in nitrogen loading from all new development and 10 to 25% reduction goals from existing and retrofit urban areas. The projection of annual nitrogen loads to year 2012, for controls beginning in 1975 and controls beginning in 1992, shows an overall annual reduction of 734 and 420 tons of nitrogen respectively, corresponding to 45% and 25% of the projected value for the uncontrolled condition. A comparison of the two control programs shows that **if implementation of stormwater controls is delayed, achieving lower levels of nitrogen loadings may require implementation of a retrofit program with limited control options consisting primarily of costly structural practices.**

As discussed earlier, the recent and projected rapid growth rate of the urban fringe area of Gwinnett County is expected to parallel a similar rapid growth rate of urban fringe areas nationwide. **A basic principle of stormwater controls for urban development is that it is much more cost effective and institutionally feasible to develop controls for new development than it is to retrofit old development.** At the time the 319 status on water quality impairment was last reported (1991), stormwater runoff from urban and land development activities representing only about 2% of the Nation's land surface was responsible for 18% to 62% of the reported impairment to surface water bodies (see Table 3). The growth rate of urban land areas for the last 4 decades (based on Bureau of Census data) has been about 20% per decade creating the potential for rapidly increasing impacts if stormwater discharges from new urban fringe growth is not adequately managed.

Fully Developed Core Urban Areas. In fully developed urban areas, the amount of impervious land is extensive, providing further opportunity for pollutants to wash off urban surfaces in even larger amounts. Original stormwater systems were typically constructed for flood control purposes. Water quality programs probably did not address stormwater quality concerns and runoff is typically directed to surface water. Older, more established urban areas are also characterized by greater commercial and industrial activities; the existence of leaks, cross connections and illicit discharges into sewer systems; and often the existence of combined sewer systems. These create opportunities for the release of toxic pollutants and large amounts of pathogens during wet weather overflows of the combined sewers.

Pollutant concentrations in urban runoff vary considerably, both during the course of a storm event and from event to event at a given site, from site to site within a given urban area, and from one urban area to another across the country. This variability is the result of variations in rainfall characteristics, differing watershed features that affect runoff quantity and quality, and variations in urban activities (Woodward-Clyde, 1990). Table 7 presents ranges of urban runoff pollutant concentrations based on re-

Table 8. Strength of Point and Nonpoint Urban Sources[a]

Wastewater type	BOD_5 mg/L	SS mg/L	Total N mg/L	Total P mg/L	Lead mg/L	Total coliforms MPN/100 mL
Urban stormwater	10 to 250	3 to 11,000	3 to 10	0.2 to 1.7	0.03 to 3.1	10^3 to 10^6
Construction site	not available	10,000 to 40,000	not available	not availble	not available	not available
CSOs	60 to 200	100 to 1,100	3 to 24	1 to 11	0.4 (mean)	10^5 to 10^7
Light industrial	8 to 12	45 to 375	0.2 to 1.1	not available	0.02 to 1.1	10
Roof runoff	3 to 8	12 to 216	0.5 to 4	not available	0.005 to 0.03	10^2
Untreated sewage	160 (mean)	235 (mean)	35 (mean)	10 (mean)	not available	10^7 to 10^9
POTW effluent	20 (mean)	20 (mean)	30 (mean)	10 (mean)	not available	10^4 to 10^6

[a] *Source. Ellis (1986) as reported by Novotny (1992)*

the Nationwide Urban Runoff Program (NURP). Values represent the mean of event mean concentration (EMC) pollutant values for the median, 10th percentile, and 90th percentile sites in the NURP data. Although statistically significant differences in EMCs were not detected amount the three major urban land use categories (i.e., residential, commercial, and mixed urban), or among geographical locations or between runoff events (volumes), nevertheless these data are perhaps the best available for planning purposes in describing the general quality of urban runoff. The NURP data base does not, however, represent pollutant contributions from illicit connections, spills, industrial activities, or dumping, as these sources were not evaluated at the time NURP was conducted.

A comparison of the pollutant strength (i.e., concentrations) of typical point and nonpoint urban sources is presented in Table 8. **The pollution potential of urban runoff carried by separate storm sewers is similar to treated municipal wastewater, while that of combined sewer overflows (CSOs) is greater than treated and less than untreated municipal wastewater (Novotny, 1992). Although the pollution strength of CSOs is somewhat less than that of raw wastewater, an overflow from a large storm may shock the receiving waterbody many times greater than a normal effluent load.** Floatable debris in CSOs and separate storm sewers can further degrade receiving water. This debris represents both an aesthetic problem and a threat to aquatic life.

Impacts on Aquatic Ecosystems. The aquatic ecosystems in urban headwater streams (i.e., streams whose upper reaches lie within urbanizing areas) are particularly susceptible to the impacts of urbanization (Scheuler, 1987). The massive shift from natural flow and channel conditions reduce the habitat value of the stream. As reported by Scheuler (1987), studies of fish diversity and abundance over time in urbanizing streams [Dietemann (1975), Ragan and Dietemann (1976), Klein (1979) and MWCOG (1982)] have shown that fish communities become less diverse and are composed of more tolerant species after the surrounding watershed is developed. Sensitive fish species either disappear or occur **rarely. The total number of fish in urbanizing streams also usually declines.**

Similar trends have been noted among aquatic insects which are a major food resource for some species of fish (Schueler, 1987). These species cling to rocks (or other aquatic substrates) and rely on the passing flow of leaf litter and organic matter for sustenance. Higher post-development sediment and trace metals can interfere in their efforts to gather food. Changes in water temperature, oxygen levels, and substrate composition can further reduce the species diversity and abundance of the aquatic insect community.

No single factor is responsible for the progressive degradation of urban stream ecosystems. Rather, it is probably the cumulative impacts of many individual factors such as sedimentation, scouring, increased flooding, lower summer flows, higher water temperatures, and increased pollutants. A more detailed discussion of the impacts of urban stormwater pollution on receiving waters is presented in the next chapter of this booklet.

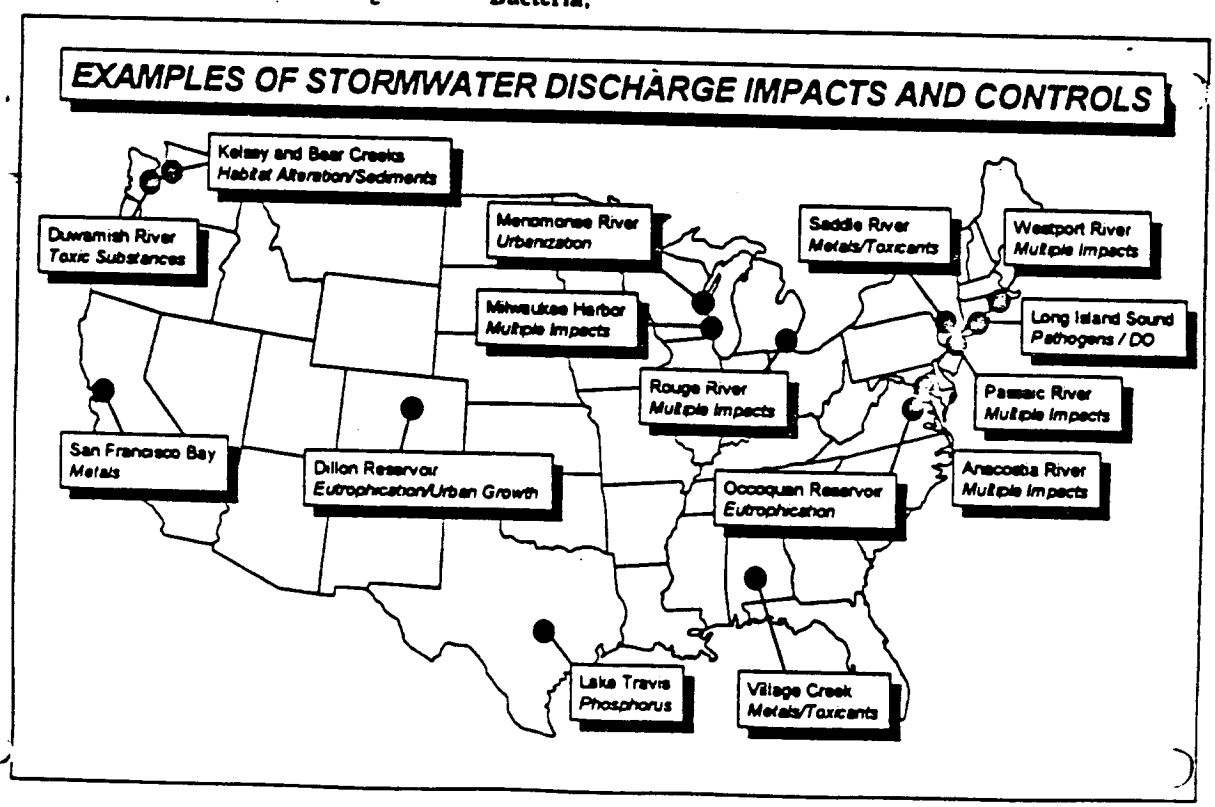
POLLUTANTS IN STORMWATER AND EXAMPLES OF ASSOCIATED IMPACTS

The net effect of urbanization is to increase pollutant export by several orders of magnitude over pre-development levels. The impact of the higher export is felt not only on adjacent streams, but also on downstream receiving waters such as lakes, rivers, and estuaries. The nature of the impacts associated with specific urban stormwater pollutants are reviewed in this chapter. Examples of documented impacts covering the range of pollutants and source types are also presented. The land activities that are likely to result in the most severe receiving water impacts are also identified (after Scheuler, 1987). The following principal types of pollutants found in urban runoff are addressed:

- **Sediment/habitat alteration;**
- **Oxygen-demanding substances** (organic matter);
- **Nutrients**
  - phosphorus
  - nitrogen;
- **Toxic substances**
  - heavy metals
  - oil and grease
  - others;
- **Bacteria;**
- **Floatables;** and

the multiple impacts of several of these pollutants acting in concert.

The locations of the fifteen case examples of documented receiving water impacts caused by stormwater pollution are shown on the map below. Examples which address stormwater control practices are also presented in the last chapter of this booklet.



Sediment/Habitat Alteration

High concentrations of suspended sediment in streams can cause multiple impacts including increased turbidity, reduced light penetration, reduced prey capture for sight feeding predators, clogging of gills/filters of fish and aquatic invertebrates, reduced spawning and juvenile fish survival, and reduced angling success. Additional impacts result after sediment is deposited in slower moving receiving waters, such as smothering of the benthic community, changes in the composition of the bottom substrate, more rapid filling of small impoundments which create the need for costly dredging, and reduction in aesthetic values. Sediment having a high organic or clay content is also an efficient carrier of toxicants and trace metals. Once deposited, pollutants in these enriched sediments can be remobilized under suitable environmental conditions to pose an additional risk to benthic and other aquatic life. A study of Kelsey Creek in Seattle, WA, revealed the impacts of stormwater flows and sedimentation on fish populations (Kelsey and Bear Creeks).

The greatest sediment loads are exported during the construction phase of any development activity. Furthermore, in intensively developed watersheds, increased streamflow can result in channel degradation requiring streambank erosion controls.

Kelsey and Bear Creeks, Seattle, Washington (Habitat Alteration/Sediments)

A comparison of urban Kelsey Creek to rural Bear Creek near Bellevue, Washington (Pitt and Bissonette, 1984); indicated significant interrelationships among the physical, biological, and chemical characteristics. The urban creek, although not grossly polluted, contained a limited and unhealthy salmon fishery where many fish suffered from respiratory anomalies. The most significant impact resulting from the urban area is high flood flows which alter the stream channel, and carry priority pollutants, organics and metals through the stream system. Low dissolved oxygen in the stream bed results in low embryo survival rates.

Monitoring conducted by the City of Bellevue, the U.S. Geological Survey, and the Municipality of Metropolitan Seattle revealed that concentrations of metal and organic priority pollutants are higher near the source areas than in the stream itself. Heavy metals were observed to originate primarily from street dirt.

Evaluations of control practices indicated that detention basins in a residential area did not significantly improve runoff quality although peak flows were reduced by approximately 60%. A specialized street sweeper was needed to obtain effective removal of small dirt normally washed off by rain as regular street cleaning removed only a maximum of 10% of pollutants. Bi-yearly catchbasin cleaning resulted in a maximum effectiveness of 25%.

Urbanization has led to rapid stormwater conveyance to streams. However, these increased flows result in the transport of metals and toxic pollutants through the stream system with little deposition in the stream bed. If the flows are reduced, increased amounts of toxic materials are expected to settle in the stream bed with increased negative effects on aquatic life. However, reducing the flows would allow the retainment of many smaller fish and organisms which are currently washed from the system. The monitoring and stormwater control management of Kelsey Creek demonstrates the importance of balancing the benefits obtainable from reduced flows with the potential impacts resulting from increased deposition of toxic pollutants and organics.

Oxygen Demanding Substances

Decomposition of organic matter by microorganisms depletes dissolved oxygen (DO) levels in receiving waters, especially slower moving streams and lakes and estuaries. There are several measures of the degree of potential DO depletion, the most common of which are the Biochemical Oxygen Demand (BOD) test and the Chemical Oxygen Demand (COD) test. Both of these tests have problems associated with their use in urban runoff, but it has been demonstrated (e.g., Rouge River, Western Long Island Sound—see insets) that urban run-

off can severely depress DO levels after large storms, and that BOD solids can accumulate in bottom sediment causing impacts during periods of dry weather. BOD levels can exceed 10 to 20 mg/l during storm events which can lead to anoxic conditions (zero oxygen) in shallow, slow-moving or poorly-flushed receiving waters. The problem is particularly acute in some older urban areas, where storm runoff BOD mixes with overflows from combined or sanitary sewers.

The greatest export of BOD typically occurs from older highly impervious, highly populated urban areas with outdated combined storm sewers. In contrast, only moderate BOD export has been reported from newer, low density suburban residential development. A study of the Rouge River, Michigan, included an examination of BOD loadings from a highly developed basin, and is presented at right (Rouge River).

Rouge River, Michigan
(Multiple Impacts)

The Rouge Basin, located in Southeast Michigan in the Detroit metropolitan area, is a fan shaped basin with four river branches draining 438 square miles. In addition to the four major river branches, the Basin's surface water system includes numerous tributary streams and over 400 lakes and ponds. The Basin contains all or part of 48 municipalities with a population of 1.5 million people. More than 50 percent of the land in the Basin is developed for residential, commercial or industrial uses with portions intensely urbanized (Newport and Davenport, 1988). The City of Detroit and the older cities adjacent to Detroit have combined sewers. Though the Rouge has been designated as a warm water fishery and suitable for recreational and agricultural use, applicable water quality standards, including dissolved oxyten, are not being met. The Rouge has been designated as an Area of Concern by the International Commission overseeing the Great Lakes, as it contributes some of the greatest pollutant loadings to the Great Lakes. Annual stormwater loadings in 1985 to the Rouge Basin were estimated to be 6,360,000 lb/yr BOD_5 (45% of the total BOD_5 load), 154,000,000 lbs/yr TSS (88% of the total TSS load), and 1,110,000 lb/yr nitrogen (about twice the nitrogen load from CSOs). CSOs contribute 5,489,000 lbs/yr BOD_5 (40%) of the total load), 13,100,000 lbs/yr suspended solids (8%) and 567,000 lbs/yr nitrogen. Loadings are impairing the uses of the Basin.

In July 1985, the Michigan Water Resources Commission passed a resolution requesting the department of Natural Resources to develop a Remedial Action Plan (RAP) addressing the water quality in the Rouge Basin. Of particular concern were the adverse impacts from CSOs, illicit connections to storm drains and storm water runoff. The RAP, published in 1989, recommends a 20 year program of nearly $1 billion to eliminate CSOs, improve separate sanitary sewers, upgrade treatment facilities and fund local stormwater programs.

Nutrients

The levels of phosphorus and nitrogen in urban runoff can lead to accelerated eutrophication in downstream receiving waters. Generally, phosphorus is the controlling nutrient in freshwater systems. The greatest risk of eutrophication is in urban lakes and impoundments with long detention times (two weeks or greater). Surface algal scums, water discoloration, strong odors, depressed oxygen levels (as the bloom decomposes), release of toxins, and reduced palatability to aquatic consumers are among the problems encountered. High nutrient levels can also promote the growth of dense mats of green algae that attach to rocks and cobbles in shallow, unshaded headwater streams. High nutrient loads from urban runoff, in combination with other sources, can contribute to eutrophication in both fresh and tidal waters.

As a general rule of thumb, as impervious area increases, nutrients build-up on surfaces and runoff transport capacities rise as well, leading to high pollution loads. Exceptions include land under development, and land activities that receive unusually high fertilizer inputs, such as golf courses, cemeteries, and other intensively landscaped areas.

Examples of eutrophication caused by nonpoint sources of nutrients include the Dillon Reservoir in Colorado and the Occoquan Reservoir

(/irginia. These are discussed in the following chapter on control practices.

Toxic Substances

Toxic substances are all defined as materials capable of producing an adverse response or effect in a biological system. A large number of potentially toxic compounds are routinely detected in urban stormwater. These include trace metals (lead, zinc, copper, and cadmium) pesticides and herbicides, hydrocarbons (derived from oil and grease, and gasoline runoff). These toxic chemicals tend to accumulate in benthic sediments of urban streams, lakes, and estuaries. Both the San Francisco Bay, and the Duwamish River, Washington have received significant loadings of (ic substances and heavy metals from stormwater runoff, and are presented at right (San Francisco Bay, Duwamish River).

Heavy Metals - Heavy metals are of concern because of their toxic effects on aquatic life and their potential to contaminate drinking water supplies. The heavy metals having the highest concentrations in urban runoff are copper, lead, and zinc with cadmium a distant fourth. However, when inappropriate connections between sanitary and storm sewers are present, other heavy metals such as arsenic, beryllium, chromium, mercury, nickel, selenium, and thallium can be found. A large fraction of the heavy metals in urban runoff are adsorbed to particulates and thus are not readily available for biological ake and subsequent bioaccumulation. Also, the typical periods of exposure are those of urban runoff

San Francisco Bay (Metals)

Southern San Francisco Bay is a highly urbanized estuary in the Santa Clara watershed which encompasses the Silicon Valley (Mulmey, 1988). The Bay is a major navigable waterway for the U.S. Navy and commerce, a valuable fishery for salmon and herring and a recreational resource. Despite significant advances on controlling municipal and industrial point source pollution over the last two decades, water quality impairment due to toxic pollution from urban runoff continues in the southern bay segment. The California Regional Water Quality Control Board adopted water quality standards for copper, lead, nickel and zinc to protect the beneficial uses of the Bay and , with local municipalities, developed a water-quality/technology based program for reducing urban runoff pollutants. Sources of pollution include urban runoff, illicit connections, illegal dumping and construction/development sites.

Duwamish River, Washington (Toxic Substances)

The Duwamish River is vital to Washington State's commerce as a primary navigational route, a major contributor to the State's salmon and steelhead trout industry and a recreational resource (USEPA, 1990). The lower six miles of the river flow through a heavily industrialized area of Seattle including airplane factories, shipyards, metal scrap yards, oil tank farms and port facilities. Though water quality improvements were observed through control of point sources, metals and organic toxicants from industrial and urban nonpoint sources continued to degrade water quality in the river. In the early 1980's copper concentrations in the river water exceeded the USEPA's acute freshwater criterion (18 ug/l), and lead concentrations exceeded the EPA chronic freshwater criterion (3.2 ug/l). The highest concentrations of metals (lead, copper, zinc, mercury and cadmium) were found unevenly distributed in the sediments of the river, suggesting that contaminants came from localized sources (such as storm drains) where zinc concentrations were as high as 3,000 ppm and lead as high as 18,000 ppm. Sediments inside a storm drain near a lead smelter were found to contain 350,000 ppm (or 35%) lead. These sediments were removed and handled as hazardous waste. Sources of pollutants along the river included illegal dumping in storm drains, mismanagement of industrial chemicals and wastes, industrial activities, and storm drain sediments. Storm drain sediments contained significant concentrations of copper, lead, arsenic, zinc, mercury, PCBs and cadmium from historic activities.

The Municipality of Metropolitan Seattle (Metro) received a Clean Water Act Section 205 grant for sampling storm drain sediments to track pollutants and locate sources. Eventually, the sediments themselves were considered a significant source. Removal of sediments from storm drain systems and reductions in contaminant inputs from industrial facilities eliminated major sources of contamination to the Duwam sh River. In 1989, sediments in a storm drain line near a lead smelter contained 85 to 97 percent less lead than 1984 levels. Remedial actions at smelter and electric transformer recycling facilities resulted in reduced PCB, copper and lead concentrations in the stormwater. Reduced activity at shipyards (due to economic factors) and implementation of voluntary and mandatory BMPs in salvage yards reduced zinc loadings by 90 percent from 194 lb/day to 15 lb/day.

events (typically under 8 hours), which are much shorter than the exposure periods used in bioassay tests (typically 24 to 96 hours for toxicity testing). Nonetheless, it is likely that the heavy metals in urban runoff are toxic to aquatic life in certain situations, particularly for the more soluble metals such as copper and zinc. Additionally, resuspension of bottom deposits from high flow events may impact on downstream benthic invertebrates. Compared to risks to aquatic life, human health risks appear to be more remote.

Oil and Grease - Oil and grease contain a wide variety of hydrocarbon compounds, some of which (e.g., polynuclear aromatic hydrocarbons) are known to be toxic to aquatic life at low concentrations. Hydrocarbons are often initially found as a rainbow colored film or sheen on the water's surface. Other hydrocarbons, especially weathered crankcase oil, appear in solution or in emulsion and have no sheen. However, hydrocarbons have a strong affinity for sediment, and much of the hydrocarbon load eventually adsorbs to particles and settles out. Hydrocarbons tend to accumulate rapidly in the bottom sediments of lakes and estuaries, where they may persist for long periods of time and exert adverse impacts on benthic organisms. The precise impacts of hydrocarbons on the aquatic environment are not well understood. Bioassay data which do exist are largely confined to laboratory exposure tests for specific hydrocarbon compounds. Remarkably few toxicity tests have been performed to examine the effect of urban runoff hydrocarbon loads on aquatic communities under the typical exposure conditions found in urban streams.

Other Pollutants - Other toxic compounds that have been detected in urban runoff include pesticides, herbicides, and synthetic organic compounds. Concentrations of these toxic substances in runoff from residential and commercial areas rarely exceed current water quality criteria. However, it should be noted that there has been relatively little sampling of runoff reported from industrial areas, where toxic compounds might be expected to be more prevalent (e.g., Duwamish River).

Examples of Impacts from Toxic Substances. In-stream monitoring of Village Creek in Birmingham, Alabama (Water Quality Engineers, 1981—not an inset) provides a classic example of stream degradation due to intense urban development. At the stream's origin at Roebuck Springs, the creek had excellent physical and chemical characteristics, supporting watercress and other vegetation. By the time the stream passed through the city, it turned grey-green and had an oily sheen and contained significant debris. Further downstream at the western limits of Birmingham, the creek was dark green, had a putrid odor and contained considerable oil and grease. At this point the creek was often anaerobic and contained no fish or other biological life. This study found that, on an annual basis, more than 90 percent of the copper loadings, more than 75 percent of the chromium and zinc loadings, and about 40 percent of the lead loadings originated from urban runoff.

A study (Dong et al., 1979, and Southeastern Wisconsin Plannin Commission, 1976—not an inset) of the Menomonee River near Milwaukee, Wisconsin indicated that the upper, more rural reaches of the river had an average of 40 times more fish than the lower, urbanized reach. The urban segments of the river supported a significantly reduced and scattered fish population and some segments were virtually devoid of even highly pollution tolerant species. These conditions are the combined result of higher concentrations of toxic pollutants and poorer habitat conditions resulting from increased flow velocities and channelization. Further, the watershed benthic community is in poor condition in the urban area. The Menomonee study concluded that a relatively small degree of urbanization, less than 20 percent, was sufficient to cause significant receivir water degradation.

Studies at other locations have produced results similar to those cited above. Interestingly, toxic pollutants or long-term oxygen depletion has been found to cause more serious receiving water problems than short-term, event-related oxygen depletion or other concentration excursions. The long-term affects due to accumulation of toxic compounds in sediments and their subsequent movement through the food chain is especially pronounced in urban receiving waters. Studies on the Saddle River near Lodi, New Jersey (Wilbur and Hunter, 1980) found significant enrichment of heavy metals (two to seven times) in lower Saddle River sediments (affected by urbanization) as compared to upper rural reaches (see also Saddle River case

(udy at right) Similar results were found in a stream near Champaign-Urbana, Illinois (Rolfe and Reinhold, 1977—not an inset), where the upper two inches of sediment in an urban stream reach had much higher lead concentrations (almost 400 ug/g) than sediments in the rural stream reaches. Species diversity of plants and animals were found to be lower in urban streams as compared to streams in rural areas. This impact is likely to be influenced by habitat and temperature changes, as well as pollutant levels.

Bacteria

Bacterial levels in undiluted urban runoff usually will exceed federal public health standards for water contact recreation and shellfish harvesting. Because bacteria multiply faster during warm weather, it is not uncommon to find a twenty-fold difference in bacterial levels between summer and winter. The substantial seasonal differences often found do not correspond with comparable variations in urban activities. This suggests that in addition to temperature effects, many sources of coliform unrelated to those traditionally associated with human health risk (e.g., animal excrement, illicit connections, leaking sanitary collection systems), may be significant. Thus, despite the high numbers of coliforms found in urban runoff, in the absence of contamination from sanitary sewage, the health implications are unclear. The current literature suggests that fecal coliform may not be consistently reliable in identifying human health risks from urban runoff pollution (Moffa, 1990). The impact of bacterial pollution in coastal waters is illustrated in the Western Long Island Sound and Westport River, Massachusetts case studies (see insets next page).

Saddle River, New Jersey
(Metals/Toxicants)

Saddle River drains an area of 59 mi^2 extending from the headwaters in Southern Rockland County, NY to Garfield, NJ where it intercepts the Passaic River. The study was centered around the lower reaches of the Saddle River and encompasses the borough of Lodi, NJ. The area is heavily urbanized with 60% of the area as single-family housing, 6% multi-family residential, 11 % industrial, 12% commercial, 10 % open and 2 % public and municipal (Wilber and Hunter, 1980). Because municipal and industrial wastewater is dispatched to Passaic Valley Sewerage Authority via trunk sewers, the only pollution from Lodi is from nonpoint sources. Eleven individual storm hydrographs were monitored at the storm sewer outfalls during the project period. Samples were collected manually at 5 to 10 minute intervals over the complete hydrograph. Water samples were analyzed for lead, zinc, copper, nickel, and chromium. The major contributors of heavy metals in stormwater were lead and zinc. They accounted for 89% of the total metals observed. Copper, nickel and chromium were usually found in smaller quantities.

Rainfall as a source of metals to the Saddle River was investigated by collection of rainwater samples by local residents. The concentration in precipitation was between 4 and 10 percent of the concentration in runoff. Peak concentrations of heavy metals in runoff were observed within the first half hour after the initiation of runoff, thus giving a first flush effect. In general, metal loadings were correlated with increased percentages of commercial and industrial land-use. An average of 66 percent of the total solids for the three storms studied were removed after four hours of settling. The majority of the lead and zinc were found in the non-settleable solids fractions. Copper was found primarily in the soluble plus colloidal fractions.

Studies conducted by the National Oceanic and Atmospheric Administration (NOAA, 1988, 1989, and 1990) indicate that urban runoff is a major pollutant source which adversely affects shellfish growing waters. The NOAA studies identified urban runoff as affecting over 578,000 acres of shellfish growing waters on the East Coast (39 percent of harvest-limited area); 2,000,000 acres of shellfish growing waters in the Gulf of Mexico (59% of the harvest-limited area); and 130,000 acres of shellfish growing waters on the West Coast (52% of harvest-limited areas).

Although nearly every urban and suburban land use can export bacteria at levels which will violate health standards, older and more intensively developed urban areas typically produce the greatest export. The problem is especially significant in urban areas that experience combined or sanitary sewer overflows that export bacteria derived from human wastes.

Floatables

Floatable debris in stormwater runoff commonly includes plastic and paper products, garden refuse, tires, and metal and glass containers. These pollutants degrade the aesthetic quality of both receiving waters and river banks and shorelines. Vegetation and wildlife may also be impacted. In the tidal Anacostia River, Maryland, floating debris has impaired restoration efforts by hindering the establishment of emergent vegetation (USACOE, 1990). Fish and aquatic wildlife mortality may also be attributed to debris, due to either ingestion or entanglement in the slowly decomposing materials.

Western Long Island Sound (Pathogens/DO)

Long Island Sound is a major marine resource for the state of Connecticut as well as a source of recreation to more than ten million New Yorkers. Water quality of Western Long Island Sound has been degraded by both point and nonpoint discharges which have resulted in low DO concentrations, toxic contamination, and closure of beaches and commercial shellfish beds due to high fecal coliform concentrations. Combined sewer overflows and urban stormwater runoff are two significant pollution sources to Long Island Sound. It is estimated that up to 85% of the sewer lines in New York City are combined. Urban runoff is the largest identified nonpoint pollution source, based on the number of estuaries along the Connecticut shoreline impacted. Stormwater runoff pollution from New York City has been implicated in a New York Harbor Water Quality Survey because of the increase in coliforms and reduction in DO observed after rainstorms. Increases in coliform levels between 3 and 8 times were observed after rainfall events for Jamaica Bay, Upper Harlem River, Gowanns Canal, Hudson River, Lower East River, and Western Long Island Sound. These increases were due to urban stormwater runoff and CSOs (City of New York, 1987).

Westport River, Massachusetts (Multiple Impacts)

Analysis of pollution sources to Buzzards Bay is typified by loads to the Westport River and includes pollution from surface runoff, boat discharges, storm sewers, septic systems, feedlot and pasture runoff. Nonpoint source pollution has been implicated based on the high concentrations of coliform bacteria observed after rainfall events. Bacteria, nutrients, and solids contamination from nonpoint sources has impacted water quality of the East Branch of the Westport River (EBWR), one of the most productive shellfisheries on the south shore of Massachusetts. Violations of Class SA (for tidal, salt water suitable for primary contact recreation) water quality criteria for coliform bacteria have forced the closure of 960 acres of shellfish beds (over 75% of the shellfish producing area) in 1979, including soft-shell clams, quahog and oyster beds. Since between 1983 and 1985, 555 acres of the 960 acres permanently closed in 1979 have been reclassified to allow periodic harvesting. The area between Gunning Island and Cadman's Neck was closed for a minimum of eight days following a rainfall of one inch or more. These standards were not sufficient for the area north of Cadman's Neck (200 areas), which in 1985 showed bacterial levels in excess of the standard for at least 10 to 16 days after rainfall; this area remains permanently closed. It has been estimated that annual losses in commercial shellfishing exceed 1$ million not including losses to recreational diggers.

Westport is primarily a rural community that has experienced a population growth of 25% between 1970 and 1975. Most of the land in the drainage basin is undeveloped, consisting predominantly of forested land with smaller areas of wetlands and lakes. Agricultural land, primarily cropland with some pastureland, is the second largest land use within the region. Residential, commercial and industrial land comprise less than 10 percent of the total watershed. In the past 35 years, significant land use changes have occurred within the southeastern Massachusetts area. From 1951 to 1971, developed land within Westport increased by 96%, while open, forested, and agricultural land decreased by 19%. The conversion of undeveloped land continued with residential land use increasing by 1,500 acres and commercial land increasing by 110 acres between 1971 and 1981. Land use data developed by the Soil Conservation Service and the Environmental Protection Agency showed that between 1983 and 1988 combined residential and urban land use increased by 13%. Agricultural, forested, and open land use decreased by 8% during this same period (Metcalf & Eddy, 1989).

EXAMPLES OF SUCCESSFUL STORMWATER CONTROLS

In this last chapter we examine general stormwater control practices and present examples of successful stormwater programs implemented at various stages of urban development. **A basic principle of stormwater controls for urban development is that it is much more cost effective and institutionally feasible to develop controls for new development than it is to retrofit old development.** Structural practices for stormwater pollution control require not only capital but operation and maintenance costs, and are often constrained by spatial and financial limitations in core urban areas. In addition, some structural controls can destroy the resource it is designed to protect due to disruption of the hydrologic cycle. In contrast, non-structural practices may be included in the development process, for which municipalities usually have pre-existing permitting programs. Combining both types of controls into an integrated stormwater management program can result in effective water quality protection at minimal cost. Before presenting representative case studies, the practices for control of stormwater are first defined.

Examples of Non-Structural Stormwater Practices

- Zoning Ordinances
- Subdivision Regulations
- Capital Improvement Plans
- Site Plan Reviews
- Planned Unit Development Reviews
- Restrictive Covenants
- Environmental Impact Assessment/Statements
- Public Education Programs
- Growth Management
- Buffers and Setbacks
- Environmental Permitting
- Pollution Prevention for All Sources
- Spill Control Programs
- Road Maintenance Programs

Control Practices

Non-Structural Practices. Non-structural practices are those not requiring construction or maintenance. These differ from structural practices in that they are preventative in nature, and have the potential to be more cost effective especially if implemented early in the site planning stages. They include such practices as: regional comprehensive stormwater management programs; planning future development to minimize stormwater runoff; limiting the amount of impervious surface in new and retrofitted development; instituting fertilizer and pesticide management programs; requiring setbacks from surface water and wetlands to protect their environmental integrity; siting infrastructure so as not to encourage development in environmentally sensitive areas that are critical to maintaining water quality; requiring the use of best management practices through land development regulations and site plan approval; and inspecting stormwater management systems and erosion control structures to ensure they are functioning properly.

Examples of Structural Stormwater Practices

Developing Areas

- Extended Detention Ponds
- Stormwater Wetlands
- Multiple Pond Systems
- Infiltration Trenches
- Infiltration Basins
- Filter Strips

Core Urban Areas

- Illicit Connection Controls
- Porous Pavements
- Stormwater Detention/Wetland Retrofits
- Sand Filters

Non-structural practices for controlling stormwater pollution have typically centered around preventing land use disruptions on areas critical to maintaining water quality and reducing the source of pollution.

Structural Practices. Structural management practices are defined as those designed and constructed to mitigate the adverse impact of stormwater runoff. The selection and use of individual practices has typically been based on land use activities, existing structures, hydrology and climate, soil type and other site specific conditions.

In addition to installation costs, structural practices usually require continuing operation and maintenance efforts. Table 9 summarizes the site-specific and maintenance burdens of several selected structural practices.

The lack of adequate maintenance and upkeep may dramatically reduce their effectiveness in removing pollutants from stormwater runoff. For example, a sand filter system in Maryland that had not been maintained for several years appeared to be clogged with sediment and grease to the point that the operation of the system may have been impaired (Shaver, 1991).

Separate storm sewers may also receive materials other than stormwater (e.g., illicit connections from industrial and commercial facilities). Controlling these sources may involve structural practices such as conventional wastewater treatment units, or repairing/retrofitting connections to the storm sewer system.

Integrated Management Programs. The stormwater management practices presented above may be used in conjunction with one another, taking an integrated approach to minimizing stormwater impacts. Structural practices could be targeted at areas already built up, while developing areas utilize a more non-structural approach.

Strategies have been shown to be successful when targeted to land disturbance, not necessarily land use, and should reflect land use/activity changes. Guiding development to areas capable of sustaining growth without excessive impacts to the natural environment, and encouraging the implementation of stormwater practices as development proceeds, can minimize the need for future stormwater control efforts. Many local governments have adopted integrated stormwater management programs to regulate development activities within their jurisdictions. Several states, including Oregon, New Jersey, Delaware, and Florida, have adopted comprehensive plans involving guidance of future growth and avoidance of water quality and quantity impacts associated with uncontrolled development.

Land Disburbance/Activity

The extent of stormwater pollution problems is dependent upon the land disturbance/activity which in turn is a function of the stage of the urbanization process. The range of stormwater management options applied has been based to a certain extent on the stage of land development, each stage representing a unique set of challenges and opportunities. Three land development stages that have been addressed by states and municipalities while developing stormwater management programs are defined below. Within each of these stages a brief description of relevant case studies illustrating different stormwater control approaches is presented.

Undeveloped Areas. Undeveloped areas consist of relatively unurbanized land with low population densities. Although the land use is primarily rural, the proximity and location of these lands presents the potential for eventual development into urban and suburban settings. Stormwater runoff from these areas currently results primarily from agricultural, forestry, and resource extraction activitie

Table 9. Regional, Site Specific, and Maintenance Considerations for Structural Practices to Control Sediments in Stormwater Runoff

BMP Option	Size of Drainage Area	Site Requirement	Regional Restrictions	Maintenance Burdens	Longevity
Infiltration basins	moderate to large	deep permeable soils	arid and cold regions	high	low
Vegetated filter strips	small	low density areas with low slopes	arid and cold regions	low	low if poorly maintained
Filtration basins and sand filters	widely applicable	widely applicable	arid and cold regions	moderate	low to moderate
Extended detention ponds	moderate to large	deep soils	few restrictions	dry ponds have relatively high burdens	high
Wet ponds	moderate to large	deep soils	arid regions	low	high
Constructed stormwater wetlands	moderate to large	poorly drained soils, space may be limiting	arid regions	annual harvesting of vegetation	high

undeveloped areas stormwater management programs may be integrated with local planning and regulatory programs at an early stage of development. These management programs, relying primarily on nonstructural practices, have been aimed at minimizing future degradation of water quality.

Depending on the expected degree and rate of development, integrated management programs have been tailored to address pollution generating activities associated with the various phases of urbanization. Many local governments, aware of the consequences of uncontrolled urbanization, have adopted planning programs in which stormwater pollution considerations were major decision criteria. Two case studies in which stormwater pollution control practices were addressed at an early phase of development are presented. These case studies are the Occoquan Reservoir, Virginia (see inset) which utilized zoning ordinances to achieve stormwater management goals, and Lake Travis, Texas in which point and nonpoint pollution concerns were integrated into a single management program, discussed below.

Lake Travis, Texas (Phosphorus)

The Highland Lakes, a chain of reservoirs in Central Texas, provide hydroelectric power, flood control, and recreational opportunities. Sedimentation, eutrophication, and toxic contamination problems caused by stormwater runoff to these lakes prompted the Lower Colorado River Association (LCRA) to develop the Water Quality Leadership Policy (WQLP) in 1988 (Hartigan and Wilwerding, 1991). Analysis of the monitoring data of the Highland Lakes showed that over 90% of the pollution was from nonpoint sources. LCRA estimates that the NPS loads to the Lake Travis basin could increase by 200 to 600 percent in the future, largely due to the conversion of rangeland into urban and suburban development. The WQLP initiated public education efforts along with a regulatory program to control nonpoint source pollution in its ten county district. The Lake Travis Nonpoint Source Pollution Control Ordinance was adopted by the LCRA Board of Directors in December 1989 and went into effect on February 1, 1990. The ordinance targets new urban and suburban development in the 250 square mile area of western Travis County.

The Lake Travis Ordinance establishes a set of performance standards that require new developments to remove a specified amount of the annual NPS pollution load, depending on the site's proximity to the shoreline and the slope of the property. Sites within 500 feet of the lake and/or those on steep slopes require a higher level of runoff treatment than those inland or on flatter ground. In general, the more intensively a site is developed, the more pollution must be removed. This approach recognizes the link between land use and NPS pollution; however, there are

Occoquan Reservoir, Virginia (Eutrophication)

The Occoquan Reservoir is the major water supply for 600,000 people in the Virginia suburbs of Washington, DC. The 9.8 billion gallon reservoir is located at the mouth of a 580 square mile watershed in Northern Virginia. Between 1976 and 1978 a special planning study carried out by the Northern Virginia Planning District Commission concluded that nonpoint sources of pollution were a significant contributor to water quality problems in the Occoquan Reservoir, and were much higher than originally thought (NVPDC, 1987, NVPDC, 1990). The primary concern for the reservoir was eutrophication resulting from nitrogen and phosphorus loadings.

In response to this study, the Occoquan Basin Nonpoint Pollution Management Program was initiated in February, 1982 to address nonpoint source pollution (NPS) in the Occoquan watershed.

This program is designed to manage nonpoint source pollution loadings from each of the watershed's jurisdictions, with each developing its own NPS program. Most of these local programs utilize Best Management Practices compiled in a BMP Handbook for the Occoquan Watershed. BMPs included in the Handbook include extended detention ponds, dry ponds, infiltration trenches and non-structural practices such as fertilizer application controls, street sweeping, and zoning changes.

The Program maintains a water quality model of the watershed to analyze the effects of land use changes on water quality. In 1982 Fairfax County "downzoned" approximately 27,000 acres in the Occoquan watershed to reduce the future nonpoint source pollution loads entering the reservoir, based on results from the model. Downzoning, the process of reclassifying existing zoning regulations (in this case to lower density residential), is ...ed to reduce development impacts. The validity of basing land use decisions designed to protect water quality on modelling results was recently upheld in Fairfax County Circuit Court.

no land use control stipulations in the ordinance.

The Ordinance requires all land owners proposing to develop land within the Lake Travis watershed to submit an application for review and plans on how the surface runoff from the site will be treated. The plan must include temporary erosion and sediment control plans including a restoration program for all disturbed areas, description of the design and location of structural practices used to meet the performance standards, and establishment of a maintenance organization to ensure that the structural practices are adequately maintained. An ongoing program conducted jointly by LCRA, the US EPA Region 6 and the U.S. Geological Survey will evaluate the Ordinance on a periodic basis to determine whether the standards are adequate to protect the water quality of Lake Travis and whether or not the structural best management practices are adequate to meet the standards of onsite pollutant removal.

Developing Urban Areas. Developing urban areas are those lands currently experiencing new development or redevelopment resulting in significant changes to the landscape. These areas include suburban cities and urban fringes located adjacent to urban areas.

Many of these areas are experiencing a dramatic rise in population compared to well established urban areas. For instance, between the 1970 and the 1980 period, the population of urbanized areas increased 30 times more (an increase of 18.9 million) than core cities with a population exceeding 100,000. One activity affecting stormwater quality in developing areas is land disturbance in and around construction sites where exposed soils results in increased sedimentation, erosion, and nutrient transport. Land disturbance in these areas may result in severe stormwater pollution if adequate control programs are not incorporated into the development process. Yet these areas, where the majority of new growth and land disturbance and conversion are occurring, are not necessarily covered under the Phase I NPDES stormwater program. Moreover, an important characteristic of these areas resulting from land conversion consists of permanent changes to land use patterns. These changes induce a significant disruption to the hydrologic cycle and modification of runoff water quality (modification of natural vegetation and infiltration rates, increase storm peak discharges and transport capacities, and decrease of low flow especially during prolonged dry periods).

Stormwater management efforts have been directed primarily toward controlling construction site stormwater runoff. Stormwater pollution control efforts have been minimized by retaining and treating stormwater onsite rather than by addressing impacts occurring offsite. To address impacts originating from developing areas, several state and local agencies have developed comprehensive programs incorporating both structural and nonstructural practices. Typical comprehensive studies include the Anacostia River study (see inset next page) that involves a sediment control program designed to control stormwater pollution from construction sites, and the Dillon Reservoir study in Colorado, discussed below, which addresses both stormwater and point source discharges.

Dillon Reservoir, Colorado: Eutrophication/Urban Growth

Dillon Reservoir is a large (2970 acre) impoundment of the Blue River in Colorado. The Reservoir supplies drinking water to the Denver metropolitan area and is used for recreation, fish habitat and agriculture. Water quality degradation, primarily eutrophication and sedimentation, has occurred since the Reservoir's construction over 20 years ago. At higher elevations the watershed is primarily undeveloped, while the lower elevations contain three major municipalities, four major treatment plants, housing developments and a large molybdenum mine. A study completed in 1983, supported by the EPA through the Clean Lakes Program of the Clean Water Act, identified phosphorus as the primary contributor to the Reservoir's eutrophication. According to the Clean Lakes study, which evaluated 1982 Reservoir phosphorus levels, human activities were found to account for about 1/2 of the total phosphorus load, and of this, between 1/2 and 2/3 was attributed to urban nonpoint sources including runoff from parking lots, golf courses, and construction sites, as well as leakage from septic tanks.

The Northwest Colorado Council of Governments, cooperating with local and state agencies, developed a strategy for phosphorus control by holding the phosphorus loadings to existing (1982) waste load allocation levels (4609 kg/yr) and allowing no further water quality degradation (USEPA, 1991b). To meet the

osphorus loading while allowing for future growth in the basin, nonpoint source controls were encouraged by allowing point/nonpoint source trading at a ratio of 2:1. For every 2 kg of nonpoint source phosphorus removed, 1 kg of phosphorus credit is added to the point source limit. This system provided for maintenance of existing phosphorus levels in the Reservoir, while accounting for increased loading from growth. In addition to providing environmental benefits, this program provides economic benefits and incentives for nonpoint source reduction. The 2:1 ratio provides a margin of safety in the source trading program, and if further phosphorus reduction in the Reservoir is desired, the ratio can be adjusted.

To date, only one point/nonpoint source trade has been completed. The low volume of trade has caused the program to operate differently than was first envisioned. The low volume of trade occurred because the POTWs were able to achieve some of the highest phosphorus removal efficiencies in the nation using expensive advanced treatment technology. Consequently, point/nonpoint source trading has played only a minor role in the overall basinwide phosphorus mitigation strategy. The major constraint to future development is a limit on nonpoint source phosphorus loading.

Although total phosphorus loading was only 5,559 pounds in 1989, i.e., 54 percent of the total phosphorus allowed, additional reductions phosphorus loadings must result from reductions in nonpoint sources. Nonpoint/nonpoint trades

Anacostia River Case Study, Metropolitan Washington, DC (Mutiple Impacts)

The Anacostia River watershed covers approximately 170 square miles of the metropolitan Washington, DC area. Roughly 145 square miles of the basin are in Maryland with the remaining 25 square miles within the District of Columbia. Nonpoint source pollution associated with storm runoff from construction sites were analyzed based on data collected from 9 subbasins in a 32 square mile area north of Washington, DC in Montgomery County, MD (Yorke and Herb, 1978).

From 1963 to 1974 the study area experienced extensive urbanization, a process that continued beyond the period of the study. Urban land use increased from 3 to 11% from 1966 to 1974 and suburban land increased from 6 to 23% of the total drainage area, resulting in significant increases in impervious areas. Impacts resulting from urbanization during this time included the loss of aquatic habitat and consequent decline in the biological community, increased sediment transport and bank erosion, widening of the stream channel, and increased flooding. Fish species in the Anacostia River declined from an average of 7.2 species per station in 1948 to 3.6 species per station in 1972. The decline of fish species was attributed to loss of habitat and increased stream sedimentation.

Changes in stream sediment yield were correlated to land development which averaged 3% of the basin during the study period. Regression analysis of this relationship indicated that 40% of the changes in sediment yield were due to construction activities. From this analysis sediment yield from construction sites was estimated to range from 7 to 100 tons per acre per year, with an average of 32.7.

In 1971 an existing sedimentation control program from construction/developing areas was enforced, requiring developers to incorporate and maintain control practices at their construction sites. The most commonly used measures were: 1) mulch and/or temporary vegetation to protect exposed slopes; 2) interceptor dikes to reduce erosion on rights of way by temporarily diverting storm runoff to where the water can be transported with minimal erosion; 3) grassed waterways, level spreaders, and grade stabilization structures to convey storm runoff through the construction site without erosion, 4) diversion berms to divert storm runoff from areas with critical slopes, 5) sediment basins to trap and store sediment from construction sites before it can enter the stream system. The program also included a number of non-structural practices, such as keeping the smallest practical area of land exposed for the shortest period of time, and fitting the development plan to the topography and soils so as to create the least erosion possible.

This program resulted in the implementation of control practices in up to 60% of construction sites in four subbasins. The enforcement of these practices resulted in an estimated reduction in suspended sediments from construction sites of 60 to 80%. It was estimated that the suspended sediment load in the Anacostia River basin between 1962 and 1974 would have been reduced by 50% if strictly enforced sediment control had been used throughout the period. At the time of the study, the cost of sediment control practices on 1,900 acres was estimated to be $1,030/acre corresponding to $19 for each ton of sediment control. This study indicated that costs could be reduced if construction were limited to areas with slopes less than 10% and sites immediately adjacent to stream channels were avoided. Those non-structural control practices would have the effect of preventing the problem before it occurred.

are beginning to be used to offset nonpoint sources from new development through the control of existing nonpoint sources. For example, the Frisco Sanitation District built a series of concrete vaults (man holes) to control runoff. Filtering the runoff through perforated pipes resulted in removal efficiencies of 50 to 70 percent for total phosphorus and the alleviation of drainage problems. Encouraged by the results of the first project, the district expanded its program to another section of town with the help of federal funds administered through the Clean Water Act's nonpoint source management program. Since the Frisco Sanitation District did not need all the phosphorus credits it earned, the credits were set aside for the construction of a new town golf course. The result was a nonpoint/nonpoint source trade. The removal capabilities of this project will be monitored to determine the actual phosphorus credits applied to the new golf course.

The county-owned Snake River treatment plant is also involved in a nonpoint source control trading project. The project will offset increased contributions of phosphorus to Dillon Reservoir resulting from a stream diversion plan by reducing loads from another stream that is currently responsible for the highest phosphorus load entering the Reservoir. The diverted stream is expected to load an additional 200 pounds of phosphorus into the Reservoir. The phosphorus reduction will occur on Soda Creek where the treatment plant has constructed a discharge contro. structure using an existing road causeway over the Reservoir to intercept and filter the stream flow. When Reservoir levels are low, phosphorus removal efficiencies of 50%, or 75 pounds, are expected. After modelling studies assess the actual removal achieved by the dam, phosphorus discharge credits will be shared equally by the Snake River Plant and the Denver Water Board.

The Dillon experience illustrates the importance of a comprehensive basin-wide management approach which does not focus on isolated point sources. Modelling studies considered the contributions from point, nonpoint, and background sources of phosphorus to determine the maximum loadings from these categories that would maintain the in-lake phosphorus standard of 0.0074 mg/L. As a result of Dillon's projective planning, 1989 phosphorus loads to the Reservoir totaled only 53 percent of the critical load. Modelling is an essential component of this water quality-based approach to evaluate current control strategies and predict the impact of future development.

Core Urban Areas. Existing urban areas, with typical population densities greater than 100,000, are communities with limited potential for new development. These existing, incorporated urban areas with typical populations greater than 100,000 are currently subject to Phase I NPDES stormwater permit requirements. The Phase I NPDES stormwater program also applies to some highly populated counties.

Original stormwater systems in established urban areas were typically constructed for flood control purposes. Water quality programs probably did not address stormwater quality concerns and runoff is typically directed to surface wat

These urban areas are characterized by high percentages of impervious surfaces, which contribute to increased storm water discharges and pollutant transport capacities. Reduction of infiltration rates and groundwater recharge also results in lower baseflows and higher pollutant concentrations in receiving waters, especially during prolonged dry periods. Other stormwater impacts include increases in temperature and concentrations of toxic chemicals, nutrients, heavy metals, oil, grease, and pesticides.

Core urban areas may also experience stormwater pollution problems resulting from illicit connections, leaking sanitary sewage systems, or ground water infiltration. Illicit connections can often be traced to the initial development of the storm sewer system, or arise during redevelopment where storm sewers are either mistaken for sanitary sewers or intentionally used for wastewater conveyance. In industrial facilities, floor drains or other discharge points which are connected to the separate storm sewer system may receive spills, rinse waters, or process wastewaters that should be sent to a treatment plant. Illicit connection programs are directed at identifying such problems for corrective action.

Stormwater control practices in established urban areas have typically included retrofits of detention ponds and controls on combined sewer systems as well as the construction of wetlands and sand filters. As development proceeds, the range of available non-structural options decreases. The following representa-

These case studies highlight a number of stormwater control programs. The Kelsey/Bear Creeks, Washington, case study below examines stormwater impacts from developed areas, and the effects of street sweeping, catchbasin cleaning, and detention ponds on runoff quality and quantity. Various stormwater control practices in the Milwaukee metropolitan area were evaluated using a computer simulation model (see inset next page). The Anacostia Watershed Retrofit Project (see inset below) illustrates a basin-wide approach to storm sewer retrofitting. Additional examples from core urban areas are also included.

Kelsey/Bear Creeks, Washington
Habitat Alteration/Sediment

Kelsey Creek (see page 22 inset) is located in a highly urbanized suburb of Seattle, Washington. The watershed is 90% developed with residential units and commercial/light industry uses (Pitt and Bissonnettee, 1984). Kelsey Creek, a natural water channel, was developed to convey stormwater from the City of Bellevue to Lake Washington, a major water body in the Puget Sound area. The creek serves as a recreational resource and has a productive, but limited, salmon fishery. Increased peak flows from urban development dramatically altered the stream channel causing severe streambed erosion. The number and diversity of aquatic organisms declined as bed scouring and the resultant deposition of suspended sediment destroyed stream habitat. Reduced dissolved oxygen in the sediments depressed salmon embryo survival. The fish population adapted to the degrading environment by shifting species composition from coho salmon to less sensitive cutthroat trout.

Urban stormwater was monitored for six metals and suspended solids. Dry weight concentrations of pollutants from various nonpoint sources, including atmospheric deposition, street dirt accumulation, and catchbasin and detention basin sediment, were measured. Impervious sources (streets, sidewalks, driveways, parking lots and rooftops) were found to contribute more than 60% of the total runoff flow when precipitation exceeded 0.1 inch. Street surfaces contributed 25% of the total flow in the monitored sites. Most of the total solids in urban runoff originated from residential yards. Nutrients were primarily detected in street dirt samples, originating from vehicle emissions. Only a small fraction of the total particulate loadings on the impervious surfaces were removed by rain (15%). Large particles were not effectively removed, while about one-half of the smallest particles (less than 50 microns) were washed off during rains. These small particles were not very abundant, but contained high heavy metal and nutrient concentrations. Most of the settled particulate material in the storm drainage inlets and sewerage pipes was not removed during observed storms.

Several control practices were instituted as pilot projects to determine their effectiveness: street sweeping, catchbasin cleaning and detention ponds. Intensive street sweeping (3 times per week) resulted in rapid and significant decreases in street surface suspended solids loadings, from 110 g/curb-meter down to 55 g/curb-meter. This 50% reduction in suspended solids loadings resulted in a maximum 10% decrease in metal loadings. The median particle size also decreased signifi-

Anacostia Watershed Retrofit Project, Metropolitan Washington, DC (Multiple Impacts)

Opportunities for urban retrofitting are limited in developed watersheds, but they can be implemented after extensive onsite evaluations. In the 179 square mile Anacostia watershed in Montgomery County, MD, over 125 sites were identified as candidates for retrofitting between 1989 and 1991 (Schueler et al., 1991). Retrofit operations included source reduction, extended detention (ED) marsh ponds or ED ponds to handle the first flush, additional storage capacity in the open channel, routing of stormwater runoff away from sensitive channels, diversion of the first flush to sand-peat filters, and installation of oil/grit separators in the drain network itself. The most commonly used technique in the Anacostia watershed is the retrofit of existing dry stormwater detention or flood control structures to improve their runoff storage and treatment capacity. Existing detention ponds are maintained by excavation, adding to the elevation of the embankment, or by construction of low-flow orifices. The newly created storage is used to provide a permanent pool, extended detention storage, or shallow wetland. Nearly 20 such retrofits are in some stage of design or construction in the Anacostia watershed.

cantly with intensive street cleaning. A regenerative air street cleaner showed substantially higher performance in removing the finer street particles. It appears that conventional street sweeping removes the larger particles and rain removes the smaller particles; however, street sweeping did not reduce loadings of toxic compounds by more than 10%. Cleaning of storm drainage inlets and catch basin sumps twice per year reduced the lead and total solids runoff concentrations by between 10 to 25%. COD, nutrients and zinc were reduced by between five and ten percent. After an initial cleaning, it appeared that almost a full year was required for sediment to reach a 'stable volume' in the storm drain inlet structures. Only 60% of the total available sump volumes in the inlet structures and catchbasins were used for detention of particulates at the 'stable volume.' Small detention basins (detention times of 30 minutes or less) did not have any significant effect on urban runoff quality but did reduce peak flow rates by up to 60 percent. Detention basins should be carefully located so increased flow rates do not disturb critical habitat areas. The final recommendation states that if intensive street sweeping was implemented along with semi-annual catchbasin sediment removal, urban runoff discharges for most pollutants would be reduced by as much as 25%. Though these reductions are small, they may be important in reducing the accumulation of contaminated sediments in smaller creek systems.

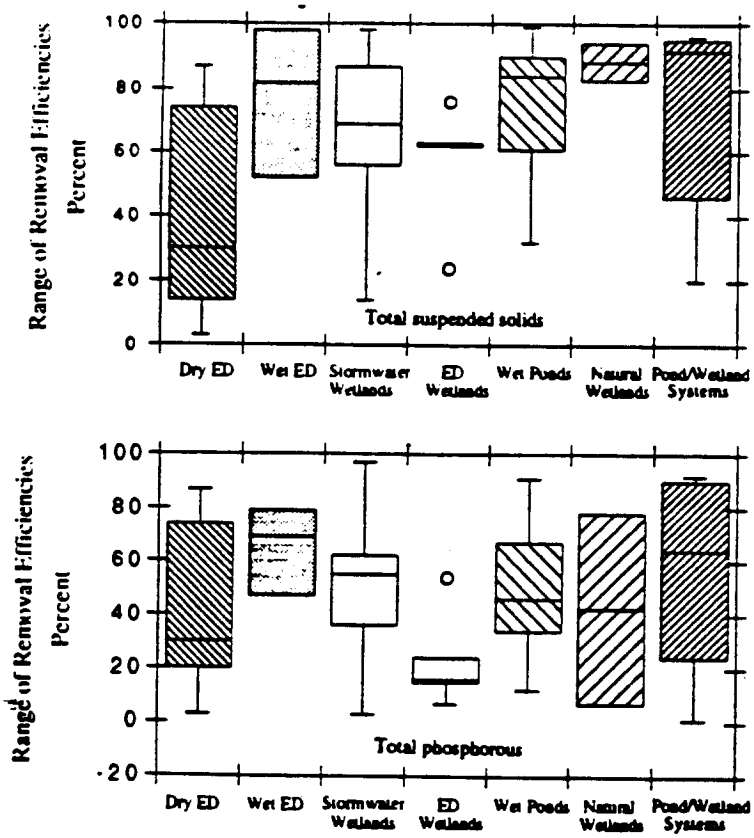
Milwaukee Harbor, Wisconsin
(Multiple Impacts)

Milwaukee Harbor is a freshwater reservoir-embayment of Lake Michigan. The Milwaukee River is productive, and typically oversaturated with oxygen, as it moves through the agricultural and mixed land uses of the upper two-thirds of the watershed (Pitt, 1986). Upon reaching the deeper and slower moving, impounded lower one-third of the watershed which includes the suburban and urban areas of the city of Milwaukee, dissolved oxygen levels plummet 5 to 6 mg/L resulting in periodic septic conditions. Point source sewage treatment plant discharges are not important for this watershed because only 10% of the city's population is served by sewage treatment plants that discharge into the river. Water quality and quantity are monitored at 6 sampling stations along the river by the Milwaukee Sewerage District and the U.S. Geological Survey.

The Ontario Ministry of the Environment, in cooperation with the Wisconsin Department of Natural Resources, funded the application of the Source Loading and Management Model (SLAMM) which was used to predict the effectiveness of various stormwater runoff source area, sewerage, and outfall controls for urban runoff in the Milwaukee metropolitan area. Performance data on control practices for reducing runoff flow volumes and lead discharges were obtained from two study areas in Toronto, including a mixed residential/commercial and a light/medium industrial area. The data from the Toronto study were augmented with extensive literature information on the effectiveness of source area and outfall urban controls. Control options analyzed using SLAMM included: increased street cleaning, catchbasin cleaning, wet detention basins, infiltration of runoff from half of the residential roofs currently draining to pavement, and combinations of these practices. Cost effectiveness of the retrofits was analyzed by examination of the cost per unit removal for suspended solids, phosphorus, fecal coliform bacteria, and lead for each of the control options.

Three cost-effective programs for stormwater runoff particulate control were identified: 1) detention basins and detention basins plus street sweeping at a cost of $2 to $3 per kg with a potential maximum control of 26%; 2) partial infiltration plus large wet basins at $6 per kg with a maximum control potential of 44%; and 3) all practices combined including increased street cleaning and catchbasin cleaning, partial infiltration, and large wet detention basins at $9 per kg with a maximum control level of 47%.

The most highly recommended program combined infiltration and wet detention ponds. However, control program performance varied for different land uses. The modeling effort further revealed that the age of development as well as land use should be considered in the evaluation of water quality and effectiveness of controls.



Legend

Reported removal efficiencies for each management practice are variable. To account for this variability the box and whiskers representation was used to display the range of the reported values and to characterize the distribution by indicating various percentiles. It should be noted that because of the limited data points, no advanced statistical tests were used to evaluate the significance of the reported data. The box encloses 50% of the reported values, with the lower and upper sides of the box representing the 25th and 75th percentiles respectively. The line inside the box represents the median value of the distribution. The horizontal whiskers above and below the box, if any, indicate the 90th and 10th percentiles, respectively. Extreme values, also called outliers, if any, (higher than the 90th or lower than the 10th percentiles) are represented by circles.

Total Suspended Solids and Phosphorus Removal Capabilities of Structural Stormwater Management Practices (MWCOG,1992)

Additional Examples of Successful Urban and Industrial Stormwater Control Practices

This study, prepared as a part of the Technical Guidance to implement Section 6217(g) of the Coastal Zone Act Reauthorization Amendments, provides a comparative assessment of various structural stormwater quality control practices (MWCOG, 1992). It analyzes the capabilities and limitations of eleven practices. The study thoroughly reviewed the existing literature, consulted with numerous local and state experts around the country, and analyzed data from ongoing projects. The results of the literature survey concerning the effectiveness of eleven stormwater management practices in removing total suspended sediment and total phosphorus presented in this study are illustrated in the Figures above.

Although a wide range of removal efficiencies for each practice was observed, high removal rates were achieved in a number of cases. The maximum removal rates for total suspended sediments ranged from 70% to more than 95%. The highest reported removals were achieved by wet ponds, wet extended detention ponds, natural wetlands, and ponds/wetland systems.

Wet Detention Ponds, Charlotte, NC

The performance of existing urban wet detention ponds in the City of Charlotte within the piedmont region of North Carolina, was evaluated based on a comprehensive data collection program (Wu, Holman, and Dorney, 1988). The hydrologic and water quality responses of three wet ponds were characterized during storm water events. The three ponds studied control a combined area of 437 acres. Although initially designed and built for storm runoff control, the results of this study indicate wet ponds have significant capacity to improve water quality.

Differences in removal efficiencies among the three ponds were attributed in part to surface area ratios calculated based on pond surface and subarea acreage. Observed removal of total suspended solids was consistantly high (82-100%) for the pond with the highest area ratio. The two heavy metals monitored in this study, zinc and iron, were also consistently removed with an efficiency rate of about 80% in pond A (high surface area ratio), and 42% in pond B (low surface area ratio). For total phosphorous and nitrogen the removal efficiencies were inconsistent, attributable to the variable input from waterfowl droppings in the ponds. Average removal efficiencies for two of the ponds are shown in the Table below.

Removal Efficiency Achieved by Wet Detention Ponds

Constituent	% Removal Pond 1	Pond 2
TSS	91	54
Nutrients	6-23	20-24
Metals	79-82	42-45

High removal efficiencies for total phosphorus were also observed. Apart from the extended wetlands for which fewer data were obtained from the literature survey, the highest removal efficiencies achieved exceeded 60% for the other ten practices. The highest removals were achieved with wet extended detention ponds, natural wetlands, and pond/wetland systems. The performance of existing urban wet detention ponds was also examined in a case study from Charlotte, North Carolina (see inset above).

Michigan

Recent studies in Michigan have recognized that development occurring while undersized waste water treatment plants are operating can create wide-spread illicit connection problems. For example, the Huron River Pollution Abatement Program in Wastenaw County, Michigan, inspected 660 businesses, homes, and other buildings discharging stormwater to the Allen Creek drain. Of the buildings inspected, 14% were found to have improper storm drain connections, with the highest percentage (60%) for automobile related businesses. Although some of the problems discovered in this study resulted from improper plumbing or illegal connections, the majority were approved connections at the time they were built. Efforts are underway to correct those illicit connections identified during the inspection program (40 CFR parts 122, 123, and 124).

Combined Sewer Pollution Control: Structural Practices. Structural practices for controlling combined sewer overflow pollution usually parallel conventional wastewater treatment practices. They are designed to handle intermittent and random flows which vary in magnitude and quality. These practices include in-line storage, off-line storage, storage sedimentation, swirl concentrators, screens, dissolved air floatation, high rate filtration, treatment lagoons, contact stabilization, rotating biological contactors, and high rate trickling filters. They all differ in costs, efficiencies, suitability, and operation and maintenance. Two case studies concerning in-line storage and an integrated approach follow.

In-line Storage Control, Seattle

In-line storage control is a low capital cost method that uses existing facilities. It is easily integrated with dry-weather collection, treatment, and disposal activities, and is adaptable to future expansion. Metropolitan Seattle implemented an on-line storage control system to mitigate Combined Sewer Overflows (CSO) impacts to receiving waters (Finnemore, 1982). The system performance was evaluated in

...ine reduction of overflow ... overflow frequency, and ... reduction of pollutant loads.

... system was estimated to re... overflow volume by 74%. ... resulting reductions in pollu... loads were estimated to be ... kg/year of suspended solids and 136,000kg/year of BOD. The total costs for this system are summarized as follows:

In-line Storage Control Costs

Regulators	$9,762,000
Computer facilities	$5,717,000
Engineering	$924,000
O&M cost (per year)	$440,000

Integrated Approach, Saginaw, MI

Saginaw, Michigan uses a combination of storage and treatment processes to take advantage of the capabilities of exisiting systems (Finnemore, 1982). This integrated approach reduces the volume of overflows to receiving waters and treats overflows that do occur to near primary treatment levels. This integrated system at the Hancock Street facilities, includes: (1) in-line storage; (2) using existing interceptor capacity controlled by modified regulator stations; (3) a flood protection pumping station, an off-line storage-treatment basin capable of treating and disinfecting all overflows; and (4) a capability to treat all flows retained in storage at the local dry-weather treatment plant. Together this system supports a city-wide plan to eliminate uncontrolled combined sewer discharge to the Saginaw River.

The performance of the Hancock Street storage/treatment facility was characterized using data from the 1978 summer monitoring program. Eleven storms occurred during the monitoring period and an estimated 52,000,000 gallons were pumped to the storage/treatment basin. Forty percent of this volume overflowed, after treatment, during three storms. The overflow frequency was reduced by 73%, and the effectiveness of the basin in treating the overflows ranged between 35% and 75% reduction in concentrations of eight different pollutants.

The total construction cost of the Hancock Street CSO control facilities was $7,280,000, including modifications to the in-line storage system (regulators) and the storage/treatment facilities. Estimated annual operating and maintenance cost for the storage/treatment system is about $50,000/yr.

Detention Ponds and Retention Basins. The ability of wet detention ponds and retention basins to remove pollutants from stormwater has been extensively studied. Numerous case studies have shown that reductions in suspended sediments, nutrients, and heavy metals are possible through the use of either retrofitted stormwater basins or detention ponds designed specifically for water quality improvements. The following case study reported variable reductions in total suspended solids, metals, and nutrients.

... Retention Pond, Orlando, FL

A three pond stormwater retention system receiving stormwater from a highway interchange in Orlando, Florida, was investigated (Youssef, Wanielista, and Harper, 1986). The three ponds were interconnected by way of a large culvert to allow overflow to other ponds when storm runoff exceeds the design level. The first receiving pond has an approximate surface area of 1.3 ha (3.2 acres), an average depth of 1.5m (4.9 feet), and a total drainage area of 10.8 ha (26.7 acres). The ponds maintained a large standing crop of filamentous algae virtually year-round.

Field investigations conducted during 1982-1984 were designed to assess 1) the quantity of pollutants entering the pond, 2) the average water quality parameters in the basin water, 3) the accumulation of nutrients and heavy metals in the sediment of the pond, and 4) the leaching of heavy metals to the groundwater beneath the retention ponds.

The removal efficiencies of particulate metals were found to range from 77% for copper to over 95% for lead and zinc, while the removal of the dissolved fraction was only about 50% for lead and copper and 88% for zinc. The removal of particulate phosphorus and organic nitrogen was, on the other hand, poor and did not exceed 12%. The removal of the dissolved fraction of nutrient loadings ranged from 81.6% for ammonia to 90% for phosphorus.

Accumulation of phosphorus in the bottom sediment of the pond was evaluated at 99% of the total input during a 7 year period. However, 85-90% removal of the total nitrogen load was attributed to nitrification-denitrification processes. The removal of particulate heavy metals from the pond water was also attributed to settling and accumulation in

Constructed Wetlands for Wastewater Treatment
DUST Marsh Trap Efficiencies (percent)

Constituents	System A	System B	System C[a]	Overall[b]
TDS	-9	-20	-50	-49
TSS	42	24	45	64
BOD_5	-26	-22	-8	-35
NH_3-N	-22	27	12	10
NO_3-N	9	5	8	15
TKN	7	-32	-17	-28
Orthophosphate	53	19	28	56
Total phosphate	17	-44	51	48
Chromium (Cr)	40	20	53	68
Copper (Cu)	5	-10	32	31
Lead (Pb)	30	27	83	88
Manganese (Mn)	-22	-1	-86	-111
Nickel (Ni)	34	-30	12	20
Zinc (Zn)	8	-22	51	33

[a]System C inflow = composite of System A and B outflows.
[b]Overall trap efficiencies may be greater than cumulative reductions by individual systems because System C provides secondary treatment for System A and B discharges

the bottom sediment within a relatively short distance from the stormwater inlet.

One common concern of using retention basins is the potential for groundwater contamination. However, monthly groundwater samples revealed no conclusive evidence of heavy metals migration from the pond.

Stormwater Wetlands, Fremont, CA

This study summarizes the results from the Demonstration Urban Stormwater Treatment (DUST) marsh project at Coyote Hills in Fremont, California (Meiorin, 1986). The study analyzes the applicability of artificial wetlands as a means for improving urban stormwater quality. The wetland system and control structures consist of a series of detention basins designed to simulate a secondary wastewater treatment plant, including pretreatment, clarifier, and biological processes. The basins were built in 1983 to receive water from approximately 4.6 square miles including residential, commercial, and open areas as well as urban roads.

A monitoring program during the wet seasons of 1984 and 1985 documented the marsh development and treatment effectiveness. Samples from eleven storms collected from each basin outflow were analyzed and the results, expressed in terms of trap efficiency, are listed in the table above.

The overall trap efficiency for heavy metals (chromium, copper, nickel, lead, and zinc) ranged from 20-88%, due in part to settling of heavy suspended particles. Nitrogen is transported into the marsh primarily as ammonia and organic nitrogen and was moderately trapped due to plant uptake and adsorption into the sediment. However, a higher trap efficiency was seen for phosphorus (orthophosphate and total phosphate).

Heavy metal concentrations in vegetation generally followed a pattern of greatest relative uptake occurring in plant roots with decreasing levels in the leaf and seed tissues. Generally soil-root concentrations were less than half of those found in the surface soil, leaf and seed concentration were one-half to one-fourth of the root amount. Bioaccumulation of chromium, copper, lead and zinc in fish tissue exceeded the 85% Elevated Data Level (EDL^a) in all the basins; however, bioaccumulation of cadmium, nickel and selenium was not significant. Further research was recommended to determine the long-term build-up of heavy metals and toxic hydrocarbons in the foodchain.

It should be noted that the rest of this study were collected from a relatively new wetland system, and the uptake of nutrients and heavy metals could vary as the system matures.

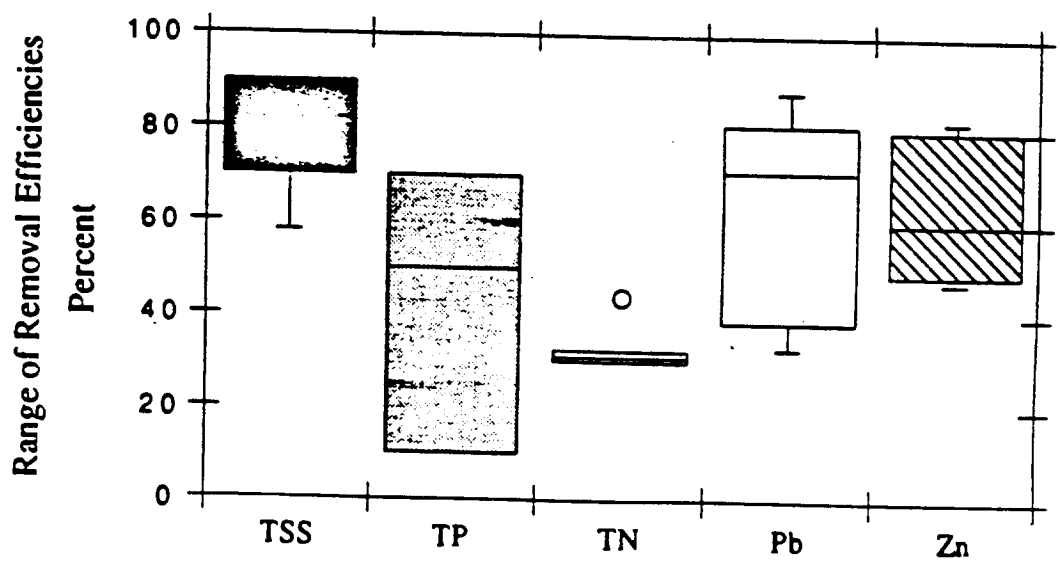
Sand Filters, Delaware

The State of Delaware developed a design approach for implementation of stormwater management water quality control practices targeting urban areas having little or no pervious area (Shaver, 1991). The controls were adopted under the urban stormwater runoff component of the NPDES program. The State of Delaware enacted an urban stormwater control program focussing on new construction. After July 1, 1991 all new development activities require reviews for water quality impacts prior to their approval. The program requires pre-development peak dis-

[a]Statistical values developed by the California Fish and Game from the 1984 Toxic Substances Monitoring program indicating percent of exceedance of a toxic substance in observed fish tissues.

not exceeded and water quality is protected by vegetative and structural control strategies designed to remove 80% of the inflow's suspended solids. Shallow stormwater management ponds that encourage plant growth are preferred because nutrients are a significant source of water quality degradation in Delaware. Often spatial or other engineering considerations limit the use of ponds in urban areas. In heavily urbanized areas, sand filters may be appropriate for both new development and retrofits as they do not limit land usage. The sand filters will be designed to treat runoff from frequent storm events, i.e., the first inch of rainfall. The design procedures for the sand filters are based on equations developed by the City of Austin as well as structural design previously used for a project in the State of Maryland.

Filter efficiency is related to the distribution of pollutants in the various particle size classes. Most of urban particulate matter is of a coarser size fraction; however, most of the other pollutants (except for metals which tend to be more evenly distributed across the size classes) are associated with the smaller particle sizes. For example, approximately 6% of urban particulate matter is in the silt and clay soil size range; but silts and clays contain more than 50% of the phosphorus. The sedimentation chamber of the filtration system is designed to remove the sand and gravel components and the sand filter is designed to remove the finer silt and clay particles. The detention chamber provides a detention time sufficient to remove sand and coarse particles based on their calculated settling velocities. The filter drains the first inch of runoff within a 24 hour period by assuming an average filtration rate of 0.04 gal/min/ft^2 for the sand. The design drainage area, typically a parking lot, must be less than 5 acres. Predicted removal efficiencies are 70% removal of total suspended solids, 33% removal of total phosphorus, 21% removal of total nitrogen, and 45% removal of the metals lead and zinc. Actual removals contained in the Austin report are somewhat higher than expected. Removal efficiencies reported in several sources (Woodward-Clyde, 1991) are illustrated in the following Figure. For example, the 25th and 75th percentile of TSS removal by filtration systems were about 70 and 90 percent, respectively. The median value is about 82 percent.



Removal efficiencies for total suspended solids, total phosphorous, total nitrogen, lead, and zinc by sandfilter basins.

References

Anderson, D.G. 1970. Effects of Urban Development of Floods in Northern Virginia. United States Geological Survey. Water Supply Paper 2001-C. Washington, D.C. 26 pp.

ASIWPCA, 1985. America's Clean Water: The States' Nonpoint Source Assessment.

City of New York. 1987. New York Harbor Water Quality Survey. Prepared by the City of New York Department of Environmental Protection, Bureau of Wastewater Treatment, Wards Island, New York.

Dietemenn, A.J. 1975. *A Provisional Inventory of the Fishes of Rock Creek, Little Falls Branch, Cabin John Creek, and Rock Run, Montgomery County, Maryland.* MD Nat. Cap. Park and Plan. Comm., Silver Spring. MD, 30pp.

Dong, A., G. Chesters and G.V. Simsiman. *Dispersibility of Soils and Elemental Composition of Soils, Sediments, and Dust and Dirt from the Menomonee River Watershed.* EPA-905/A-79-209F. U.S. Environmental Protection Agency, Chicago, IL.

Ellis, J.B. 1986. Pollutional Aspects of Urban Runoff. In *Urban Runoff Pollution*, Torno et al., eds. Springer Verlag, Berlin, New York. 1-36.

Finnemore, E. John. 1982. Stormwater Pollution Control: Structural Measures. *Journal of Environmental Engineering Division*, Proceeding of the American Society of Civil Engineers, Vol. 108, No. EE4.

Halverson, H.G., D.R. DeWalle, and W. E. Sharpe. 1984. Contribution of Precipitation to Quality of Urban Storm Runoff. *Water Resources Bulletin.* 20(6):859–864.

Hartigan, P., and K. Wilwerding. 1991. The Clean Colorado Project and Urban Nonpoint Source Control: The LCRA Program. In *Seminary Publication of the Nonpoint Source Watershed Workshop*, September 1, 1991, pp 167-171. EPA/625/4-91/027.

Hogg, I.D., and R.H. Norris. 1991. Effects of Runoff From Land Clearing and Urban Development on the Distribution and Abundance of Macroinvertebrates in Pool Areas of a River. *Aust. J. Mar. Freshwater Res.* 42:507-18.

Leopold, L.B. 1968. Hydrology for Urban Land Planning: A Guidebook on the Hydrologic Effects of Land Use. *U.S. Geological Survey Circular 554.* 18 pp.

Klein, R.D. 1979. Urbanization and Stream Quality Impairment. *Water Res. Bull.* 15(4):948-963.

Meiorin, E.C. 1986. *Urban Stormwater Treatment at Coyote Hills - Final report.* Association of Bay Area Governments. 178 pp.

Metcalf and Eddy, Inc. 1989. *Coastal Nonpoint Source Control Demonstration Project: Nonpoint Source Management Plan for the Watershed of Snell Creek Westport, Massachusetts.* Massachusetts Department of Environmental Protection.

Metropolitan Washington Council of Government (MWCOG). 1992. *A Current Assessment of Urban Best Management Practices - Techniques for Reducing Nonpoint Source Pollution in the Coastal Zone.* Final Report prepared for U.S. Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds. 127 pp.

Metropolitan Washington Council of Governments (MWCOG). 1983a. *Urban Runoff in the Washington Metropolitan Area - Final Report, Washington, DC. Area Urban Runoff Project.* Prepared for U.S. EPA and WRPB. 168 pp.

Metropolitan Washington Council of Governments (MWCOG). 1983b. *Final Report: Pollutant Removal Capability of Urban Best Management Practices in the Washington Metropolitan Area.* MWCOG, Washington, DC. Prepared for the U.S. Environmental Protection Agency. 64 pp.

Metropolitan Washington Council of Governments (MWCOG). 1982. *Water Quality in Seneca Creek: A Technical Assessment.* Prepared for Water Resources Planning Board. 81 pp.

Metropolitan Washington Council of Governments (MWCOG). 1980. *Guidebook for Screening Urban Nonpoint Pollution Management Strategies.* 159 pp.

Moffa, P.E. (ed) 1990. *Control and Treatment of Combined Sewer Overflows.* Van Nostrand Reinhold, New York, N.Y.

Mulmey, E.T. 1988. *Goals and Objectives for Nonpoint Source Control Projects in an Urban Watershed.* California Regional Water Quality and Control Board, Oakland, California.

National League of Cities. 1991. *City Fiscal Distress: Structural, Demographic and Institutional Causes.*

NOAA. 1990. *The Quality of Shellfish Growing Waters on the West Coast of the United States.*

NOAA. 1989. *The Quality of Shellfish-Growing Waters on the East Coast of the United States.*

NOAA. 1988. *The Quality of Shellfish Growing Waters in the Gulf of Mexico.*

Northern Virginia Planning District Commission (NVPDC). 1990. *Evaluation of Regional BMPs in the Occoquan Watershed.* Prepared for the Occoquan Technical Advisory Committee, State Water Control Board. NVPDC, Annandale, VA.

Northern Virginia Planning District Commission (NVPDC). 1987. *BMP Handbook for the Occoquan Watershed.* NVPDC, Annandale, VA.

Newport, C.R., and E.T. Davenport. 1988. *Stormwater Nonpoint Sources Pollution Control.* Region V, U.S. Environmental Protection Agency. In Nonpoint Pollution: 1988. Policy, Economy Management, and Appropriate Technology Symposium Proceedings. V. Novotny, ed. American Water Resources Association.

Novotny, V. 1992. Urban Diffuse Pollution: Sources and Abatement. *Water Environmental & Technology*, December, 1991, pp. 60-65.

Novotny, V., and G. Chesters. 1981. *Handbook of Nonpoint Pollution: Sources and Management.* Van Nostrand Reinhold Company, New York, N.Y.

Pitt, R. 1986. Runoff Controls in Wisconsin's Priority Watersheds. In: *Urban Runoff Quality-Impact and Quality Enhancement Technology*, Urbonas, B., and Roesner, L., (eds). ASCE Washington, DC.

Pitt, R. and P. Bissonnettee. 1984. *Bellevue Urban Runoff Program: Summary Report.*

Ragan, R.M. and A.J. Dietemann. 1976. *Characterization of Urban Stormwater Runoff in the Maryland Suburbs of Washington, DC.* Water Resources Research Center. University of MD, College Park, MD.

Roesner, L.A. 1978. Quality of Urban Runoff. In *Urban Stormwater Hydrology*. AGU Water Resources Monograph 7. pp. 61-187.

Rolfe, G.L., and K.A. Reinhold. 1977. *Environmental Contamination by Lead and Other Heavy Metals: Volume 1: Introduction and Summary.* Institute for Environmental Studies, University of Illinois, Champaign-Urbana, IL.

Scheuler, T.R., J. Galli, P. Kumble, and D. Shepp. 1991. Developing Effective BMP Strategies for Urban Watersheds. In *Seminar Publication of the Nonpoint Source Watershed Workshop.* pp. 69-83. EPA/625/4-91/027.

Schueler, T. 1987. *Controlling Urban Runoff. A Practical Manual for Planning and Designing Urban BMPs.* Metropolitan Washington Council of Governments.

Shaver, E. 1991. *Sand Filter Design for Water Quality Treatment.* Presented at 1991 ASCE Stormwater Conference in Crested Butte, Colorado.

Southeastern Wisconsin Regional Planning Commission. 1976. *A Comprehensive Plan for the Menomonee River Watershed; Volume One: Inventory Findings and Forecast Planning Report.* Waukesha, WI.

USACOE. 1990. *Anacostia River Basin Reconnaissance Study.* U.S. Army Corps of Engineers, Baltimore District, MD.

USDA. 1992. *Major Land Uses.* Economic Research Service, U.S. Department of Agriculture, Washington, DC.

USEPA. 1992. *National Water Quality Inventory. 1990 Report to Congress (Draft).* U.S. Environmental Protection Agency, Washington, DC.

USEPA. 1991a. *Managing Nonpoint Source Pollution.* U.S. Environmental Protection Agency, Office of Water, Washington, DC. EPA-506/9-90.

USEPA. 1991b. *Nutrient Trading in the Dillon Reservoir.* Prepared by Apogee Research Inc. for U.S. Environmental Protection Agency. Office of Water.

USEPA. 1991c. *Proposed Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters.* U.S. Environmental Protection Agency. Office of Wetlands, Oceans, and Watersheds. Washington, DC.

USEPA. 1990. Duwamish River, Washington. Water Quaity Program Report. U.S. Environmental Protection Agency. Office of Water.

USEPA. 1983(a). *Results of the Nationwide Urban Runoff Program (NURP) - Executive Summary.* U.S. Environmental Protection Agency, Water Planning Division, Washington, DC. NTIS No. PB84-185545.

EPA. 1983(b). *Results of the Nationwide Urban Runoff Program: Final Report.* U.S. Environmental Protection Agency, Water Planning Division, Washington, DC.

Water Quality Engineers. 1981. *Village Creek: An Urban Runoff Sampling and Assessment Report.* Birmingham Regional Planning Commission, Birmingham, AL.

Wilber, W.G., and J.V. Hunter. 1980. *The Influence of Urbanization on the Transport of Heavy Metals in New Jersey Streams.* Water Resources Institute, Rutgers University. New Brunswick, N.J.

Wolman, G.W. and A.P. Schick. 1967. *Effects of Construction on Fluvial Sediment Yield: Effects of Construction-Site Conditions and Sediment Control Methods.* Proceedings of the 3rd Federal Interagency Sedimentation Conference. Denver, Colorado. March 22-25, 1976.

Woodward-Clyde Consultants. 1991. *Urban BMP Cost and Effectiveness Summary Data for 6217(G) Guidance* (Draft).

Woodward-Clyde Consultants. 1990. *Urban Targeting and BMP Selection.* Region V, Water Division, US Environmental Protection Agency, Chicago, IL.

Wu, S., B. Holman, and J. Dorney. 1988. Water Quality Study on Urban Wet Detention Ponds. In *Design of Urban Runoff Quality Controls, Proceedings of an Engineering Foundation Conference on Current Practice and Design Criteria for Urban Quality Control,* Potosi, Missouri. L.A. Roesner , B. Urbonas, and M.B. Sonnen (eds.) ASCE.

Yorke, T.H., and W.J. Herb. 1978. *Effects of Urbanization on Streamflow and Sediment Transport in the Rock Creek and Anacostia River Basins, Montgomery County, Maryland, 1962-74.* Geological Survey Professional Paper 1003. U.S. Department of the Interior, U.S. Geological Survey, Washington, DC.

Youssef, Y.A., M.P. Wanielista, and H.H. Harper. 1986. Design and Effectiveness of Urban Retention Basins. In *Urban Runoff Quality - Impact and Quality Enhancement Technology.* B. Urbonas and L.A. Roesner (eds.).

code of federal regulations

Protection of Environment

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PARTS 100 TO 149

Revised as of July 1, 1992

(i) The size of the animal feeding operation and the amount of wastes reaching waters of the United States;

(ii) The location of the animal feeding operation relative to waters of the United States;

(iii) The means of conveyance of animal wastes and process waste waters into waters of the United States;

(iv) The slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge of animal wastes and process waste waters into waters of the United States; and

(v) Other relevant factors.

(2) No animal feeding operation with less than the numbers of animals set forth in appendix B of this part shall be designated as a concentrated animal feeding operation unless:

(i) Pollutants are discharged into waters of the United States through a manmade ditch, flushing system, or other similar manmade device; or

(ii) Pollutants are discharged directly into waters of the United States which originate outside of the facility and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.

(3) A permit application shall not be required from a concentrated animal feeding operation designated under this paragraph until the Director has conducted an on-site inspection of the operation and determined that the operation should and could be regulated under the permit program.

§ 122.24 Concentrated aquatic animal production facilities (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* Concentrated aquatic animal production facilities, as defined in this section, are point sources subject to the NPDES permit program.

(b) *Definition. Concentrated aquatic animal production facility* means a hatchery, fish farm, or other facility which meets the criteria in appendix C of this part, or which the Director designates under paragraph (c) of this section.

(c) *Case-by-case designation of concentrated aquatic animal production facilities.* (1) The Director may designate any warm or cold water aquatic animal production facility as a concentrated aquatic animal production facility upon determining that it is a significant contributor of pollution to waters of the United States. In making this designation the Director shall consider the following factors:

(i) The location and quality of the receiving waters of the United States;

(ii) The holding, feeding, and production capacities of the facility;

(iii) The quantity and nature of the pollutants reaching waters of the United States; and

(iv) Other relevant factors.

(2) A permit application shall not be required from a concentrated aquatic animal production facility designated under this paragraph until the Director has conducted on-site inspection of the facility and has determined that the facility should and could be regulated under the permit program.

§ 122.25 Aquaculture projects (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* Discharges into aquaculture projects, as defined in this section, are subject to the NPDES permit program through section 318 of CWA, and in accordance with 40 CFR part 125, subpart B.

(b) *Definitions.* (1) *Aquaculture project* means a defined managed water area which uses discharges of pollutants into that designated area for the maintenance or production of harvestable freshwater, estuarine, or marine plants or animals.

(2) *Designated project area* means the portions of the waters of the United States within which the permittee or permit applicant plans to confine the cultivated species, using a method or plan or operation (including, but not limited to, physical confinement) which, on the basis of reliable scientific evidence, is expected to ensure that specific individual organisms comprising an aquaculture crop will enjoy increased growth attributable to the discharge of pollutants, and be harvested within a defined geographic area.

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* (1) Prior to October 1, 1992, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(i) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(ii) A discharge associated with industrial activity (see § 122.26(a)(4));

(iii) A discharge from a large municipal separate storm sewer system;

(iv) A discharge from a medium municipal separate storm sewer system;

(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at § 122.2.

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:

(A) The location of the discharge with respect to waters of the United States as defined at 40 CFR 122.2.

(B) The size of the discharge;

(C) The quantity and nature of the pollutants discharged to waters of the United States; and

(D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(3) *Large and medium municipal separate storm sewer systems.* (i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(C) A regional authority may be responsible for submitting a permit application under the following guidelines:

(*1*) The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall

e in existence at the time part 1 of he application is due;

(2) The permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 nd part 2 of the municipal application;

(3) Each of the operators of municipal separate storm sewers within the ystems described in paragraphs (b)(4) i), (ii), and (iii) or (b)(7) (i), (ii), and iii) of this section, that are under the urview of the designated regional authority, shall comply with the application requirements of paragraph (d) of this section.

(iv) One permit application may be ubmitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

(4) *Discharges through large and medium municipal separate storm sewer systems.* In addition to meeting the requirements of paragraph (c) of this section, an operator of a storm water discharge associated with industrial activity which discharges through a large or medium municipal separate storm sewer system shall submit, to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the location of the discharge; a description, including Standard Industrial Classification, which best reflects the principal products or services provided by each facility; and any existing NPDES permit number.

(5) *Other municipal separate storm sewers.* The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(6) *Non-municipal separate storm sewers.* For storm water discharges associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system, the Director, in his discretion, may issue: a single NPDES permit, with each discharger a co-permittee to a permit issued to the operator of the portion of the system that discharges into waters of the United States; or, individual permits to each discharger of storm water associated with industrial activity through the non-municipal conveyance system.

(i) All storm water discharges associated with industrial activity that discharge through a storm water discharge system that is not a municipal separate storm sewer must be covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to waters of the United States, with each discharger to the non-municipal conveyance a co-permittee to that permit.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must submit applications.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

(7) *Combined sewer systems.* Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must obtain NPDES permits in accordance with the procedures of § 122.21 and

are not subject to the provisions of this section.

(8) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under title II, title III or title VI of the Clean Water Act. *See* 40 CFR part 35, subpart I, appendix A(b)H.2.j.

(b) *Definitions.* (1) *Co-permittee* means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) *Illicit discharge* means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(3) *Incorporated place* means the District of Columbia, or a city, town, township, or village that is incorporated under the laws of the State in which it is located.

(4) *Large municipal separate storm sewer system* means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 250,000 or more as determined by the latest Decennial Census by the Bureau of Census (appendix F); or

(ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; and

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraph (b)(4) (i), (ii), (iii) of this section.

(5) *Major municipal separate storm sewer outfall* (or "major outfall") means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) *Major outfall* means a major municipal separate storm sewer outfall.

(7) *Medium municipal separate storm sewer system* means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the latest Decennial Census by the Bureau of Census (appendix G); or

(ii) Located in the counties listed in appendix I, except municipal separate

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storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (b)(7) (i), (ii), (iii) of this section.

(8) *Municipal separate storm sewer* means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

(9) *Outfall* means a *point source* as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(10) *Overburden* means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

(11) *Runoff coefficient* means the fraction of total rainfall that will appear at a conveyance as runoff.

(12) *Significant materials* includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

(13) *Storm water* means storm water runoff, snow melt runoff, and surface runoff and drainage.

(14) *Storm water discharge associated with industrial activity* means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or

raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under 40 CFR part 122. For the categories of industries identified in paragraphs (b)(14) (i) through (x) of this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph (b)(14)(xi) of this section, the term includes only storm water discharges from all the areas (except access roads and rail lines) that are listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in this paragraph (b)(14)(i)-(xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim

status or a permit under subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14)(i)-(vii) or (ix)-(xi) of this section are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA;

(x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and which are not otherwise included within categories (ii)-(x));

(15) *Uncontrolled sanitary landfill* means a landill or open dump, whether in operation or closed, that does not meet the requirements for runon or runoff controls established pursuant to subtitle D of the Solid Waste Disposal Act.

(c) *Application requirements for storm water discharges associated with industrial activity*—(1) *Individual application.* Dischargers of storm water associated with industrial activity are required to apply for an individual permit, apply for a permit through a group application, or seek coverage under a promulgated storm water general permit. Facilities that are required to obtain an individual permit, or any discharge of storm water which the Director is evaluating for designation (*see* 40 CFR 124.52(c)) under paragraph (a)(1)(v) of this section and is not a municipal separate storm sewer, and which is not part of a group application described under paragraph (c)(2) of this section, shall submit an NPDES application in accordance with the requirements of § 122.21 as modified and supplemented by the provisions of the remainder of this paragraph. Applicants for discharges composed entirely of storm water shall submit Form 1 and Form 2F. Applicants for discharges composed of storm water and non-storm water shall submit Form 1, Form 2C, and Form 2F. Applicants for new sources or new discharges (as defined in § 122.2 of this part) composed of storm water and non-storm water shall submit Form 1, Form 2D, and Form 2F.

(i) Except as provided in § 122.26(c)(1)(ii)-(iv), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic

map is unavailable) of the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present area used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous weste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall (within a mile radius of the facility) and a narrative description of the following: Significant materials that in the three years prior to the submittal of this application have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge;

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by a NPDES permit; tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test;

(D) Existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility that have taken place within the three years prior to the submittal of this application;

(E) Quantitative data based on samples collected during storm events and collected in accordance with § 122.21 of this part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

(*1*) Any pollutant limited in an effluent guideline to which the facility is subject;

(*2*) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);

(*3*) Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;

(*4*) Any information on the discharge required under paragraph § 122.21(g)(7) (iii) and (iv) of this part;

(*5*) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and

(*6*) The date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (in hours);

(F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(i), (g)(7)(ii), and (g)(7)(v); and

(G) Operators of new sources or new discharges (as defined in § 122.2 of this part) which are composed in part or

entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this section instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this section within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new source or new discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (k)(3)(ii), (k)(3)(iii), and (k)(5).

(ii) The operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. Such operator shall provide a narrative description of:

(A) The location (including a map) and the nature of the construction activity;

(B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

(C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

(D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

(E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(F) The name of the receiving water.

(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:

(A) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or

(B) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or

(C) Contributes to a violation of a water quality standard.

(iv) The operator of an existing or new discharge composed entirely of storm water from a mining operation is not required to submit a permit application unless the discharge has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(v) Applicants shall provide such other information the Director may reasonably require under § 122.21(g)(13) of this part to determine whether to issue a permit and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) *Group application for discharges associated with industrial activity.* In lieu of individual applications or notice of intent to be covered by a general permit for storm water discharges associated with industrial activity, a group application may be filed by an entity representing a group of applicants (except facilities that have existing individual NPDES permits for storm water) that are part of the same subcategory (*see* 40 CFR subchapter N, part 405 to 471) or, where such grouping is inapplicable, are sufficiently similar as to be appropriate for general permit coverage under § 122.28 of this part. The part 1 application shall be submitted to the Office of Water Enforcement and Permits, U.S. EPA,

401 M Street, SW., Washington, DC 20460 (EN-336) for approval. Once a part 1 application is approved, group applicants are to submit Part 2 of the group application to the Office of Water Enforcement and Permits. A group application shall consist of:

(i) *Part 1.* Part 1 of a group application shall:

(A) Identify the participants in the group application by name and location. Facilities participating in the group application shall be listed in nine subdivisions, based on the facility location relative to the nine precipitation zones indicated in appendix E to this part.

(B) Include a narrative description summarizing the industrial activities of participants of the group application and explaining why the participants, as a whole, are sufficiently similar to be a covered by a general permit;

(C) Include a list of significant materials stored exposed to precipitation by participants in the group application and materials management practices employed to diminish contact by these materials with precipitation and storm water runoff;

(D) For groups of more than 1,000 members, identify at least 100 dischargers participating in the group application from which quantitative data will be submitted. For groups of 100 or more members, identify a minimum of ten percent of the dischargers participating in the group application from which quantitative data will be submitted. For groups of between 21 and 99 members identify a minimum of ten dischargers participating in the group application from which quantitative data will be submitted. For groups of 4 to 20 members, identify a minimum of 50 percent of the dischargers participating in the group application from which quantitative data will be submitted. For groups with more than 10 members, either a minimum of two dischargers from each precipitation zone indicated in appendix E of this part in which ten or more members of the group are located, or one discharger from each precipitation zone indicated in appendix E of this part in which nine or fewer members of the group are located, must be identified to submit quantitative data. For groups of 4 to 10 members, at least one facility in each precipitation zone indicated in appendix E of this part in which members of the group are located must be identified to submit quantitative data. A description of why the facilities selected to perform sampling and analysis are representative of the group as a whole in terms of the information provided in paragraphs (c)(1)(i)(B) and (c)(1)(i)(C) of this section, shall accompany this section. Different factors impacting the nature of the storm water discharges, such as the processes used and material management, shall be represented, to the extent feasible, in a manner roughly equivalent to their proportion in the group.

(ii) *Part 2.* Part 2 of a group application shall contain quantitative data (NPDES Form 2F), as modified by paragraph (c)(1) of this section, so that when part 1 and part 2 of the group application are taken together, a complete NPDES application (Form 1, Form 2C, and Form 2F) can be evaluated for each discharger identified in paragraph (c)(2)(i)(D) of this section.

(d) *Application requirements for large and medium municipal separate storm sewer discharges.* The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include:

(1) *Part 1.* Part 1 of the application shall consist of:

(i) *General information.* The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

(ii) *Legal authority.* A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) *Source identification.* (A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

(*1*) The location of known municipal storm sewer system outfalls discharging to waters of the United States;

(*2*) A description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;

(*3*) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;

(*4*) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;

(*5*) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and

(*6*) The identification of publicly owned parks, recreational areas, and other open lands.

(iv) *Discharge characterization.* (A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

(*1*) Assessed and reported in section 305(b) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

(*2*) Listed under section 304(l)(1)(A)(i), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;

(*3*) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);

(*4*) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under section 314(a) of the CWA (include the following: A description of those publicly owned lakes for

which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);

(*5*) Areas of concern of the Great Lakes identified by the International Joint Commission;

(*6*) Designated estuaries under the National Estuary Program under section 320 of the CWA;

(*7*) Recognized by the applicant as highly valued or sensitive waters;

(*8*) Defined by the State or U.S. Fish and Wildlife Services's National Wetlands Inventory as wetlands; and

(*9*) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) *Field screening.* Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

(*1*) A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlayed on a map of the municipal storm sewer system, creating a series of cells;

(*2*) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(*3*) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(*4*) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(*5*) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(*6*) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(*7*) Large or medium municipal separate storm sewer systems which are

unable to utilize the procedures described in paragraphs (d)(1)(iv)(D) (*1*) through (*6*) of this section, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the applicant shall establish a grid system consisting of north-south and east-west lines spaced ¼ mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(E) *Characterization plan.* Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this section. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under paragraph (d)(2)(iii)(A) of this section, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (*see* paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) *Management programs.* (A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(vi) *Fiscal resources.* (A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

(2) *Part 2.* Part 2 of the application shall consist of:

(i) *Adequate legal authority.* A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions

including the prohibition on illicit discharges to the municipal separate storm sewer.

(ii) *Source identification.* The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(*1*) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

(iii) *Characterization data.* When "quantitative data" for a pollutant are required under paragraph (d)(2)(iii)(A)(*3*) of this paragraph, the applicant must collect a sample of effluent in accordance with 40 CFR 122.21(g)(7) and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

(A) Quantitative data from representative outfalls designated by the Director (based on information received in part 1 of the application, the Director shall designate between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) developed as follows:

(*1*) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at § 122.21(g)(7) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(*2*) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(*3*) For samples collected and described under paragraphs (d)(2)(iii)(A)(*1*) and (A)(*2*) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:

Total suspended solids (TSS)
Total dissolved solids (TDS)
COD
BOD,
Oil and grease
Fecal coliform
Fecal streptococcus
pH
Total Kjeldahl nitrogen
Nitrate plus nitrite
Dissolved phosphorus
Total ammonia plus organic nitrogen
Total phosphorus

(*4*) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under § 122.21(c)(7)) for BOD$_5$, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including

any modelling, data analysis, and calculation methods;

(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(*1*) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section; and

(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) *Proposed management program.* A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(*1*) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(*2*) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(*3*) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(*4*) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(*5*) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

(*6*) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from

municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

(B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(*1*) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(*2*) A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(*3*) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(*4*) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(*5*) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(*6*) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(*7*) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

(*1*) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(*2*) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the

term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD_5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(*1*) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(*2*) A description of requirements for nonstructural and structural best management practices;

(*3*) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(*4*) A description of appropriate educational and training measures for construction site operators.

(v) *Assessment of controls.* Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

(vi) *Fiscal analysis.* For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where requirements under paragraph (d)(1)(iv)(E), (d)(2)(ii), (d)(2)(iii)(B) and (d)(2)(iv) of this section are not practicable or are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from such requirements. The Director shall not exclude the operator of a discharge from a municipal separate storm sewer identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph except where authorized under this section.

(e) *Application deadlines.* Any operator of a point source required to obtain a permit under paragraph (a)(1) of this section that does not have an effective NPDES permit covering its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) *Individual applications.* (i) Except as provided in paragraph (e)(1)(ii) of this section, for any storm water discharge associated with industrial activity identified in paragraphs (b)(14) (i) through (xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or which is not authorized by a storm water general permit, a permit application made pursuant to paragraph (C) of this section shall be submitted to the Director by October 1, 1992;

(ii) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(2) For any group application submitted in accordance with paragraph (c)(2) of this section:

(i) *Part 1.* (A) Except as provided in paragraph (e)(2)(i)(B) of this section, part 1 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by September 30, 1991;

(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 18, 1992.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(ii) Based on information in the part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving part 1 of the group application.

(iii) *Part 2.* (A) Except as provided in paragraph (e)(2)(iii)(B) of this section, part 2 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by October 1, 1992;

(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 17, 1993.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(iv) *Rejected facilities.* (A) Except as provided in paragraph (e)(2)(iv)(B) of this section, facilities that are rejected as members of the group shall submit an individual application (or obtain coverage under an applicable general permit) no later than 12 months after the date of receipt of the notice of rejection or October 1, 1992, whichever comes first.

(B) Facilities that are owned or operated by a municipality and that are rejected as members of part 1 group application shall submit an individual application no later than 180 days after the date of receipt of the notice of rejection or October 1, 1992, whichever is later.

(v) A facility listed under paragraph (b)(14) (i)-(xi) of this section may add on to a group application submitted in accordance with paragraph (e)(2)(i) of this section at the discretion of the Office of Water Enforcement and Permits, and only upon a showing of good cause by the facility and the group applicant; the request for the addition of the facility shall be made no later than February 18,1992; the addition of the facility shall not cause the percentage of the facilities that are required to submit quantitative data to be less than 10%, unless there are over 100 facilities in the group that are submitting quantitative data; approval to become part of group application must be obtained from the group or the trade association representing the individual facilities.

(3) For any discharge from a large municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by November 18, 1991;

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by November 16, 1992.

(4) For any discharge from a medium municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by May 18, 1992.

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application.

(iii) Part 2 of the application shall be submitted to the Director by May 17, 1993.

(5) A permit application shall be submitted to the Director within 60 days of notice, unless permission for a later date is granted by the Director (*see* 40 CFR 124.52(c)), for:

(i) A storm water discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge

contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraph (a)(1)(v) of this section);

(ii) A storm water discharge subject to paragraph (c)(1)(v) of this section.

(6) Facilities with existing NPDES permits for storm water discharges associated with industrial activity shall maintain existing permits. Facilities with permits for storm water discharges associated with industrial activity which expire on or after May 18, 1992 shall submit a new application in accordance with the requirements of 40 CFR 122.21 and 40 CFR 122.26(c) (Form 1, Form 2F, and other applicable Forms) 180 days before the expiration of such permits.

(f) *Petitions.* (1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require a NPDES permit for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the Census estimates of the population served by such separate system to account for storm water discharged to combined sewers as defined by 40 CFR 35.2005(b)(11) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be reduced proportional to the fraction, based on estimated lengths, of the length of combined sewers over the sum of the length of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) Any person may petition the Director for the designation of a large or medium municipal separate storm sewer system as defined by paragraphs (b)(4)(iv) or (b)(7)(iv) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition.

[55 FR 48063, Nov. 16, 1990, as amended at 56 FR 12100, Mar. 21, 1991; 56 FR 58554, Nov. 5, 1991; 57 FR 11412, Apr. 2, 1992]

§ 122.27 Silvicultural activities (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* Silvicultural point sources, as defined in this section, as point sources subject to the NPDES permit program.

(b) *Definitions.* (1) *Silvicultural point source* means any discernible, confined and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States. The term does not include non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff. However, some of these activities (such as stream crossing for roads) may involve point source discharges of dredged or fill material which may require a CWA section 404 permit (See 33 CFR 209.120 and part 233).

(2) *Rock crushing and gravel washing facilities* means facilities which process crushed and broken stone, gravel, and riprap (See 40 CFR part 436, subpart B, including the effluent limitations guidelines).

(3) *Log sorting and log storage facilities* means facilities whose discharges result from the holding of unprocessed wood, for example, logs or roundwood with bark or after removal of bark held in self-contained bodies of water (mill ponds or log ponds) or stored on land where water is applied intentionally on the logs (wet decking). (See 40 CFR part 429, subpart I, including the effluent limitations guidelines).

§ 122.28 General permits (applicable to State NPDES programs, see § 123.25).

(a) *Coverage.* The Director may issue a general permit in accordance with the following:

(1) *Area.* The general permit shall be written to cover a category of discharges or sludge use or disposal practices or facilities described in the permit under paragraph (a)(2)(ii) of this section, except those covered by individual permits, within a geographic area. The area shall correspond to existing geographic or political boundaries, such as:

(i) Designated planning areas under sections 208 and 303 of CWA;

(ii) Sewer districts or sewer authorities;

(iii) City, county, or State political boundaries;

(iv) State highway systems;

(v) Standard metropolitan statistical areas as defined by the Office of Management and Budget;

(vi) Urbanized areas as designated by the Bureau of the Census according to criteria in 30 FR 15202 (May 1, 1974); or

(vii) Any other appropriate division or combination of boundaries.

(2) *Sources.* The general permit may be written to regulate, within the area described in paragraph (a)(1) of this section, either:

(i) Storm water point sources; or

(ii) A category of point sources other than storm water point sources, or a category of "treatment works treating domestic sewage," if the sources or "treatment works treating domestic sewage" all:

(A) Involve the same or substantially similar types of operations;

(B) Discharge the same types of wastes or engage in the same types of sludge use or disposal practices;

(C) Require the same effluent limitations, operating conditions, or standards for sewage sludge use or disposal;

(D) Require the same or similar monitoring; and

(E) In the opinion of the Director, are more appropriately controlled under a general permit than under individual permits.

(b) *Administration.* (1) *In general.* General permits may be issued, modified, revoked and reissued, or terminated in accordance with applicable requirements of part 124 or corresponding State regulations. Special procedures for issuance are found at § 123.44 for States and § 124.58 for EPA.

(2) *Authorization to discharge, or authorization to engage in sludge use and disposal practices.* (i) Except as provided in paragraphs (b)(2)(v) and (b)(2)(vi) of this section, dischargers (or treatment works treating domestic sewage) seeking coverage under a general permit shall submit to the Director a written notice of intent to be covered by the general permit. A discharger (or treatment works treating domestic sewage) who fails to submit a notice of intent in accordance with the terms of the permit is not authorized to discharge, (or in the case of sludge disposal permit, to engage in a sludge use or disposal practice), under the terms of the general permit unless the general permit, in accordance with paragraph (b)(2)(v) of this section, contains a provision that a notice of intent is not required or the Director notifies a discharger (or treatment works treating domestic sewage) that it is covered by a general permit in accordance with paragraph (b)(2)(vi) of this section. A complete and timely notice of intent (NOI) to be covered in accordance with general permit requirements, fulfills the requirements for permit applications for purposes of §§ 122.6, 122.21 and 122.26.

(ii) The contents of the notice of intent shall be specified in the general permit and shall require the submission of information necessary for adequate program implementation, including at a minimum, the legal name and address of the owner or operator, the facility name and address, type of facility or discharges, and the receiving stream(s). General permits for storm water discharges associated with industrial activity from inactive mining, inactive oil and gas operations, or inactive landfills occurring on Federal lands where an operator cannot be identified may contain alternative

Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*))

[48 FR 14153, Apr. 1, 1983, as amended at 48 FR 39619, Sept. 1, 1983; 49 FR 38048, Sept. 26, 1984; 50 FR 6940, Feb. 19, 1985; 54 FR 18782, May 2, 1989; 55 FR 48072, Nov. 16, 1990; 57 FR 11412 and 11413, Apr. 2, 1992]

§ 122.29 New sources and new dischargers.

(a) *Definitions.* (1) *New source* and *new discharger* are defined in § 122.2. [See Note 2.]

(2) *Source* means any building, structure, facility, or installation from which there is or may be a discharge of pollutants.

(3) *Existing source* means any source which is not a new source or a new discharger.

(4) *Site* is defined in § 122.2;

(5) *Facilities or equipment* means buildings, structures, process or production equipment or machinery which form a permanent part of the new source and which will be used in its operation, if these facilities or equipment are of such value as to represent a substantial commitment to construct. It excludes facilities or equipment used in connection with feasibility, engineering, and design studies regarding the source or water pollution treatment for the source.

(b) *Criteria for new source determination.* (1) Except as otherwise provided in an applicable new source performance standard, a source is a "new source" if it meets the definition of "new source" in § 122.2, and

(i) It is constructed at a site at which no other source is located; or

(ii) It totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or

(iii) Its processes are substantially independent of an existing source at the same site. In determining whether these processes are substantially independent, the Director shall consider such factors as the extent to which the new facility is integrated with the existing plant; and the extent to which the new facility is engaged in the same general type of activity as the existing source.

(2) A source meeting the requirements of paragraphs (b)(1) (i), (ii), or (iii) of this section is a new source only if a new source performance standard is independently applicable to it. If there is no such independently applicable standard, the source is a new discharger. See § 122.2.

(3) Construction on a site at which an existing source is located results in a modification subject to § 122.62 rather than a new source (or a new discharger) if the construction does not create a new building, structure, facility, or installation meeting the criteria of paragraph (b)(1) (ii) or (iii) of this section but otherwise alters, replaces, or adds to existing process or production equipment.

(4) Construction of a new source as defined under § 122.2 has commenced if the owner or operator has:

(i) Begun, or caused to begin as part of a continuous on-site construction program:

(A) Any placement, assembly, or installation of facilities or equipment; or

(B) Significant site preparation work including clearing, excavation or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

(ii) Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation with a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility engineering, and design studies do not constitute a contractual obligation under the paragraph.

(c) *Requirement for an environmental impact statement.* (1) The issuance of an NPDES permit to new source:

(i) By EPA may be a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA), 33 U.S.C. 4321 *et seq.* and is subject to the environmental review provisions of NEPA as set out in 40 CFR part 6, subpart F. EPA will determine whether an Environmental Impact Statement (EIS) is required under § 122.21(k) (special provisions for applications from new sources) and 40 CFR part 6, subpart F;

(ii) By an NPDES approved State is not a Federal action and therefore does not require EPA to conduct an environmental review.

(2) An EIS prepared under this paragraph shall include a recommendation either to issue or deny the permit.

(i) If the recommendation is to deny the permit, the final EIS shall contain the reasons for the recommendation and list those measures, if any, which the applicant could take to cause the recommendation to be changed;

(ii) If the recommendation is to issue the permit, the final EIS shall recommend the actions, if any, which the permittee should take to prevent or minimize any adverse environmental impacts;

(3) The Regional Administrator, to the extent allowed by law, shall issue, condition (other than imposing effluent limitations), or deny the new source NPDES permit following a complete evaluation of any significant beneficial and adverse impacts of the proposed action and a review of the recommendations contained in the EIS or finding of no significant impact.

(d) *Effect of compliance with new source performance standards.* (The provisions of this paragraph do not apply to existing sources which modify their pollution control facilities or construct new pollution control facilities and achieve performance standards, but which are neither new sources or new dischargers or otherwise do not meet the requirements of this paragraph.)

(1) Except as provided in paragraph (d)(2) of this section, any new discharger, the construction of which commenced after October 18, 1972, or new source which meets the applicable promulgated new source performance standards before the commencement of discharge, may not be subject to any more stringent new source performance standards or to any more stringent technology-based standards under section 301(b)(2) of CWA for the soonest ending of the following periods:

(i) Ten years from the date that construction is completed;

(ii) Ten years from the date the source begins to discharge process or other nonconstruction related wastewater; or

(iii) The period of depreciation or amortization of the facility for the purposes of section 167 or 169 (or both) of the Internal Revenue Code of 1954.

(2) The protection from more stringent standards of performance afforded by paragraph (d)(1) of this section does not apply to:

(i) Additional or more stringent permit conditions which are not technology based; for example, conditions based on water quality standards, or toxic effluent standards or prohibitions under section 307(a) of CWA; or

(ii) Additional permit conditions in accordance with § 125.3 controlling toxic pollutants or hazardous substances which are not controlled by new source performance standards. This includes permit conditions controlling pollutants other than those identified as toxic pollutants or hazardous substances when control of these pollutants has been specifically identified as the method to control the toxic pollutants or hazardous substances.

(3) When an NPDES permit issued to a source with a "protection period" under paragraph (d)(1) of this section will expire on or after the expiration of the protection period, that permit shall require the owner or operator of the source to comply with the requirements of section 301 and any other then applicable requirements of CWA immediately upon the expiration of the protection period. No additional period for achieving compliance with these requirements may be allowed except when necessary to achieve compliance with requirements promulgated less than 3 years before the expiration of the protection period.

(4) The owner or operator of a new source, a new discharger which commenced discharge after August 13, 1979, or a recommencing discharger shall install and have in operating condition, and shall "start-up" all pollution control equipment required to meet the conditions of its permits before beginning to discharge. Within the shortest feasible time (not to exceed 90 days), the owner or operator must meet all permit conditions. The requirements of this paragraph do not apply if the owner or operator is

issued a permit containing a compliance schedule under § 122.47(a)(2).

(5) After the effective date of new source performance standards, it shall be unlawful for any owner or operator of any new source to operate the source in violation of those standards applicable to the source.

(Information collection requirements in paragraph (c)(5) were approved by the Office of Management and Budget under control number 2040-0078)

[48 FR 14153, Apr. 1, 1983, as amended at 49 FR 38048, Sept. 26, 1984; 50 FR 4514, Jan. 31, 1985; 50 FR 6941, Feb. 19, 1985; 54 FR 255, Jan. 4, 1989]

EDITORIAL NOTE: At 54 FR 255, Jan. 4, 1989, § 122.29 was amended by removing subparagraphs (c) (4) and (5). At 54 FR 258, Jan. 4, 1989, § 122.29 was further amended by correcting (c)(4)(i). For the convenience of the user, the corrected paragraph follows as it had already been removed.

§ 122.29 New sources and new dischargers.

* * * * *

(c) * * *

(4)(i) No on-site construction of a new source for which an EIS is required shall commence before final Agency action in issuing a final permit incorporating appropriate EIS-related requirements, or before execution by the applicant of a legally binding written agreement which requires compliance with all such requirements, unless such construction is determined by the Regional Administrator not to cause significant or irreversible adverse environmental impact. The provisions of any agreement entered into under this paragraph shall be incorporated as conditions of the NPDES permit when it is issued.

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Subpart C—Permit Conditions

§ 122.41 Conditions applicable to all permits (applicable to State programs, see § 123.25).

The following conditions apply to all NPDES permits. Additional conditions applicable to NPDES permits are in § 122.42. All conditions applicable to NPDES permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations (or the corresponding approved State regulations) must be given in the permit.

(a) *Duty to comply.* The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

(2) The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Clean Water Act provides that any person who *negligently* violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who *knowingly* violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment fur not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

(3) Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

(b) *Duty to reapply.* If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(c) *Need to halt or reduce activity not a defense.* It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) *Duty to mitigate.* The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) *Proper operation and maintenance.* The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

(f) *Permit actions.* This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(g) *Property rights.* This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) *Duty to provide information.* The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

(i) *Inspection and entry.* The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and

other documents as may be required by law, to:

(1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

(j) *Monitoring and records.* (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

(3) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(4) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 136 unless otherwise specified in 40 CFR part 503, unless other test procedures have been specified in the permit.

(5) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

(k) *Signatory requirement.* (1) All applications, reports, or information submitted to the Director shall be signed and certified. (See § 122.22)

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(l) *Reporting requirements.* (1) *Planned changes.* The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in § 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under § 122.42(a)(1).

(iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(2) *Anticipated noncompliance.* The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(3) *Transfers.* This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See § 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) *Monitoring reports.* Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 136 unless otherwise specified in 40 CFR part 503, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

(5) *Compliance schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) *Twenty-four hour reporting.* (i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becames aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit (See § 122.41(g).

(B) Any upset which exceeds any effluent limitation in the permit.

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See § 122.44(g).)

(iii) The Director may waive the written report on a case-by-case basis for reports under paragraph (l)(6)(ii) of this section if the oral report has been received within 24 hours.

(7) *Other noncompliance.* The permittee shall report all instances of noncompliance not reported under paragraphs (l)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6) of this section.

(8) *Other information.* Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

(m) *Bypass*—(1) *Definitions.* (i) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) *Bypass not exceeding limitations.* The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (m)(3) and (m)(4) of this section.

(3) *Notice*—(i) *Anticipated bypass.* If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) *Unanticipated bypass.* The permittee shall submit notice of an unanticipated bypass as required in paragraph (l)(6) of this section (24-hour notice).

(4) *Prohibition of bypass.* (i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (m)(3) of this section.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

(n) *Upset*—(1) *Definition. Upset* means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) *Conditions necessary for a demonstration of upset.* A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;

(ii) The permitted facility was at the time being properly operated; and

(iii) The permittee submitted notice of the upset as required in paragraph (l)(6)(ii)(B) of this section (24 hour notice).

(iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

(4) *Burden of proof.* In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(Information collection requirements in paragraph (e)(1) were approved by the Office of Management and Budget under control number 2040-0047)

(Clean Water Act (33 U.S.C. 1251 *et seq.*), Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), Clean Air Act (42 U.S.C. 7401 *et seq.*),

Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*))

[48 FR 14153, Apr. 1, 1983, as amended at 48 FR 39620, Sept. 1, 1983; 49 FR 38049, Sept. 26, 1984; 50 FR 4514, Jan. 31, 1985; 50 FR 6940, Feb. 19, 1985; 54 FR 255, Jan. 4, 1989; 54 FR 18783, May 2, 1989]

EFFECTIVE DATE NOTE: Information collection requirements in paragraph (l)(1) have not been approved by the Office of Management and Budget, and are not effective, pending OMB approval.

EDITORIAL NOTE: In paragraphs (j)(2), (4) and (l)(4)(ii), there are references to 40 CFR part 503. These references are to a proposed rule which was published at 54 FR 5746, Feb. 6, 1989. There is currently no part 503 in the Code of Federal Regulations.

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25).

The following conditions, in addition to those set forth in § 122.41, apply to all NPDES permits within the categories specified below:

(a) *Existing manufacturing, commercial, mining, and silvicultural dischargers.* In addition to the reporting requirements under § 122.41(l), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) One hundred micrograms per liter (100 μg/l);

(ii) Two hundred micrograms per liter (200 μg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 μg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with § 122.21(g)(7); or

(iv) The level established by the Director in accordance with § 122.44(f).

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) Five hundred micrograms per liter (500 μg/l);

(ii) One milligram per liter (1 mg/l) for antimony;

(iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with § 122.21(g)(7).

(iv) The level established by the Director in accordance with § 122.44(f).

(b) *Publicly owned treatment works.* All POTWs must provide adequate notice to the Director of the following:

(1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and

(2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

(3) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(c) *Municipal separate storm sewer systems.* The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;

(2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit appli-

cation under § 122.26(d)(2)(iv) and (d)(2)(v) of this part;

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;

(5) Annual expenditures and budget for year following each annual report;

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs;

(7) Identification of water quality improvements or degradation;

(Information collection requirements in paragraph (a) were approved by the Office of Management and Budget under control number 2040-0045)

[48 FR 14153, Apr. 1, 1983, as amended at 49 FR 38049, Sept. 26, 1984; 50 FR 4514, Jan. 31, 1985; 55 FR 48073, Nov. 16, 1990]

§ 122.43 Establishing permit conditions (applicable to State programs, see § 123.25).

(a) In addition to conditions required in all permits (§§ 122.41 and 122.42), the Director shall establish conditions, as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of CWA and regulations. These shall include conditions under §§ 122.46 (duration of permits), 122.47(a) (schedules of compliance), 122.48 (monitoring), and for EPA permits only 122.47(b) (alternates schedule of compliance) and 122.49 (considerations under Federal law).

(b)(1) For a State issued permit, an applicable requirement is a State statutory or regulatory requirement which takes effect prior to final administrative disposition of a permit. For a permit issued by EPA, an applicable requirement is a statutory or regulatory requirement (including any interim final regulation) which takes effect prior to the issuance of the permit (except as provided in § 124.86(c) for NPDES permits being processed under subpart E or F of part 124). Section 124.14 (reopening of comment period) provides a means for reopening EPA permit proceedings at the discretion of the Director where new requirements become effective during the permitting process and are of sufficient magnitude to make additional proceedings desirable. For State and EPA administered programs, an applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in § 122.62.

(2) New or reissued permits, and to the extent allowed under § 122.62 modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in §§ 122.44 and 122.45.

(c) *Incorporation.* All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

§ 122.44 Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs, see § 123.25).

In addition to the conditions established under § 122.43(a), each NPDES permit shall include conditions meeting the following requirements when applicable.

(a) *Technology-based effluent limitations and standards* based on effluent limitations and standards promulgated under section 301 of CWA or new source performance standards promulgated under section 306 of CWA, on case-by-case effluent limitations determined under section 402(a)(1) of CWA, or on a combination of the two, in accordance with § 125.3. For new sources or new dischargers, these technology based limitations and standards are subject to the provisions of § 122.29(d) (protection period).

(b)(1) *Other effluent limitations and standards* under sections 301, 302, 303, 307, 318 and 405 of CWA. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in the permit, the Director shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition. See also § 122.41(a).

(2) *Standards for sewage sludge use or disposal* under section 405(d) of the CWA unless those standards have been included in a permit issued under the appropriate provisions of subtitle C of the Solid Waste Disposal Act, Part C of Safe Drinking Water Act, the Marine Protection, Research, and Sanctuaries Act of 1972, or the Clean Air Act, or under State permit programs approved by the Administrator. When there are no applicable standards for sewage sludge use or disposal, the permit may include requirements developed on a case-by-case basis to protect public health and the environment from any adverse effects which may occur from toxic pollutants in sewage sludge. If any applicable standard for sewage sludge use or disposal is promulgated under section 405(d) of the CWA and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Director may initiate proceedings under these regulations to modify or revoke and reissue the permit to conform to the standard for sewage sludge use or disposal.

(c) *Reopener clause:* for any discharger within a primary industry category (see appendix A), requirements under section 307(a)(2) of CWA as follows:

(1) On or before June 30, 1981: (i) If applicable standards or limitations have not yet been promulgated, the permit shall include a condition stating that, if an applicable standard or limitation is promulgated under sections 301(b)(2) (C) and (D), 304(b)(2), and 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.

(ii) If applicable standards or limitations have been promulgated or approved, the permit shall include those standards or limitations. (If EPA approves existing effluent limitations or decides not to develop new effluent limitations, it will publish a notice in the FEDERAL REGISTER that the limitations are "approved" for the purpose of this regulation.)

(2) On or after the statutory deadline set forth in section 301(b)(2) (A), (C), and (E) of CWA, any permit issued shall include effluent limitations to meet the requirements of section 301(b)(2) (A), (C), (D), (E), (F), whether or not applicable effluent limitations guidelines have been promulgated or approved. These permits need not incorporate the clause required by paragraph (c)(1) of this section.

(3) The Director shall promptly modify or revoke and reissue any permit containing the clause required under paragraph (c)(1) of this section to incorporate an applicable effluent standard or limitation under sections 301(b)(2) (C) and (D), 304(b)(2) and 307(a)(2) which is promulgated or approved after the permit is issued if that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit.

(4) For any permit issued to a treatment works treating domestic sewage (including "sludge-only facilities"), the Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA. The Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

(d) *Water quality standards and State requirements:* any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318 and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged

at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.

(ii) When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

(iii) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.

(iv) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the numeric criterion for whole effluent toxicity, the permit must contain effluent limits for whole effluent toxicity.

(v) Except as provided in this subparagraph, when the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, toxicity testing data, or other information, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity. Limits on whole effluent toxicity are not necessary where the permitting authority demonstrates in the fact sheet or statement of basis of the NPDES permit, using the procedures in paragraph (d)(1)(ii) of this section, that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative State water quality standards.

(vi) Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options:

(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or

(B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 307(a) of the CWA, supplemented where necessary by other relevant information; or

(C) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided:

(*1*) The permit identifies which pollutants are intended to be controlled by the use of the effluent limitation;

(*2*) The fact sheet required by § 124.56 sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;

(*3*) The permit requires all effluent and ambient monitoring necessary to show that during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and

(*4*) The permit contains a reopener clause allowing the permitting authority to modify or revoke and reissue the permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.

(vii) When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:

(A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and

(B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.

(2) Attain or maintain a specified water quality through water quality related effluent limits established under section 302 of CWA;

(3) Conform to the conditions to a State certification under section 401 of the CWA that meets the requirements of § 124.53 when EPA is the permitting authority. If a State certification is stayed by a court of competent jurisdiction or an appropriate State board or agency, EPA shall notify the State that the Agency will deem certification waived unless a finally effective State certification is received within sixty days from the date of the notice. If the State does not forward a finally effective certification within the sixty day period, EPA shall include conditions in the permit that may be necessary to meet EPA's obligation under section 301(b)(1)(C) of the CWA;

(4) Conform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State;

(5) Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under Federal or State law or regulations in accordance with section 301(b)(1)(C) of CWA;

(6) Ensure consistency with the requirements of a Water Quality Management plan approved by EPA under section 208(b) of CWA;

(7) Incorporate section 403(c) criteria under part 125, subpart M, for ocean discharges;

(8) Incorporate alternative effluent limitations or standards where warranted by "fundamentally different factors," under 40 CFR part 125, subpart D;

(9) Incorporate any other appropriate requirements, conditions, or limitations (other than effluent limitations) into a new source permit to the extent allowed by the National Environmental Policy Act, 42 U.S.C. 4321 *et seq.* and section 511 of the CWA, when EPA is the permit issuing authority. (See § 122.29(c)).

(e) *Technology-based controls for toxic pollutants.* Limitations established under paragraphs (a), (b), or (d) of this section, to control pollutants meeting the criteria listed in paragraph (e)(1) of this section. Limitations will be established in accordance with paragraph (e)(2) of this section. An explanation of the development of these limitations shall be included in the fact sheet under § 124.56(b)(1)(i).

(1) Limitations must control all toxic pollutants which the Director determines (based on information reported in a permit application under § 122.21(g)(7) or (10) or in a notification under § 122.42(a)(1) or on other information) are or may be discharged at a level greater than the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c); or

(2) The requirement that the limitations control the pollutants meeting the criteria of paragraph (e)(1) of this section will be satisfied by:

(i) Limitations on those pollutants; or

(ii) Limitations on other pollutants which, in the judgment of the Director, will provide treatment of the pol-

lutants under paragraph (e)(1) of this section to the levels required by § 125.3(c).

(f) *Notification level.* A "notification level" which exceeds the notification level of § 122.42(a)(1)(i), (ii) or (iii), upon a petition from the permittee or on the Director's initiative. This new notification level may not exceed the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c)

(g) *Twenty-four hour reporting.* Pollutants for which the permittee must report violations of maximum daily discharge limitations under § 122.41(l)(6)(ii)(C) (24-hour reporting) shall be listed in the permit. This list shall include any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance.

(h) *Durations* for permits, as set forth in § 122.46.

(i) *Monitoring requirements.* In addition to § 122.48, the following monitoring requirements:

(1) To assure compliance with permit limitations, requirements to monitor:

(i) The mass (or other measurement specificed in the permit) for each pollutant limited in the permit;

(ii) The volume of effluent discharged from each outfall;

(iii) Other measurements as appropriate including pollutants in internal waste streams under § 122.45(i); pollutants in intake water for net limitations under § 122.45(f); frequency, rate of discharge, etc., for noncontinuous discharges under § 122.45(e); pollutants subject to notification requirements under § 122.42(a); and pollutants in sewage sludge or other monitoring as specified in 40 CFR part 503; or as determined to be necessary on a case-by-case basis pursuant to section 405(d)(4) of the CWA.

(iv) According to test procedures approved under 40 CFR part 136 for the analyses of pollutants having approved methods under that part, and according to a test procedure specified in the permit for pollutants with no approved methods.

(2) Except as provided in paragraphs (i)(4) and (i)(5) of this section, requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year. For sewage sludge use or disposal practices, requirements to monitor and report results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the sewage sludge use or disposal practice; minimally this shall be as specified in 40 CFR part 503 (where applicable), but in no case less than once a year.

(3) Requirements to report monitoring results for storm water discharges associated with industrial activity which are subject to an effluent limitation guideline shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year.

(4) Requirements to report monitoring results for storm water discharges associated with industrial activity (other than those addressed in paragraph (i)(3) of this section) shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge. At a minimum, a permit for such a discharge must require:

(i) The discharger to conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity and evaluate whether measures to reduce pollutant loadings identified in a storm water pollution prevention plan are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed;

(ii) The discharger to maintain for a period of three years a record summarizing the results of the inspection and a certification that the facility is in compliance with the plan and the permit, and identifying any incidents of non-compliance;

(iii) Such report and certification be signed in accordance with § 122.22; and

(iv) Permits for storm water discharges associated with industrial activity from inactive mining operations may, where annual inspections are impracticable, require certification once every three years by a Registered Professional Engineer that the facility is in compliance with the permit, or alternative requirements.

(5) Permits which do not require the submittal of monitoring result reports at least annually shall require that the permittee report all instances of noncompliance not reported under § 122.41(l) (1), (4), (5), and (6) at least annually.

(j) *Pretreatment program for POTWs.* Requirements for POTWs to:

(1) Identify, in terms of character and volume of pollutants, any significant indirect dischargers into the POTW subject to pretreatment standards under section 307(b) of CWA and 40 CFR part 403.

(2) Submit a local program when required by and in accordance with 40 CFR part 403 to assure compliance with pretreatment standards to the extent applicable under section 307(b). The local program shall be incorporated into the permit as described in 40 CFR part 403. The program shall require all indirect dischargers to the POTW to comply with the reporting requirements of 40 CFR part 403.

(3) For POTWs which are "sludge-only facilities," a requirement to develop a pretreatment program under 40 CFR part 403 when the Director determines that a pretreatment program is necessary to assure compliance with Section 405(d) of the CWA.

(k) *Best management practices* to control or abate the discharge of pollutants when:

(1) Authorized under section 304(e) of CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;

(2) Numeric effluent limitations are infeasible, or

(3) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of CWA.

(l) *Reissued permits.* (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under § 122.62.)

(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(i) Exceptions—A permit with respect to which paragraph (l)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if—

(A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(*I*) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or

(*2*) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b);

(C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) The permittee has received a permit modification under section 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a); or

(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve

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APPENDIX F TO PART 122—INCORPORATED PLACES WITH POPULATIONS GREATER THAN 250,000 ACCORDING TO LATEST DECENNIAL CENSUS BY BUREAU OF CENSUS

State	Incorporated place
Alabama	Birmingham.
Arizona	Phoenix
	Tucson
California	Long Beach.
	Los Angeles.
	Oakland
	Sacramento
	San Diego
	San Francisco
	San Jose
Colorado	Denver
District of Columbia	
Florida	Jacksonville
	Miami
	Tampa
Georgia	Atlanta
Illinois	Chicago
Indiana	Indianapolis.
Kansas	Wichita
Kentucky	Louisville
Louisiana	New Orleans.
Maryland	Baltimore
Massachusetts	Boston
Michigan	Detroit
Minnesota	Minneapolis
	St Paul
Missouri	Kansas City
	St Louis
Nebraska	Omaha
New Jersey	Newark
New Mexico	Albuquerque
New York	Buffalo
	Bronx Borough
	Brooklyn Borough
	Manhattan Borough
	Queens Borough
	Staten Island Borough.
North Carolina	Charlotte
Ohio	Cincinnati
	Cleveland
	Columbus
	Toledo
Oklahoma	Oklahoma City.
	Tulsa
Oregon	Portland
Pennsylvania	Philadelphia
	Pittsburgh
Tennessee	Memphis
	Nashville/Davidson.
Texas	Austin
	Dallas
	El Paso
	Fort Worth
	Houston
	San Antonio
Virginia	Norfolk
	Virginia Beach
Washington	Seattle
Wisconsin	Milwaukee

[55 FR 48073, Nov. 16, 1990]

APPENDIX G TO PART 122—PLACES WITH POPULATIONS GREATER THAN 100,000 AND LESS THAN 250,000 ACCORDING TO LATEST DECENNIAL CENSUS BY BUREAU OF CENSUS

State	Incorporated place
Alabama	Huntsville
	Mobile
	Montgomery
Alaska	Anchorage
Arizona	Mesa
	Tempe
Arkansas	Little Rock
California	Anaheim
	Bakersfield
	Berkeley
	Concord
	Fremont
	Fresno
	Fullerton
	Garden Grove
	Glendale
	Huntington Beach.
	Modesto
	Oxnard
	Pasadena.
	Riverside
	San Bernadino.
	Santa Ana
	Stockton
	Sunnyvale
	Torrance
Colorado	Aurora
	Colorado Springs.
	Lakewood
	Pueblo
Connecticut	Bridgeport
	Hartford
	New Haven.
	Stamford
	Waterbury
Florida	Fort Lauderdale
	Hialeah
	Hollywood
	Orlando
	St Petersburg.
Georgia	Columbus
	Macon
	Savannah
Idaho	Boise City
Illinois	Peoria
	Rockford
Indiana	Evansville
	Fort Wayne
	Gary
	South Bend
Iowa	Cedar Rapids.
	Davenport
	Des Moines
Kansas	Kansas City
	Topeka
Kentucky	Lexington-Fayette.
Louisiana	Baton Rouge
	Shreveport
Massachusetts	Springfield

State	Incorporated place
	Worcester
Michigan	Ann Arbor.
	Flint.
	Grand Rapids
	Lansing
	Livonia
	Sterling Heights
	Warren
Mississippi	Jackson
Missouri	Independence
	Springfield
Nebraska	Lincoln
Nevada	Las Vegas
	Reno
New Jersey	Elizabeth
	Jersey City
	Paterson
New York	Albany
	Rochester
	Syracuse
	Yonkers
North Carolina	Durham
	Greensboro
	Raleigh
	Winston-Salem
Ohio	Akron
	Dayton
	Youngstown.
Oregon	Eugene
Pennsylvania	Allentown
	Erie
Rhode Island	Providence
South Carolina	Columbia
Tennessee	Chattanooga.
	Knoxville
Texas	Amarillo
	Arlington
	Beaumont
	Corpus Christi.
	Garland
	Irving
	Lubbock
	Pasadena.
	Waco
Utah	Salt Lake City.
Virginia	Alexandria
	Chesapeake.
	Hampton
	Newport News.
	Portsmouth.
	Richmond
	Roanoke.
Washington	Spokane
	Tacoma.
Wisconsin	Madison

[55 FR 48074, Nov. 16, 1990]

APPENDIX H TO PART 122—COUNTIES WITH UNINCORPORATED URBANIZED AREAS WITH A POPULATION OF 250,000 OR MORE ACCORDING TO THE LATEST DECENNIAL CENSUS BY THE BUREAU OF CENSUS

State	County	Unincorporated urbanized population
California	Los Angeles	812,664
	Sacramento	449,056
	San Diego	304,758
Delaware	New Castle	257,184
Florida	Dade	781,849
Georgia	DeKalb	386,379
Hawaii	Honolulu	668,178
Maryland	Anne Arundel	271,456
	Baltimore	801,308
	Montgomery	447,993
	Prince George's	450,188
Texas	Harris	409,801
Utah	Salt Lake	304,632
Virginia	Fairfax	527,178
Washington	King	336,800

[55 FR 48074, Nov. 16, 1990]

APPENDIX I TO PART 122—COUNTIES WITH UNINCORPORATED URBANIZED AREAS GREATER THAN 100,000, BUT LESS THAN 250,000 ACCORDING TO THE LATEST DECENNIAL CENSUS BY THE BUREAU OF CENSUS

State	County	Unincorporated urbanized population
Alabama	Jefferson	102,817
Arizona	Pima	111,478
California	Alameda	187,474
	Contra Costa	158,452
	Kern	117,231
	Orange	210,883
	Riverside	115,718
	San Bernardino	148,644
Florida	Broward	158,370
	Escambia	147,892
	Hillsborough	238,282
	Orange	245,325
	Palm Beach	167,088
	Pinellas	184,398
	Polk	104,150
	Sarasota	110,008
Georgia	Clayton	100,742
	Cobb	204,121
	Richmond	118,528
Kentucky	Jefferson	224,958
Louisiana	Jefferson	140,836
North Carolina	Cumberland	142,727
Nevada	Clark	201,775
Oregon	Multnomah	141,100
	Washington	108,348
South Carolina	Greenville	135,398

United States
Environmental Protection
Agency

Office Of Water
(EN-336)

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Guidance Manual For The Preparation Of Part 2 Of The NPDES Permit Applications For Discharges From Municipal Separate Storm Sewer Systems

VOL 2 3

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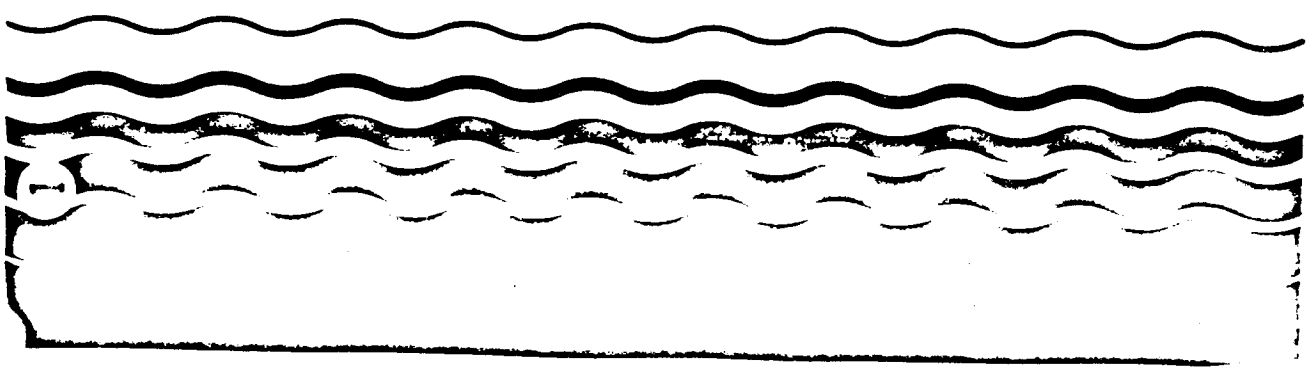

FOREWORD

This manual provides detailed guidance on the development of Part 2 permit applications for municipal separate storm sewer systems. It provides technical assistance and support for all municipal separate storm sewer systems subject to regulatory requirements under the National Pollutant Discharge Elimination System (NPDES) program for storm water point source discharges. This manual also emphasizes the application of pollution prevention measures and implementation of Best Management Practices (BMPs) to reduce pollutant loadings and improve water quality.

The control of pollution from urban and industrial storm water discharges is critical in maintaining and improving the quality of the Nation's waters. Pollutants in storm water discharges from many sources are largely uncontrolled. The *National Water Quality Inventory, 1990 Report to Congress*, provides a general assessment of water quality based on biennial reports submitted by the States under Section 305(b) of the Clean Water Act (CWA). The report indicates that roughly one third of the impairment in assessed waters is due to storm water runoff.

This document was issued in support of Environmental Protection Agency (EPA) regulations and policy initiatives involving the development and implementation of a national storm water program. This document is Agency guidance only. It does not establish or affect legal rights or obligations. Agency decisions in any particular case will be made applying the laws and regulations on the basis of specific facts when permits are issued or regulations promulgated.

This document will be revised and expanded periodically to reflect additional guidance. Comments from users are welcomed. Send comments to U.S. EPA, Office of Wastewater Enforcement and Compliance, 401 M Street, SW, Mail Code EN-336, Washington, D.C. 20460.

Michael B. Cook,
Director
Office of Wastewater Enforcement
and Compliance

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CHAPTER 1
INTRODUCTION

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1.0 INTRODUCTION

1.1 OVERVIEW

Control of pollution from urban and industrial storm water discharges is an important factor in maintaining and improving the quality of the Nation's waters. To help improve the quality of storm water discharges, Congress passed the Water Quality Act (WQA) in 1987. The WQA added to the Clean Water Act (CWA) a provision [Section 402(p)] that directed the U.S. Environmental Protection Agency (EPA) to establish final regulations governing storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program.

In response, EPA published regulations in the November 16, 1990, Federal Register (55 FR 47990) that established NPDES permit application requirements for storm water point source discharges. As part of these regulations, municipal separate storm sewer systems (MS4s) that serve populations greater than 250,000 ("large MS4s"), MS4s that serve populations between 100,000 and 250,000 ("medium MS4s"), and other MS4s identified by the permitting authority must be covered by NPDES permits. The regulations establish a two-part application process for these MS4s. In April 1991, EPA issued guidance on the preparation of Part 1 of the NPDES permit application for discharges from MS4s (EPA, 1991b). The present manual provides guidance on the preparation of Part 2 applications. The information in this manual should help municipalities focus their efforts on activities that meet the application requirements.

1.2 SUMMARY OF THE CLEAN WATER ACT REQUIREMENTS

Section 402 of the CWA prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES permit.

Efforts to improve water quality under the NPDES program have traditionally focused on reducing pollutants in discharges of industrial process wastewater and municipal sewage. As pollution control measures have been implemented for these discharges, it has become evident that diffuse sources of water pollution (those occurring over a wide area) are also major contributors to water quality degradation. Recent studies, including the Nationwide Urban Runoff Program (NURP) study (EPA, 1983), have shown that storm water runoff from urban and industrial areas typically contains the same general types of pollutants that are often found in wastewater in industrial discharges. Pollutants commonly found in storm water runoff include heavy metals, pesticides, herbicides, and synthetic organic compounds such as fuels, waste oils, solvents, lubricants, and grease. These compounds can have damaging effect on both human health and aquatic ecosystems. In addition to pollutants, the high volumes of storm water discharged from MS4s in areas of rapid urbanization have had significant impacts on aquatic ecosystems due to physical modifications such as bank erosion and widening of channels.

The statutory provisions governing discharges from MS4s are contained in CWA Section 402(p)(3)(B). In general, Congress provided that permits for discharges from MS4s:

- May be issued on either a system- or jurisdiction-wide basis;
- Shall effectively prohibit non-storm water discharges into the MS4; and
- Shall require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP).

Under the storm water program, the initial round of NPDES permits will emphasize the use of Best Management Practices (BMPs) to reduce pollutant loadings from MS4s. These BMPs include pollution prevention measures, management practices, control techniques, and design and engineering practices. As with any discharger subject to the NPDES program, MS4s must meet technology-based requirements [in this case, the "maximum extent practicable" standard of Section 402(p)] as well as applicable water quality standards.

1.3 THE PERMIT APPLICATION PROCESS

The goal of the NPDES program for municipal storm water is the reduction and elimination of pollutants in storm water discharges from large and medium MS4s. The permit application process in 40 CFR 122.26(d) is designed to meet this goal by developing site-specific NPDES permits containing storm water management programs for individual MS4s. Site-specific permitting is crucial given the differing nature of discharges from MS4s in different parts of the country and the varying impacts of these discharges on receiving waters. To facilitate this process, the regulations specify a two-part permit application.

Part 1 of the permit application initiates the process through which municipalities began to identify sources of pollutants to the municipal storm sewer system. Part 1 also requires municipalities to propose strategies to characterize storm water discharges from their municipal separate storm sewer systems. *Guidance for the Preparation of Part 1 of The NPDES Permit Applications for Discharges From Municipal Separate Storm Sewer Systems* was issued in April 1991, and is available through EPA's Storm Water Hotline [(703) 821-4823].

The present manual describes how to meet the Part 2 permit application requirements for storm water discharges from large and medium MS4s. Part 2 of the permit application builds upon the foundation established in Part 1 and provides for the development of comprehensive storm water management programs. Part 2 requires particular information that MS4s must have developed to have an effective storm water control plan. However, each applicant is given flexibility on how to present and organize this information in a way which best suits the MS4's needs and is most consistent with its overall storm water management strategy. This guidance presents examples which illustrate some alternative ways to present information that will fulfill the Part 2 permit application requirements.

1.4 WHO MUST SUBMIT A PART 2 APPLICATION

Municipalities, incorporated places, and counties with unincorporated urban areas that own or operate a large or medium MS4 that discharges to waters of the United States are required to obtain a NPDES storm water permit. In addition, small MS4s (less than 100,000) that are owned or operated by a municipality other than those identified in the NPDES regulation can be designated by the permitting authority as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers.

Under EPA's definition of MS4, "large" MS4s serve populations greater than 250,000, and "medium" MS4s serve populations of at least 100,000, but less than 250,000. Population is determined by the most recent Decennial Census by the Bureau of the Census. A list of large and medium municipalities identified in the November 16, 1990, rule is contained in Exhibit 1-1, in which population was based on the 1980 Census. After the publication of the November 16, 1990, rule, the Bureau of the Census released data for 1990, and, as a result, some additional municipalities may be required to submit applications, while others may fall below 100,000. These changes are not reflected in Exhibit 1-1.

Exhibit 1-1: Large and Medium MS4s (Based on 1980 Census Data)

Municipalities, Counties, and Incorporated Areas With Populations greater than 250,000 which Must Submit NPDES Storm Water Applications.

State	Entity
Alabama	Birmingham
Arizona	Phoenix
	Tucson
California	Long Beach
	Los Angeles
	Los Angeles County
	Oakland
	Sacramento
	Sacramento County
	San Diego
	San Diego County
	San Francisco
	San Jose
Colorado	Denver
Delaware	New Castle County
District of Columbia	
Florida	Dade County
	Jacksonville
	Miami
	Tampa
Georgia	Atlanta
	DeKalb County
Hawaii	Honolulu County
Illinois	Chicago
Indiana	Indianapolis
Kansas	Wichita
Kentucky	Louisville
Louisiana	New Orleans
Maryland	Anne Arundel County
	Baltimore County
	Baltimore
	Montgomery County
	Prince George's County
Massachusetts	Boston
Michigan	Detroit
Minnesota	Minneapolis
	St. Paul
Missouri	Kansas City
	St. Louis
Nebraska	Omaha
New Jersey	Newark
New Mexico	Albuquerque
New York	Buffalo
	Bronx Borough
	Brooklyn Borough
	Manhattan Borough
	Queens Borough
	Staten Island Borough
North Carolina	Charlotte
Ohio	Cincinnati
	Cleveland
	Columbus
	Toledo
Oklahoma	Oklahoma City
	Tulsa
Oregon	Portland
Pennsylvania	Philadelphia
	Pittsburgh
Tennessee	Memphis
	Nashville/Davidson
Texas	Austin
	Dallas
	El Paso
	Fort Worth
	Harris County
	Houston
	San Antonio
Utah	Salt Lake County
Virginia	Fairfax County
	Norfolk
	Virginia Beach
Washington	King County
	Seattle
Wisconsin	Milwaukee

Municipalities, Counties, and Incorporated Areas with Populations between 100,000 and 250,000 which Must Submit NPDES Storm Water Applications.

State	Entity
Alabama	Huntsville
	Jefferson County
	Mobile
	Montgomery
Alaska	Anchorage
Arizona	Mesa
	Pima County
	Tempe
Arkansas	Little Rock
California	Alameda County
	Anaheim
	Bakersfield
	Berkeley
	Concord
	Contra Costa County
	Fremont
	Fresno
	Fullerton
	Garden Grove
	Glendale
	Huntington Beach
	Kern County
	Modesto
California, cont.	Orange County
	Oxnard
	Pasadena
	Riverside
	Riverside County
	San Bernardino
	San Bernardino County
	Santa Ana
	Stockton
	Sunnyvale
	Torrance
Colorado	Aurora
	Colorado Springs
	Lakewood
	Pueblo
Connecticut	Bridgeport
	Hartford
	New Haven
	Stamford
	Waterbury
Florida	Broward County
	Escambia County
	Fort Lauderdale
	Hileah
	Hillsborough County
	Hollywood
	Orange County
	Orlando
	Palm Beach County
	Pinellas County
	Polk County
	Sarasota County
	St. Petersburg
Georgia	Clayton County
	Cobb County
	Columbus
	Macon
	Richmond County
	Savannah
Idaho	Boise City
Illinois	Peoria
	Rockford
Indiana	Evansville
	Fort Wayne
	Gary
	South Bend
Iowa	Cedar Rapids
	Davenport
	Des Moines
Kansas	Kansas City
	Topeka
Kentucky	Jefferson County
	Lexington-Fayette
Louisiana	Baton Rouge
	Jefferson Parish
	Shreveport

(continued)

Exhibit 1-1: Large and Medium MS4s (cont.)
(Based on 1980 Census Data)

Massachusetts ..... Springfield	North Carolina ..... Durham	Texas, cont'd ..... Corpus Christi
Worcester	Greensboro	Garland
Michigan ..... Ann Arbor	Raleigh	Irving
Flint	Winston-Salem	Lubbock
Grand Rapids	Cumberland County	Pasadena
Lansing	Ohio ..... Akron	Waco
Livonia	Dayton	Utah ..... Salt Lake City
Sterling Heights	Youngstown	Virginia ..... Alexandria
Warren	Oregon ..... Eugene	Arlington County
Mississippi ..... Jackson	Multnomah County	Chesapeake
Missouri ..... Independence	Washington County	Chesterfield County
Springfield	Pennsylvania ..... Allentown	Hampton
Nebraska ..... Lincoln	Erie	Henrico County
Nevada ..... Clark County	Rhode Island ..... Providence	Newport News
Las Vegas	South Carolina ..... Columbia	Portsmouth
Reno	Greenville County	Richmond
New Jersey ..... Elizabeth	Richland County	Roanoke
Jersey City	Tennessee ..... Chattanooga	Washington .. Snohomish County
Paterson	Knoxville	Spokane
New York ..... Albany	Texas ..... Amarillo	Pierce County
Rochester	Arlington	Tacoma
Syracuse	Beaumont	Wisconsin ..... Madison
Yonkers		

Source: 55 FR 48073, November 16, 1990.

The definition of MS4 excludes those conveyances that are designed to discharge storm water runoff combined with municipal sanitary sewers ("combined sewer systems"). Therefore, municipalities that own or operate combined sewer systems may petition to have their population, based on Bureau of the Census figures, reduced by the number of people served by the combined sewer system. If the total population served by the separate storm sewer system alone is less than 100,000, the municipality may be eligible for an exemption from NPDES storm water permit requirements. Municipalities should contact their permitting authority for additional information. Exhibit 1-1 does not reflect any modifications in the application requirements for cities with combined sewer systems.

1.5 SUBMITTING THE PART 2 APPLICATION

Completed Part 2 applications should be submitted to the appropriate permitting authority listed in Exhibit 1-2. For municipalities in States with authorized NPDES programs, the permitting authority is the State office listed in Exhibit 1-2. Because some of these States may have application requirements in addition to EPA's, municipalities in States with authorized NPDES programs should contact their States for guidance. For municipalities in States without approved NPDES programs, the permitting authority is the EPA Regional Office listed in Exhibit 1-2.

Municipalities with populations greater than 250,000 (large MS4s) were to submit their Part 2 applications by November 16, 1992. Municipalities with populations greater than 100,000, but less than 250,000 (medium MS4s), must submit Part 2 applications by May 17, 1993. Inquiries regarding Part 2 applications or the permitting process should be directed to the appropriate permitting authority.

Exhibit 1-2: NPDES Storm Water Program Permitting Authorities

State	Permit Auth.	Contact
Alabama	State	Aubrey White Water Division 1751 Dickinson Dr. Montgomery, AL 36130 (205) 271-7811
Alaska	EPA	Steve Bubnick U.S. EPA Region 10 WD-134 1200 6th Ave. Seattle, WA 98101 (206) 553-8399
Arizona	EPA	Eugene Bromley U.S. EPA Region 9 W-5-1 75 Hawthorne St. San Francisco, CA 94105 (415) 744-1906
Arkansas	State	Mark Bradley Permitting Section Chief 8001 National Dr. P.O. Box 8913 Little Rock, AR 72219-8913
California	State	Archie Matthews Div. of Water Qual. Control Dept. of State Water Res. Bd. Mail Code G8 901 P Street Sacramento, CA 95814 (916) 657-0525
Colorado	State	Patricia Nelson Dept. of Health Water Quality Control Div. WPCD-PE-B2 4300 Cherry Drive South Denver, CO 80222-1530 (303) 692-3590
Connecticut	State	Permit Coordinator Dept. of Envir. Protection Water Management Bureau 165 Capitol Ave. Hartford, CT 06106 (203) 566-7167
Delaware	State	Chuck Schadel Dept. of Natural Resources Surface Water Management 89 Kings Hwy., P.O. Box 1401 Dover, DE 19903 (302) 739-5731
District of Columbia	EPA	Kevin Magerr U.S. EPA Region 3 3WM53 841 Chestnut Bldg. Philadelphia, PA 19107 (215) 597-1651
Florida	EPA	Chris Thomas U.S. EPA Region 4 4WM-PP 345 Courtland St. N.E. Atlanta, GA 30365 (404) 347-2391
Georgia	State	Allen Hallum Municipal Permitting Prog. Ga. Env. Protection Div. 4244 International Pkwy. Suite 110 Atlanta, GA 30354 (404) 362-2680
Hawaii	State	Steve Chang Dept. of Health Clean Water Branch Pive Water Front Plaza #500 Ala Moana Blvd. Honolulu, HI 96813 (808) 586-4309
Idaho	EPA	Steve Bubnick U.S. EPA Region 10 WD-134 1200 6th Avenue Seattle, WA 98101 (206) 553-8399
Illinois	State	Sue Epperson EPA Water Poll. Control Permits Section #15 P.O. Box 19276 Springfield, IL 62794-9276 (217) 782-0610
Indiana	State	Catherine Hess Dept. of Env. Mgmt. NPDES Permits Group Room #718 105 S. Meridian St. P.O. Box 6015 Indianapolis, IN 46206-6015 (317) 232-8704

(Continued)

Exhibit 1-2: NPDES Storm Water Program Permitting Authorities (cont.)

State	Permit Auth.	Contact
Iowa	State	Monica Wnuck Dept. of Natural Resources Wallace State Building 900 E. Grand Street Des Moines, IA 50319-0034 (515) 281-7017
Kansas	State	Don Carlson Dept. of Health and Env. Bureau of Water Ind. or Mun. Progs. Section Forbes Field, Building 740 Topeka, KS 66620 (913) 296-5555
Kentucky	State	Douglas Allgeier Dept. of Env. Protection Water Division 14 Reilly Road Frankfort, KY 40601 (502) 564-3410
Louisiana	EPA	Brent Larsen U.S. EPA Region 6 6W-PM 1455 Ross Ave. Dallas, TX 75202 (214) 655-7175
Maine	EPA	Shelley Puleo U.S. EPA Region 1 JFK Building/WCP Boston, MA 02203 (617) 565-3525
Maryland	State	Brian Clevenger MD Dept. of Environment Sed. & Storm Water Admin. 2500 Broening Hwy. Baltimore, MD 21224 (410) 631-3545
Mass-achusetts	EPA	Shelley Puleo U.S. EPA Region 1 WCP JFK Building Boston, MA 02203 (617) 565-3525
Michigan	State	Gary Boersen Dept. of Natural Resources Surf. Wtr. Qual. Div.-Permits P.O. Box 30028 Lansing, MI 48909 (517) 373-1982
Minnesota	State	Scott Thompson Pollution Control Agency 520 Lafayette Rd. St. Paul, MN 55155-3898 (612) 296-7203
Miss-issippi	State	Louis Lavalee Dept. of Env. Quality Office of Pollution Control Ind. Wastewater Branch P.O. Box 10385 Jackson, MS 39289-0385 (601) 961-5074
Missouri	State	Karl Pett Dept. of Natural Resources Water Poll. Control Program 205 Jefferson St. P.O. Box 176 Jefferson City, MO 65102 (314) 526-2928
Montana	State	Fred Shewman Water Quality Bureau Cogswell Building Helena, MT 59620 (406) 444-2406
Nebraska	State	Clark Smith Environmental Quality P.O. Box 98922 Lincoln, NE 68509 (402) 471-4239
Nevada	State	Rob Saunders Conserv. & Natural Res. Environmental Protection 333 W. Nye Lane Carson City, NV 89710 (702) 687-5870
New Hampshire	EPA	Shelley Puleo U.S. EPA Region 1 WCP JFK Building Boston, MA 02203 (617) 565-3525
New Jersey	State	Barry Chalofsky NJ DEPE Office of Regulatory Policy CN423 Trenton, NJ 08625-0423 (609) 633-7021

(Continued)

Exhibit 1-2: NPDES Storm Water Program Permitting Authorities (cont.)

State	Permit Auth.	Contact
New Mexico	EPA	Brent Larsen U.S. EPA Region 6 6W-PM 1445 Ross Ave. Dallas, TX 75202 (214) 655-7175
New York	State	Ken Stevens Wastewater Facilities Design NY State Dept. of Env. Cons. 50 Wolf Road Albany, NY 12233 (518) 457-1157
North Carolina	State	Colleen Sullins Environmental Management Water Permits & Eng. P.O. Box 29535 Raleigh, NC 27626-0535 (919) 733-5083
North Dakota	State	Shelia McClenathan Dept. of Health Water Quality Div. 1200 Missouri Ave. P.O. Box 5520 Bismarck, ND 585202-5520 (701) 221-5210
Ohio	State	John Morrison OEPA Water Pollution Control 1800 Watermark P.O. Box 1049 Columbus, OH 43266 (614) 644-2017
Oklahoma	EPA	Brent Larsen U.S. EPA Region 6 6W-PM 1445 Ross Avenue Dallas, TX 75202 (214) 655-7175
		Ted Williamson Discharge Permits Division Oklahoma Dept. of Health 1000 N.E. 10th Oklahoma City, OK 73117
Oregon	State	Ranei Nomura DEQ-Water Quality 811 SW 6th Ave. Portland, OR 97204 (503) 229-5256
Pennsylvania	State	R.B. Patel Environmental Resources Water Quality Management P.O. Box 2063 Harrisburg, PA 17120 (717) 787-8184
Puerto Rico	EPA	Jose Rivera U.S. EPA Region 2 Wtr. Permits & Compl. Br. 26 Federal Plaza, Room 845 New York, NY 10278 (212) 264-2911
Rhode Island	State	Peter Duhamel Division of Water Resources 291 Promenade St. Providence, RI 02908 (401) 277-6519
South Carolina	State	Arturo Ovalles DHEC Industry and Agriculture Wastewater Division 2600 Bull St. Columbia, SC 29201 (803) 734-5241
South Dakota	EPA	Vern Berry U.S. EPA Region 8 8-WM-C Suite 500 999 18th St. Denver, CO 80202-2466 (303) 293-1630
Tennessee	State	Robert Haley Dept. of Env. Wtr. Poll. Ctrl. 401 Church St. 6th Floor L & C Annex Nashville, TN 37243-1534 (615) 532-0625
Texas	EPA	Brent Larsen U.S. EPA Region 6 6W-PM 1445 Ross Ave. Dallas, TX 37243-1534
Utah	State	Harry Campbell Div. of Water Qual. P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 538-6146

(Continued)

Exhibit 1-2: NPDES Storm Water Program Permitting Authorities (cont.)

State	Permit Auth.	Contact
Vermont	State	Brian Kooker Env. Conserv. Permits Compliance & Protection 103 S. Main St. Annex Building Waterbury, VT 05671-0405 (802) 244-5674
Virgin Islands	State	Marc Pacifico Dept. of Planning & Nat. Resources Div. of Env. Protection 1118 Watergut Project Box 1118 Christiansted St. Croix, VI 00820-5065 (809) 773-0565
Virginia	State	Burton Tunford VA Water Control Board 4900 Cox Road Glen Allen, VA 23060 (804) 527-5000
Wash-ington	State	Ed O'Brien Dept. of Ecology Industrial Storm Water Unit Water Quality Div. P.O. Box 47696 Olympia, WA 98504-7696 (206) 438-7614
West Virginia	State	Jerry Ray Office of Water Resources 1201 Greenbriar St. Charleston, WV 25311-1088 (304) 558-0375
Wisconsin	State	Anne Manuel Dept. of Natural Resources Wastewater Management P.O. Box 7921 Madison, WI 53707 (608) 267-7694
Wyoming	State	John Wagner Dept. of Envir. Quality Herschler Building 4th Floor Cheyenne, WY 82002 (307) 777-7082

Source: Poll of Regional and State offices.

1.6 USE OF INFORMATION IN PART 1 AND PART 2 APPLICATIONS

The information submitted in the Part 1 and Part 2 permit applications provides applicants with a starting point for developing comprehensive storm water management programs. For example, the field screening data submitted with the Part 1 application provides a basis for a program to control illicit discharges. Also, the application information may assist in prioritizing controls and in long-term tracking of program effectiveness.

Permitting authorities will use the information from each municipality's Part 1 and 2 applications as the basis for establishing conditions in that municipality's NPDES storm water permit. For example, if a municipality submits a satisfactory application, all or part of its proposed storm water management program is likely to become an integral part of its permit.

1.7 ORGANIZATION OF THIS MANUAL

Chapter 1, *Introduction*, provides a brief overview of the Part 2 permit application process. It discusses who must submit a Part 2 application and how the information in the applications will be used. It also contains a summary of the statutory and regulatory basis for the NPDES storm water program.

Chapter 2, *The Part 2 Application*, describes the statutory and regulatory requirements of municipal NPDES storm water permit applications in more detail. Chapter 2 outlines the specific requirements of the Part 1 and Part 2 applications, explains how Part 2 builds on the Part 1 application, and describes the interconnection among the various components of the Part 2 application.

Chapter 3, *Adequate Legal Authority*, describes how municipalities must demonstrate that they have adequate legal authority to carry out the program requirements [§122.26(d)(2)(i)].

Chapter 4, *Source Identification*, provides guidance on identifying major outfalls and inventorying dischargers to the MS4 [§122.26(d)(2)(ii)].

Chapter 5, *Discharge Characterization*, provides guidance for submitting quantitative data on the MS4 and developing a proposed monitoring program [§122.26(d)(2)(iii)].

Chapter 6, *Proposed Management Program*, describes the steps municipalities must take when they develop site-specific storm water management programs [§122.26(d)(2)(iv)]. These plans are the heart of the municipal permit application, and the permitting authority will probably incorporate all or part of the municipality's proposed management program into their NPDES storm water permit. In their proposed management programs, municipalities must describe management practices, control techniques and systems, design and engineering methods, and other provisions that are aimed at reducing the discharge of pollutants to the "maximum extent practicable."

Chapter 7, *Assessment of Controls*, explains how a municipality can assess the effectiveness of its storm water management program and target priorities through the use of direct and indirect measures [§122.26(d)(2)(v)].

Chapter 8, *Fiscal Analysis*, provides guidance on estimating necessary capital and operation and maintenance expenditures, and financing these expenditures [§122.26(d)(2)(vi)].

1.8 OTHER GUIDANCE AVAILABLE

Municipalities should use this guidance document together with the Part 1 guidance (EPA, 1991b). Exhibit 1-3 lists other sources of guidance available from EPA's Storm Water Hotline [(703) 821-4823]. In addition, applicants may wish to obtain further information from the documents identified in the bibliography at the end of this guidance (Appendix A).

Exhibit 1-3
Documents Available from the EPA Storm Water Hotline
[(703) 821-4823]

November 16, 1990, Federal Register - 55 FR 47990 National Pollutant Discharge Elimination System (NPDES) Permit Application Requirements for Storm Water Discharges - Final Rule

March 21, 1991, Federal Register - 56 FR 12098 Application Deadline for Group Applications Final Rule; Application Deadline for Individual Applications - Proposed Rule

August 16, 1991, Federal Register - 56 FR 40948 NPDES General Permits and Reporting Requirements for Storm Water Discharges Associated with Industrial Activity - Proposed Rule

November 5, 1991, Federal Register - 56 FR 50548 Application Deadlines; Final Rule and Proposed Rule

April 2, 1992, Federal Register - 57 FR 11394 Application Deadlines, General Permit Requirements and Reporting Requirements, Final Rule

Summary of November 16, 1990, Storm Water Application Rule

Summary of August 16, 1991, Proposed Storm Water Implementation Rule

August 16, 1991, Proposed Storm Water Implementation Rule Package Fact Sheet

April 2, 1992, Storm Water Program Rule Fact Sheet

Guidance Manual for the Preparation of NPDES Permit Applications for Storm Water Discharges Associated with Industrial Activity (EPA 505/8-91-002, April 1991)

Guidance Manual for the Preparation of Part 1 of the NPDES Permit Applications for Discharges From Municipal Separate Storm Water Systems (EPA 505/8-91-003A, April 1991)

Typical Values of Annual Storm Events Statistics for Rain Zones of the United States ("Urban Targeting and BMP Selection", EPA Region V, November 1990)

List of EPCRA (SARA Title III) Section 313 Water Priority Chemicals (Draft)

List of State and EPA Regional Storm Water Contacts

State NPDES Program Status

Question and Answer Document

List of Reportable Quantities for Hazardous Substances Under CERCLA

NPDES Storm Water Sampling Guidance Document (EPA 833-B-92-001, July 1992)

(Continued)

Exhibit 1-3
Documents Available from the Storm Water Hotline (cont.)

September 9, 1992, Federal Register - 57 FR 41176 Final NPDES General Permits for Storm Water Discharges from Construction Sites - Notice

September 9, 1992, Federal Register - 57 FR 41236 Final NPDES General Permits for Storm Water Discharges Associated with Industrial Activity - Notice

September 9, 1992 Federal Register - 57 FR 41344 National Pollutant Discharge Elimination System, Request for Comment on Alternative Approaches for Phase II Storm Water Program - Proposed Rule

* The following documents are available from the National Technical Information Service (NTIS): (1) *Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006, September 1992); (2) *Storm Water Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-005, September 1992).

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CHAPTER 2
THE PART 2 APPLICATION

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2.0 THE PART 2 APPLICATION

2.1 BACKGROUND

The NPDES permit application requirements for MS4s [40 CFR 122.26(d)] establish a two-part application designed to meet the goal of developing comprehensive site-specific storm water quality management programs for MS4s.

The purpose of the two-part application process is to develop information, in a reasonable time frame, that will build successful storm water management programs and allow permitting authorities to make informed decisions about permit conditions. The application process is designed to focus the efforts of municipalities in two areas: prohibiting non-storm water discharges into storm sewers, and implementing controls that reduce the discharge of pollutants from MS4s to the maximum extent practicable.

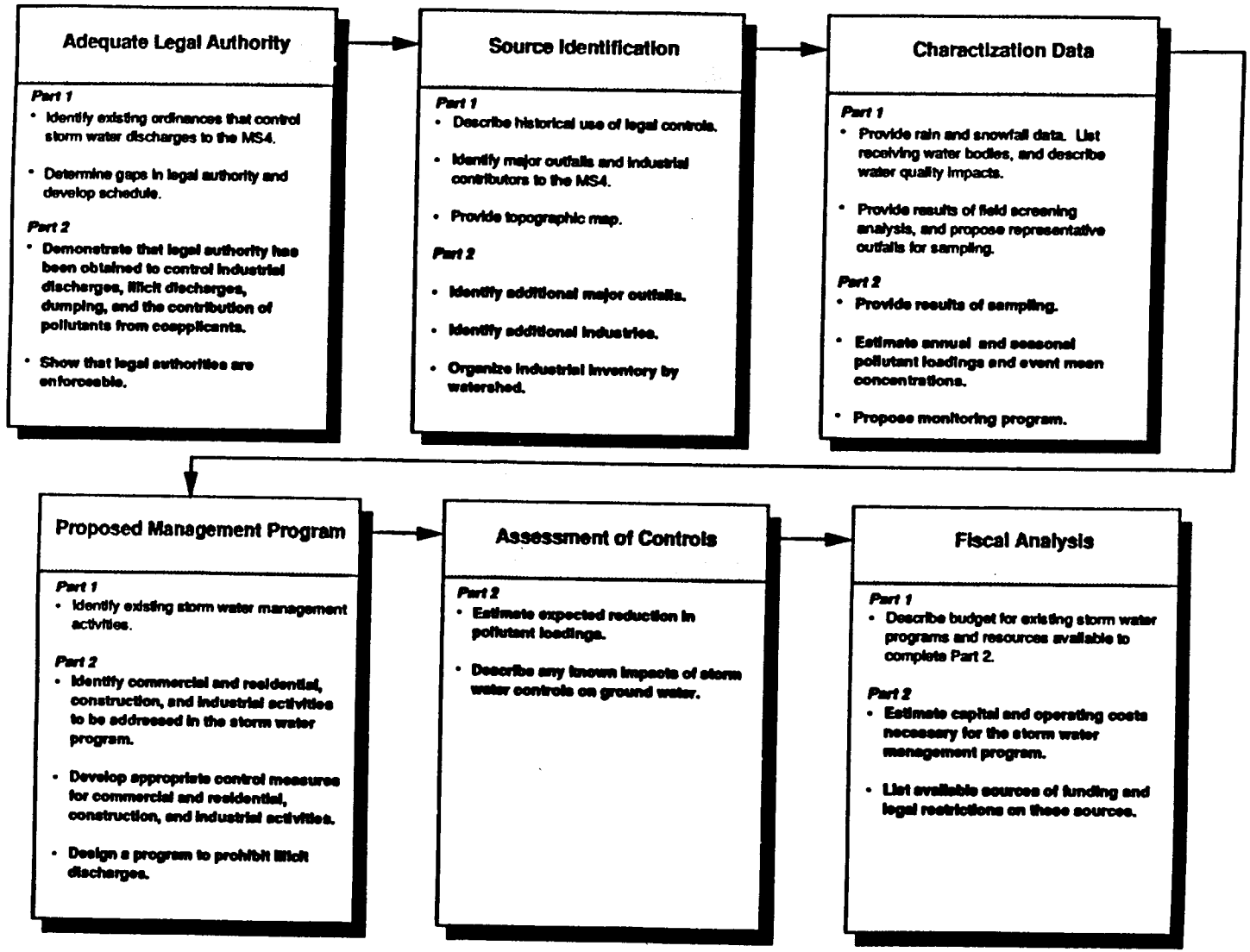
Part 1 of the application requires information on existing programs and legal authority. In addition, Part 1 requires the results from field screening of major outfalls to detect illicit connections. The Part 2 application requirements are intended to build upon the information submitted with the Part 1 application. Each part has virtually the same major areas of concern, but the Part 2 application requires a greater level of detail. Part 2 of the permit application requires a demonstration of adequate legal authority, additional information on pollutant sources and outfalls, a limited amount of representative quantitative sampling data, a proposed monitoring program, a proposed storm water management program, an estimate of the effectiveness of storm water controls, and a fiscal analysis. The requirements for the Part 1 and Part 2 applications are summarized briefly in Exhibit 2-1, and described in more detail in Section 2.2. The storm water regulations underlying this guidance can be found in Appendix B.

Before applicants proceed with the detailed development of their permit applications, they should recognize the fundamental requirements:

- Who or what are the primary contributors of pollutants in storm water discharges from MS4s?
- Where are these sources of pollutants located in relation to receiving water resources?
- What is the magnitude of these pollutant sources and their potential impact on receiving waters?
- How does the municipality plan to reduce or eliminate the contribution of pollutants in storm water discharges or prevent the damaging influences of these discharges?
- Why did the municipality select the activities or best management practices (BMPs) it proposes?
- When will the municipality implement its proposed program?
- How will the applicant assess the effectiveness of the program? What criteria or measures will apply?
- How will the municipality fund proposed program activities?

Wherever appropriate, the applicant must also show that it has adequate legal authority to implement, enforce, or mandate compliance with applicable ordinances, statutes, contracts, or other similar vehicles as required by the storm water regulation.

Exhibit 2-1: Part 1 and Part 2 Storm Water Application Requirements.



These questions (described above) that an applicant must address follow a natural progression or development. For example, before applicants can identify how they will reduce the contribution of pollutants in storm water discharges (the fourth bullet point above), they must identify pollutant sources and estimate the magnitude of pollutant loads (bullet points 1-3 above).

2.2 PART 1 APPLICATIONS

Sections 2.2.1 and 2.2.2 provide overviews of the regulatory requirements of §122.26(d). Section 2.2.3 describes the relationship among the various application provisions.

2.2.1 Overview of the Part 1 Application

Part 1 applications consist of the following six elements:

- **General information.** The applicant's name, address, telephone number of contact person, ownership status and status as a State or local government entity.

- **Legal authority.** A description of existing legal authority to control discharges to the MS4, and if this authority does not meet the required criteria, a list of additional authority needed and a schedule and commitment to seek such authority.

- **Source identification.** A description of the historic use of ordinances, guidance, or other controls that limit non-storm water discharges to any publicly owned treatment works (POTW), and a topographic map covering an area one mile beyond the service boundaries of the MS4 showing:

  - the location of known municipal sewer system outfalls;
  - a description of all land use activities;
  - the location and activities of landfills;
  - the location and permit number of any known discharge to the MS4;
  - the location of major structural controls for storm water discharges (such as retention basins, or major infiltration devices); and
  - identification of publicly owned parks, recreational areas, and other open lands.

- **Discharge characterization.** A summary of the types and characteristics of storm water discharges, including:

  - monthly mean rain and snowfall estimates and the average number of storm events per month;
  - existing quantitative data describing the volume and quality of discharges from the MS4, including a description of the outfalls and sampling methods used;
  - a list of "downstream" water bodies receiving discharge from the MS4, and a description of the impact of outfall upon them;
  - the results of field screening analysis for illicit discharges at either selected field screening points or major outfalls covered in the permit application; and
  - a proposed characterization plan for conducting sampling and obtaining the quantitative data necessary to complete Part 2 of the application.

- **Management programs.** A description of existing management programs to control pollutants from the municipal separate storm sewer system. For example, what procedures are in place to control pollution from construction activities, and how do they work? What is the program (such as investigation procedures and how they operate) for identifying illicit connections to the municipal storm sewer system?

- **Fiscal resources.** A presentation of the municipality's budget for existing storm water programs and for completing Part 2 of the permit application.

2.2.2 Overview of the Part 2 Application

The Part 2 application must include the following elements:

- **Adequate legal authority.** A demonstration that the municipality can operate according to the legal authority established by ordinance, statute, or series of contracts. The municipality also must demonstrate that its authority is enforceable. A discussion of how adequate legal authority may be demonstrated appears in Chapter 3 of this guidance.

- **Source identification.** An inventory, organized by watershed, of the facilities that may discharge storm water associated with industrial activity to the MS4. The applicant also must identify the location of any major outfall that discharges to waters of the United States that was not reported in Part 1. A discussion of the information to be submitted for each such facility in the inventory appears in Chapter 4 of this guidance.

- **Characterization data.** Sampling results for 5-10 outfalls designated by the permitting authority, estimates of cumulative annual pollutant loadings and event mean concentrations, and a proposed schedule to submit estimates of seasonal pollutant loadings and event mean concentrations for each major outfall identified in the source identification sections of Part 1 and 2. The *Characterization Data* provision of the Part 2 application also requires the development of an on-going monitoring program covering the term of the permit. Procedures for meeting the requirements of this section appear in Chapter 5.

- **Proposed management program.** A program that shows the municipality's comprehensive planning process for the reduction and control of pollutants, the staff and equipment available to implement the program, and a full description of how controls will be implemented to reduce pollutants from all sources of storm water. Municipalities must also describe how the program will be implemented and maintained. The Part 2 requirements for a proposed management program are described in Chapter 6.

- **Assessment of controls.** An estimate of the projected effectiveness of the municipal storm water management program, and an identification of the known impacts of storm water controls on ground water. The assessment of controls is discussed in Chapter 7.

- **Fiscal analysis.** A fiscal analysis of the capital and operation and maintenance expenditures needed to accomplish the activities (including implementation) required by the characterization data and proposed management program sections of the Part 2 application. This fiscal analysis must include projected expenses for each fiscal year of the permit term. A discussion of the fiscal analysis is included in Chapter 8.

2.2.3 Relationship Among Application Requirements

The required elements of the Part 2 application are related to each other. As a result, this guidance addresses how the application elements are related, and how information gathered for one requirement will assist the applicant in meeting other requirements. For example, the information gathered for the *Industrial Source Identification* provision of the Part 2 application will assist the municipality in:

- Targeting monitoring goals to potential pollutant sources, which may include selecting monitoring locations and chemical specific sampling frequencies (a requirement of the *Characterization Data* provision);
- Identifying illicit discharges (a requirement of the *Proposed Management Program's* illicit connection provision);
- Identifying facilities with the greatest potential for degrading receiving water quality (a requirement of the *Proposed Management Program's* industrial program provision); and
- Targeting sites that handle, store, or transport toxic or hazardous materials for on-site inspections (another requirement of the *Proposed Management Program's* industrial program provision).

As another example, the information that the applicant must prepare for the *Characterization Data* provision (e.g., the results of the sampling requirement and the estimated event mean concentrations and annual pollutant loads) may help the municipality:

- Evaluate the contribution of pollutants in storm water discharges from individual sources and determine which sources may require inspections or controls (a requirement of the *Proposed Management Program's* industrial program provision);
- Predict the impact of storm water discharges on receiving waters known to be impacted. (In the *Proposed Management Program*, additional controls may be warranted for construction sites or other industrial activities that discharge to these waters); and
- Determine what BMPs may be appropriate for given areas (another requirement of the *Proposed Management Program*).

Exhibit 2-2 summarizes some of these key interrelationships, although many other interrelationships exist. A more detailed discussion of specific information requirements and interrelationships among provisions is provided in subsequent chapters. As municipalities prepare their permit applications, they should coordinate all program requirements.

Exhibit 2-2
Examples of Relationship Among Part 2 Requirements

					Fiscal Analysis
				Assessment of Controls	Cost/benefit analysis identifies the most cost-effective BMPs.
			Proposed Management Program	Estimates of reductions in pollutant loadings predicts impact of storm water management activities	Fiscal analysis considers costs of controls, maintenance, and capital improvements. Management program may include feasibility analyses that consider cost.
		Characterization Data	Annual pollutant loads help prioritize areas for BMPS. On-going monitoring indicates success of BMPs and need to re-prioritize.	On-going monitoring program verifies program effectiveness. Instream monitoring verifies biological recovery.	Fiscal analysis considers cost of on-going monitoring
	Source Identification	Land use information and organization of industry by watershed defines representative sampling points.	Inventory of industrial users helps the city target facilities for inspections and control measures.	Estimates of pollutant load reductions depend on land use.	Industrial inventory identifies potential sources of storm water utility fees.
Adequate Legal Authority	Some sources or outfalls may be outside a city's jurisdiction. Interjurisdictional agreements may be necessary.	Authority to require sampling and obtain information for industries and dischargers outside of the MS4's jurisdiction at sampling points.	Legal authority needed to implement BMPS, control and inspect industry, and prohibit dumping and illicit discharge.	Need information gathering and inspection authority where it is necessary to inspect, monitor, and enter the facility or the site.	Legal authority is required for some financing plans, such as a storm water utility.

2.3 ADDITIONAL FACTORS TO BE CONSIDERED IN DEVELOPING THE PART 2 APPLICATION

As discussed in the previous section, the various provisions of the Part 2 application process are interconnected.

All municipalities covered by §122.26(d) must submit a Part 2 permit application that meets the requirements of the storm water permit application regulations. However, each MS4 is unique, and each Part 2 submission will be different. Municipal separate storm sewer systems differ in many ways, including population served, geologic and climatologic settings, density of development, and form of government. These underlying factors make each applicant unique.

The major factors that applicants should consider are:

- Population and projected growth rate;
- Zoning and existing land use patterns;
- Nature of watershed and receiving waters;
- Climatic conditions, soil types, and watershed delineations;
- Existing municipal functions and municipal lands;
- Other environmental impacts;
- Public involvement; and
- Intergovernmental coordination.

In addition, municipalities must implement their storm water management programs in a manner that is consistent with other applicable Federal, State, and local environmental laws.

Population and Projected Growth Rates

Some storm water BMPs are more appropriate for densely developed areas, while other methods may be more useful in developing areas. Consequently, defining current population densities and projecting future areas of population growth provides the basic information that can assist in the evaluation and prioritization of appropriate storm water control strategies.

Zoning and Existing Land Use Patterns

Through ordinances, permits, or contracts, municipalities may mandate storm water controls for new residential, commercial, or industrial developments in order to improve or assure maintenance of the quality of receiving waters at or near pre-development levels. The Nationwide Urban Runoff Program (NURP) study (EPA, 1983), pointed out that some of the best opportunities for implementing cost effective measures to prevent or reduce pollutants in storm water occur during new development. These measures may include structural controls, such as storm water detention basins or constructed storm water wetlands, or nonstructural alternatives such as cluster development and buffer zones. Sections 122.26(d)(1)(iii)(B)(2) and 122.26(d)(2)(ii) require the municipality to establish comprehensive management plans for new development (see Chapter 6).

Nature of Watershed and Receiving Waters

The types of storm water controls appropriate for a MS4 depend on the nature of the watershed and the receiving waters. This includes geologic and hydrologic features such as slope drainage patterns and stream size. For example, roadside swales may not be practical in areas with steep terrain, but can be very useful in flat areas. In addition, structural BMPs or other management measures that control the volume and timing of release are appropriate where uncontrolled storm water may cause physical impacts to receiving waters (especially small streams, rivers, and wetlands).

Information on the watershed and the receiving waters is required in the Part 1 permit application [§122.26(d)(1)(iv)(C)]. In Part 1, applicants are required to list water bodies that receive discharges from the MS4. The list of water bodies includes downstream segments, lakes, and estuaries where pollutants from the system discharges may accumulate and result in non-attainment of State water quality standards. Part 1 also requires a description of known water quality impacts. Applicants must include a discussion of water bodies that were cited in:

- State reports required by CWA Sections 305(b), 304(l), and 314(a);
- The State Nonpoint Source Report; and
- Other reports identifying sensitive watersheds.

Part 1 applicants should also include in this discussion a description of impacts caused by dissolved oxygen depression, bioaccumulation of toxics, excessive sedimentation, hydrologic modification, habitat destruction, etc.

Municipalities are expected to give priority consideration to those classes of pollutant sources that contribute significant loadings or pose a significant impact on receiving waters. Applicants must consider control methods that address storm water discharges from commercial and residential areas; illicit discharges and illegal disposal; storm water discharges from industrial areas; and storm water runoff from construction sites. Municipalities' permits will differ substantially in the emphasis placed on controlling various sources of pollutants in discharges from the MS4. Permits for older municipalities may emphasize control of cross-connections, while permits for municipalities with large areas of new development may emphasize the installation of permanent structural controls during construction.

The Part 2 storm water permit application requires descriptions of management programs to address sources of pollutants discharged to separate storm sewer systems. For management strategies to be effective, municipalities must give prior consideration to the nature (e.g., physical and biological parameters) and the designated uses of receiving waters such as streams, tributaries, and natural wetlands. For example, a storm water management program for a newly developing area with an existing shallow, slow-moving stream could include provisions to ensure that the post-development peak discharge flow rate for the stream is held to a certain percentage of its historical or pre-development peak discharge flow rate.

Climatic Conditions, Soil Types, and Watershed Delineations

Seasonal variations in precipitation can have a significant impact on storm water quality. For example, extended dry seasons in areas such as the southwestern United States result in pollutant loads distinctly higher than in other parts of the country during the first several storms of the wet season. Areas with more frequent rain and snowfall throughout the year may have more storm water discharges, but the discharges may have consistently lower pollutant concentrations than those in the Southwest. In addition, areas with significant snowfall may experience a peak in storm water discharge volume and pollutant concentration during the spring thaw.

Natural soil conditions affect the potential for storm water to recharge ground water. Porosity and permeability are properties of the soil that govern the size and number of the interstitial spaces through which water may flow. Compaction (e.g., compression of the soil by heavy machinery) will reduce the amount of void space in the soil and thereby reduce the amount of rainfall that infiltrates through the soil to ground water. Natural soil conditions are very important when siting structures designed for storm water infiltration. In addition, identifying such sites must take into consideration potential ground water impacts

that may result whenever infiltration is part of the storm water management program.

Existing Municipal Functions and Municipal Lands

The Part 2 application affords municipalities the opportunity to discuss alternatives in the *Proposed Storm Water Management Program*. When considering the wide range of municipal functions, applicants need to establish which agencies will be responsible for implementing each portion of a storm water management program. (This could be outlined in the *Adequate Legal Authority* chapter of the Part 2 application, as discussed in Chapter 3 of this guidance.) Many of these agencies, will have primary missions other than dealing with storm water or water quality. Expansion of the established charter of an agency to include an element of storm water control may require legislative action, moderately expanding the scope of other municipal agencies' missions to include storm water concerns can be much more cost effective than the initiation of entirely new programs.

Applicants should identify existing municipal functions that impact the quality of storm water discharges. These functions may include snow removal activities such as road deicing, vehicle maintenance operations, and herbicide, pesticide, and fertilizer application to public lands. Municipalities can modify these activities to improve storm water quality through oversight of future land development, modifications to flood management structures, changes in materials used or in material handling or application practices, maintenance of roads, and installation of structures such as retention basins.

The municipal agency (or agencies) responsible for storm water runoff control should also consider the extent to which municipal lands and activities contribute pollutants to runoff. The same BMPs recommended for private lands may also be incorporated into the development and maintenance of a municipality's own lands and activities. For example, reduced use of pesticides and fertilizers on park land and open spaces usually decreases the contribution of these contaminants to storm water runoff. Implementing BMPs on municipal lands also shows the municipality's commitment to an effective storm water management program. BMPs are discussed in greater detail in Section 6.4 of this guidance.

Other Environmental Impacts

Municipalities should consider those activities that can directly or indirectly alter the natural hydrograph of a stream and potentially degrade an otherwise stable aquatic habitat. These factors are particularly important when considering impacts to wetlands, riparian areas, ground water, small rivers, and streams. In addition, the installation of detention or rapid infiltration ponds may have negative impacts on ground water. The installation of culverts or concrete drainage channels and other such structures typically increases the volume and velocity of runoff, which can lead to increased erosion, siltation, and sedimentation in receiving waters. Therefore, installation of these structures can contribute to the degradation of a neighboring habitat.

Public Involvement

Municipal applicants must ensure that they provide adequate public education and ample opportunities for public participation. Public participation should focus on spreading awareness of program objectives and components. Education and public involvement programs must be defined as part of the *Proposed Storm Water Management Program* [§122.26(d)(2)(iv)]. Generally, the public should be involved as early as possible in storm water management initiatives.

Conflict and confusion can be minimized if the program includes a schedule for initial public contact and milestones for public involvement throughout the development and implementation phases. Public education programs are expected to target specific

audiences, including those regulated or affected by the storm water management program (e.g., developers, building contractors, and industrial operators) and those that can assist with program implementation (e.g., volunteers and citizens). For example, one large municipal applicant (Seattle) described an existing public participation program in its Part 1 Application submission. Elements of this program may be instructive to municipalities completing Part 2 of the application because it has generic components that are likely to be applicable to other large (and perhaps medium) municipalities. Excerpts from Seattle's public involvement program are provided in Exhibit 2-3 for reference.

Elements of this municipality's program that are particularly important to consider include of the role of an advisory and outreach group and its relationship to the entire process. Effective public participation programs clearly identify the role of the public.

The potential exists for a considerable range in the level of participation the public may actually have in the decision-making process. Generally, the municipal authority is going to make the decisions. However, the authority can choose to use the "participation" process to simply inform the public of decisions, or to allow the views of the public to be registered prior to decision milestones. In other cases, although uncommon, the public may have an actual voice or vote in making decisions.

The timing and frequency of meetings and the duration of the groups established for public participation will usually be dictated by the nature of the issues being addressed. For example, an ad hoc group established to address a single issue may discover that the issue cannot be effectively addressed without consideration of a broader range of issues that the municipality may also be considering. In this instance it may be appropriate for the group to expand its scope, hold regular meetings, and actively participate in the authority's decision making process. Therefore, applicants should outline in their Part 2 applications how such coordination will be accomplished.

Intergovernmental Coordination

If a number of municipal entities (e.g., multiple cities or a city and a county) are participating in the permit application process as coapplicants, various mechanisms can be used to improve intergovernmental coordination to ensure that the roles and responsibilities of each entity are well defined. Each entity must fulfill its responsibilities to implement applicable program measures. Examples of some of the appropriate coordination techniques and their benefits include:

- **Memoranda of agreement (MOA).** MOAs can define specific municipal roles, responsibilities, and points of coordination that help minimize duplication of effort and ensure accountability;

- **Cross-training of staff.** This allows for the identification of gaps in staffing (e.g., neglected areas of responsibility or insufficient staff levels) as well as providing the benefits of increased versatility and opportunities for learning from others;

- **Interagency advisory committees.** Their objective is to arm decision makers with a comprehensive understanding of the implications of proposed activities or decisions; and

- **Regularly scheduled intermunicipal staff meetings.** These can facilitate an open and thorough exchange of information and solidify new lines of communication.

Exhibit 2-3
Excerpts from a Public Involvement Program

The public involvement program [of the City of Seattle] has been designed to assist in developing an acceptable city-wide plan for addressing drainage and water quality problems. Acceptable is defined as a plan that is both technically sound and sensitive to the needs and interests of the citizens. The involvement program has two major elements: a Citizen Advisory Committee (CAC) and a community outreach effort. The initial role of the CAC was to provide guidance to City staff and consultants preparing various sections of a Comprehensive Drainage Plan. Until the adoption of the Comprehensive Drainage Plan by the City Council, the CAC provided direction on drainage policy issues, assisted with the public review of the draft plan and environmental impact statement (EIS), and helped coordinate comments sent to the city from the public during the review period. Following council adoption of the plan, the CAC was reconstituted into a Drainage and Wastewater Advisory Committee which serves as an on-going sounding board to the Drainage and Wastewater Utility, the mayor, and the City Council on both sewer and drainage matters.

The community outreach effort was established for two purposes. The first was to ensure adequate public review and support of the Comprehensive Drainage Plan and EIS. Comments received during the review were used by the Drainage and Wastewater Utility, the mayor, and the City Council in making decisions about the Drainage Plan and the City's on-going drainage program. The second purpose was to begin educating residents and business people about the importance of their role in solving flooding, landslide, and water quality problems throughout the city. This community outreach/education role remains an on-going effort of the Drainage and Wastewater Utility.

Source: City of Seattle, *NPDES Storm Water Permit Application, Part 1*, City of Seattle, November 1991: 37.

Single municipalities with separate governing functions may face the same challenges as coapplicants when they prepare their Part 2 applications. Many of the same coordination steps may be necessary within a single municipal jurisdiction. The need for *intra*governmental coordination may be most crucial in large municipalities that have functions that impact storm water quality spread throughout the organizational structure of the municipality. For example, a planning department may be in charge of implementing a stream buffer policy, while a public works department may plan, site, and construct storm water BMPs. Still other agencies may be responsible for implementing erosion and sediment control requirements, and permitting and inspection functions. Storm water-related responsibilities within governmental organizations may be allocated in this manner due to the relatively recent emergence of storm water quality as an important issue. Nonetheless, effective coordination within the government of a single municipality may be as critical to the success of the storm water management program as is intergovernmental coordination for coapplicants. Therefore, applicants should outline in their Part 2 applications how such coordination will be accomplished.

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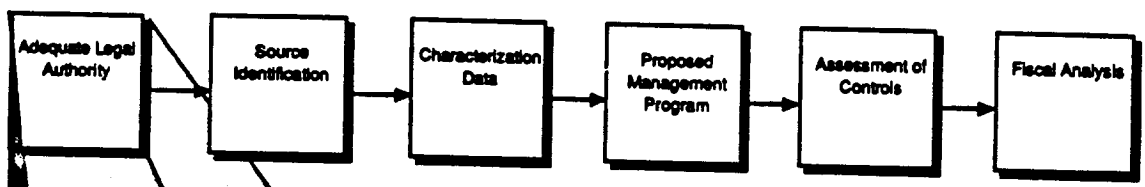
CHAPTER 3
ADEQUATE LEGAL AUTHORITY



Adequate Legal Authority

Part 1

- Identify existing ordinances that control storm water discharges to the MS4.
- Determine gaps in legal authority and develop schedule.

Part 2

- Demonstrate that legal authority has been obtained to control industrial discharges, illicit discharges, dumping, and contributions of pollutants from coapplicants.
- Show that legal authorities are enforceable.

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3.0 ADEQUATE LEGAL AUTHORITY

3.1 BACKGROUND

A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. This guidance manual and the storm water program emphasize development and implementation of storm water management programs as described in Chapter 6. In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants discharged to the MS4.

Part 1 of the permit application requires applicants to describe their existing legal authority to control the discharge of pollutants from MS4s and evaluate the adequacy of these ordinances. Where existing ordinances were lacking, a proposed schedule to obtain the necessary authority was included with the Part 1 application. In Part 2 of the application, municipal applicants must demonstrate that they now possess adequate legal authority to:

- Control construction site and other industrial discharges to the MS4;
- Prohibit illicit discharges and control spills and dumping;
- Control potential sources of pollutants from discharges to or from coapplicants' MS4s, or MS4s that are interconnected or shared with other entities;
- Require compliance with all regulations and statutes; and
- Carry out inspection, surveillance, and monitoring procedures.

Section 3.2 reviews each of these regulatory requirements. Section 3.3 describes specific procedures a municipality may use to demonstrate adequate legal authority.

3.2 SUMMARY OF REGULATORY REQUIREMENTS

3.2.1 Control Construction Site and Other Industrial Discharges to the MS4.

> §122.26(d)(2)(i)(A). [The applicant must demonstrate that it can control] through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.

The municipality, as a permittee, is responsible for compliance with its permit and must have the authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to hold dischargers accountable for their contributions to separate storm sewers.

"Control," in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4. For example, construction sites (of 5 or more acres) and other industrial activities that discharge storm water through MS4s are required to obtain individual NPDES permits or coverage under general NPDES permits from EPA or an authorized NPDES State. These permits require compliance with applicable Federal and State regulations. However, a municipality, to satisfy its permit conditions, may need to impose additional requirements on discharges

from permitted industrial facilities, as well as discharges from industrial facilities and construction sites not required to obtain permits. Therefore, a municipality should develop a mechanism to assure that all industrial facilities and constructions sites that discharge to the MS4 know their obligation to comply with the applicable terms of the municipality's storm water ordinances.

3.2.2 Prohibit Illicit Discharges and Control Spills and Dumping

> §122.26(d)(2)(i)(B). [The applicant must demonstrate that it can prohibit] through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer.
>
> §122.26(d)(2)(i)(C) [The applicant must demonstrate that it can control] through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water.

To demonstrate that it possesses adequate legal authority to control storm water discharges, a municipality must be able to effectively prohibit illicit discharges and illegal dumping. An illicit discharge is "any discharge that is not composed entirely of storm water except discharges pursuant to a NPDES permit . . . and discharges resulting from fire fighting activities" [40 CFR 122.26(b)(2)].

3.2.3 Control Contributions of Coapplicants

> §122.26(d)(2)(i)(D). [The applicant must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.

An operator of a MS4 may participate in an application with one or more other operators, or may submit an individual application for the separate storm sewer it operates. As indicated in the box above, the operator of a discharge from a large or medium MS4 may submit, through the use of interjurisdictional agreements, a system-wide permit application. The system-wide application can accommodate existing storm water programs, on a watershed basis, as well as programs which must take into account regional differences in climate, geography, and political institutions. Such an application should cover issues of liability, financial contributions, access to records, enforcement responsibilities, and any other applicable areas of mutual concern.

When two or more municipalities submit a joint application, each coapplicant must demonstrate that it individually possesses adequate legal authority over the entire municipal system it operates or owns. A coapplicant need not fulfill every component of legal authority specified in the regulations, as long as the combined legal authority of all coapplicants satisfies the regulatory criteria for every segment of the MS4 (including authority over all sources that discharge to the MS4).

As coapplicants, for example, a county and a flood control district within that county may together possess adequate legal authority. The flood control district may have legal authority to build, operate, and maintain structures associated with major drainage channels within the county. The county itself may have legal authority to control pollutants in discharges from privately owned lands to the MS4s and legal authority to build, operate, and maintain structures associated with minor drainage channels that tie into major drainage channels. In this situation, the combined legal authority of the coapplicants may be adequate for the system, provided that the only discharge to major drainage channels comes from the county's separate storm sewer system. As another example, a department of transportation or flood control district with no land use authority could be a co-permittee with

a city that does possess land use authority over the entire jurisdiction.

Coapplicants also may use interjurisdictional agreements to show adequate legal authority and to ensure planning, coordination, and the sharing of the resource burden of permit compliance. When more than one entity is submitting an application for a MS4 (either as coapplicants or as individual applicants for different parts of a system), the role of each party must be well defined. Each applicant or coapplicant must show the ability to fulfill its responsibilities, including legal authority for the separate storm sewers it owns or operates.

Applicants and coapplicants may use the procedures outlined in Section 3.3 to demonstrate adequate legal authority in their Part 2 permit applications. These procedures are guidelines, however, and are not intended to be the only possible approaches that applicants may follow.

3.2.4 Require Compliance with all Regulations and Statutes

To meet the requirements of §122.26(d)(2)(i)(E), the applicant must show that it has adequate authority to enforce its ordinances.

> §122.26(d)(2)(i)(E). [The applicant must demonstrate that it can require] compliance with conditions in ordinances, permits, contracts or orders.

One acceptable way to support a declaration of adequate legal authority, including the ability to enforce appropriate ordinances, is for the municipality to provide a certification from the Municipal General Counsel or equivalent. The certification should state that the applicant has the legal authority to apply and enforce the requirements of §122.26(d)(2)(i)(A)-(F) in State or local courts. The certification would, therefore, cite specific ordinances and the reasons why they are enforceable. The statement should discuss what the municipality can do to ensure full compliance with §122.26(d)(2)(i).

In a Part 2 application, through a statement from the Municipal General Counsel or through some other method, a municipality should identify the administrative and legal procedures available to mandate compliance with appropriate ordinances, and, therefore, with permit conditions. Applications should contain descriptions of how ordinances are implemented and appealed. In particular, a municipality should indicate if it can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

3.2.5 Carry Out Inspection, Surveillance, and Monitoring Procedures

In their Part 2 applications, municipalities must propose programs to control the contributions of pollutants from industrial facilities and prohibit illicit discharges. For both of these activities, municipalities must have the legal authority to carry out inspection, surveillance, and monitoring procedures necessary to determine compliance.

> §122.26(d)(2)(i)(F). [The applicant must demonstrate that it can carry] out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

To meet this requirement, municipalities may wish to consider establishing ordinances that require industrial facilities to perform inspections and report the results to the city. In many municipalities, these facilities may perform similar inspections under a pretreatment program. In their Part 2 applications, municipalities should provide

documentation of their authority to enter, sample, inspect, review, and copy records, etc., as well as demonstrate their authority to require regular reports.

3.3 PROCEDURES FOR DEMONSTRATING ADEQUATE LEGAL AUTHORITY

The Part 2 application requires the applicant or coapplicants to cite and describe specific ordinances currently in effect and demonstrate that the jurisdiction for these ordinances covers the entire area served by the MS4. In addition, the applicant may elect to discuss specific changes in ordinances passed since the submission of the Part 1 permit application to illustrate how legal authority has evolved to meet the regulatory requirements in §122.26(d)(2)(i). One method by which an applicant can partially demonstrate that it has adequate legal authority is to develop a matrix that compares, in a side-by-side format, the regulatory requirements in §122.26(d)(2)(i)(A)-(F) and the municipality's legal authority. Once completed, the matrix would indicate whether an adequate legal framework exists to address all key regulatory requirements identified in §122.26(d)(2)(i)(A)-(F). Furthermore, the matrix could also illustrate where the authority to mandate compliance is vested.

In order to support an assertion of adequate legal authority, applicants should include the complete text of the applicable portions of the ordinances or other such provisions in the application. The applicant should also provide a specific explanation of why and how the language of a particular ordinance or other authority meets Federal regulatory requirements. The application should indicate to whom the ordinance applies and how it will operate to control, prevent, or stop discharges that violate permit conditions. For example, the municipality may describe and provide an excerpt from a city ordinance that prohibits non-storm water discharges to the MS4.

Appendix C illustrates one way to detail the existence of ordinances that establish the legal authority required in §122.26(d)(2)(i). A narrative discussion of the historical use of these ordinances to control pollutants in storm water discharges also may be included. The example in Appendix C shows what the applicant may do to satisfy §122.26(d)(2)(i).

Substantial effort should be devoted to obtaining the necessary legal authority before the Part 2 application is submitted. However, some municipalities may find that the two-year application process does not allow enough time to secure adequate legal authority as described in this section. This may be due to the need for State statutory or legislative changes. In this instance, the Part 2 application must include a detailed description of what changes are needed and a schedule of when they will be accomplished. The schedule must include timetables for drafting proposed changes, public comment periods, and final authorizations.

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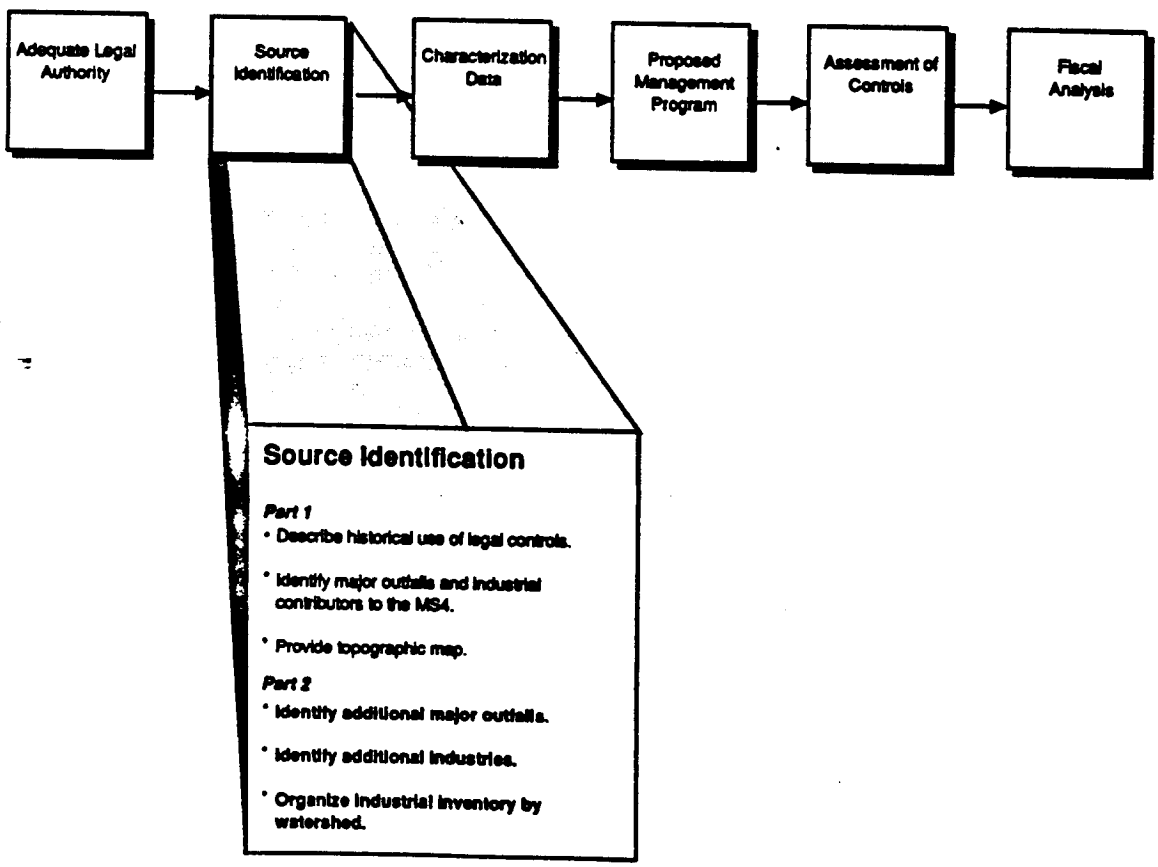
CHAPTER 4
SOURCE IDENTIFICATION



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4.0 SOURCE IDENTIFICATION

4.1 BACKGROUND

In Part 1 of the NPDES storm water permit application, applicants are required to identify the location of known major outfalls discharging to waters of the United States from MS4s. Applicants also are required to provide information and data on existing land use activities. The identification of outfalls and land use activities is the first step in the process of:

- Identifying the sources of pollutants in storm water runoff;
- Linking the sources of pollutants in runoff to specific water quality impacts and other impacts that may result in degradation of aquatic resources;
- Identifying those activities or physical factors that have the most significant impact on water quality;
- Defining control measures that yield improvements in storm water quality; and
- Developing methodologies by which engineers, urban planners, and managers can make long term decisions that not only provide for economic growth, but also have discernible environmental benefits through imposed storm water controls.

The source identification requirements in the Part 2 permit application reflect three basic steps. First, municipalities must identify any major outfalls that were not already identified in the Part 1 application. Second, applicants must compile an inventory of industrial activities that may discharge storm water to a MS4. Third and finally, applicants must organize the inventory of industrial activities on a watershed basis.

Organizing the inventory by watershed allows the municipality to focus on activities within discrete areas that may contribute pollutants in storm water discharges to waters of the United States. For example, combining outfall data with the industrial inventory organized by watershed may help the municipality to identify probable areas of illicit connections. This information will also be useful for municipalities when they develop specific strategies [e.g., best management practices (BMP's)] as part of their proposed storm water management programs. The following sections discuss regulatory requirements and procedures for completing the source identification section of the Part 2 permit application. Section 4.2 provides guidance on identifying major outfalls, Section 4.3 provides guidance on compiling an inventory of industrial dischargers, and Section 4.4 provides guidance on organizing the inventory of industrial discharges by watershed.

4.2 MAJOR OUTFALLS

The first portion of the Part 2 Source Identification provision states:

> §122.26(d)(2)(ii). *Source Identification.* [The applicant must provide the] location of any major outfall that discharges to waters of the United States that was not reported [in Part 1 of the application] . . . .

4.2.1 Definition of a Major Outfall

According to 40 CFR 122.26(b)(5), a major outfall is a MS4 outfall that discharges from a single pipe with an inside diameter of at least 36 inches. The term also includes discharges from a single conveyance other than a circular pipe serving a drainage area of more than 50 acres.

For those municipal separate storm sewer systems that receive storm water runoff from lands zoned for industrial activity, major outfalls also include outfalls that discharge from a single pipe with an inside diameter of 12 inches or more, or discharge from other than a circular pipe associated with a drainage area of 2 acres or more. This definition also applies to outfalls of drainage areas that have both industrial and non-industrial activity. For example, if a three acre drainage area is zoned half woodland and half industrial, the discharges from that area would still be considered a major outfall. Because the definition of major outfall includes consideration of drainage area, municipalities may need to consider conveyances such as ditches and swales when identifying major outfalls.

4.2.2 Identifying Major Outfalls

The first step in this section of the Part 2 application is the identification of major outfalls not identified in the Part 1 application [§122.26(d)(2)(ii), cited in box above]. When identifying these major outfalls, municipalities should build upon the approach used in the Part 1 application. One way to identify major outfalls is a review of sewer system maps. These maps can provide information on sewer system type (e.g., separate storm versus combined sewer), pipe size, and outfall location. However, depending upon the age of the sewer system maps, they may not provide complete information about newly developed areas or improvements to older areas. Often, interviews with sewer system maintenance personnel can provide information on the most recent changes to the sewer system. The municipality should also consider conducting field surveys (e.g., visual inspection of the banks of receiving waters) to locate major outfalls.

When submitting a Part 2 permit application, municipalities should include a brief description of how additional major outfalls were identified. This description is not intended to be a lengthy list of each sewer system employee interviewed, but rather an outline of the methods employed.

4.3 INVENTORY OF INDUSTRIAL DISCHARGERS

The second step in this portion of the Part 2 application is assembling an inventory of industrial storm water dischargers.

> §122.26(d)(2)(ii). *Source Identification.* . . . Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity.

This section describes how municipalities may develop the inventory of industrial facilities. Section 4.4, below, provides guidance on organizing these facilities by watershed.

4.3.1 Facilities that must be Included in the Inventory

As stated above, applicants must provide an inventory of each facility that may discharge to the MS4 storm water associated with industrial activity. Industrial storm water dischargers that must be included in this inventory fall into 11 classes of industrial activities as defined in the November 1990

regulations. Six of these classes were defined in a narrative format and five were defined by Standard Industrial Classification (SIC) codes. Specific categories of industries are identified in §122.26(b)(14)(i)-(xi). Exhibit 4-1 provides a list of the SIC codes and industry categories cited in the regulatory definition.

4.3.2 Identifying the Industrial Facilities

As a first step in developing a comprehensive industrial storm water inventory, the applicant must review facility notifications. Industrial facilities were required to notify municipalities by May 15, 1991, of their intent to discharge storm water to the municipal storm sewer system [§122.26(a)(vi)(4)]. Each facility should have submitted to the municipality information including facility name, facility location, and facility type (such as SIC code or other industry categorization).

In addition, municipalities should explore other sources of information on industrial facilities to help identify gaps in inventory. One specific source of information a municipality should review is facility information submitted under other programs. For example, SIC codes are often required for air pollution permit applications, hazardous materials management permits, pretreatment program applications, building permits, business licenses, or local tax rolls. A municipality may take the list of SIC codes provided in Exhibit 4-1 and compare it with existing information on SIC codes or industrial categories which has been submitted by industrial facilities under other programs.

Under 40 CFR 122.28, facilities that discharge storm water associated with industrial activity must submit an individual permit application, participate in a storm water group permit application, or file a Notice of Intent (NOI) to be covered by a general permit. These applications and NOIs are another source of information on industrial dischargers. For existing facilities, applications or NOIs were to be submitted by October 1, 1992; for new facilities, they must be submitted prior to the commencement of industrial activity. However, in the Intermodel Surface Transportation Efficiency Act of 1991, Congress provided that permit application requirements be reserved for industrial activities owned or operated by municipalities with a population of less than 100,000, with the exception of airports, power plants, and uncontrolled sanitary landfills. If EPA is the permitting authority in a State, applications and NOIs should be submitted to EPA; if a State has NPDES authority, they should be submitted to the State. Section 308 of the CWA provides the legal authority for any individual (including a municipality) to obtain information from the NPDES permitting authority. A municipality may be able to obtain a list of the facilities in its jurisdiction that have applied for coverage under a general or individual permit or that have applied for coverage as a member of a group.

Additional sources of information on industrial facilities may include zoning maps showing industrial parks, manufacturing and industrial listings in telephone books, trade association listings, pretreatment industrial waste surveys, the Chamber of Commerce Manufacturing Directory, and Dunn and Bradstreet.

In the Part 2 application, a municipality should provide a brief description of the sources it reviewed in identifying the industrial dischargers. As part of the proposed storm water management program, which is described in Chapter 6, municipalities should describe a plan for collecting new or updated information on industrial dischargers throughout the life of the permit.

Exhibit 4-1
Industry Categories Cited in the
Definition of Storm Water Associated with Industrial Activity

1. Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category 11 below.

2. Facilities described by SIC 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373.*

3. Facilities described by SIC 10 through 14 (mineral industry), including:

   - active or inactive mining operations, except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990; and

   - oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, by-products, or waste products located on the site of such operations.

4. Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA.

5. Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA.

6. Facilities involved in the recycling of materials (metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards) including but not limited to SIC 5015 and 5093.

7. Steam electric power generating facilities, including coal handling sites.

8. Transportation facilities described by SIC 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171, which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under 1 - 7 or 9 - 11 are associated with industrial activity.

(Continued)

Exhibit 4-1 (continued)

9. Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that is located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not located within the facility, or areas that are in compliance with Section 405 of the CWA.

10. Construction activity including clearing, grading, and excavation activities except operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale.**

11. Facilities described by SIC 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and which are not otherwise included within categories 2 - 10).*

Source: 55 FR 48065, November 16, 1990.

*Please note the SIC 285 is covered under Category 11. Also note that for the industries identified in Category 11, the term includes only storm water discharges from all areas (except access roads and rail lines) where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water.

**On June 4, 1992, the United States Court of Appeals for the Ninth Circuit found that EPA's rationale for exempting construction sites of less than five acres and certain uncontaminated storm water discharges from Category 11 light industrial facilities from Phase I of the storm water program to be invalid and has remanded these exemptions for further proceedings (see *Natural Resources Defense Council* v. *EPA* No. 91-70176).

4.4 ORGANIZING THE INDUSTRIAL INVENTORY BY WATERSHED

Once the industrial inventory is complete, the applicant must organize the inventory by watershed, or drainage area. The main objective of this requirement is to associate discrete discharges with specific watersheds, which may help the municipality identify relationships between pollutant sources and receiving water quality problems. To help organize the industrial inventory by watershed, municipalities should consider the long-term benefits of using automated database systems to help organize and update information on:

- Locations of major outfalls or system modifications;
- Land use designations and composition;
- Dischargers of storm water associated with industrial activity;
- Other NPDES permit holders;
- Location/inventory of structural controls; and
- Locations of illicit connections.

This information can help satisfy the requirement that discharges of storm water associated with industrial activity be organized by watershed. Using an automated database system or the map submitted in the Part 1 application may be helpful in satisfying this requirement. However, the regulations do not require Part 2 applicants to use a particular database or submit certain information, and municipalities may elect to use other methods.

The following procedure is provided as an example of one way to organize industrial dischargers by watershed:

1. Create a transparent overlay of tax maps covering the entire area served by the MS4.

2. Indicate on the maps the location of each industrial activity according to its address with an appropriate symbol or code.

3. Produce an overlay of existing watersheds from a topographical map, for example, United States Geological Survey (USGS) maps, covering the area that the MS4 supports. Previously performed hydrological surveys may be helpful in delineating the boundaries of existing watersheds. Municipalities may elect to sub-divide existing watersheds into smaller units if this will assist in management planning.

4. Align the tax map and watershed overlay so that industrial activity locations can be transposed to the watershed overlay.

A number of PC-based tools can be used to organize information on facilities and outfalls. For example, computer-aided design (CAD) packages, in conjunction with third-party software packages, are specifically designed to present information on separate transparent layers that can be "turned off and on" when necessary. One layer could contain information on watershed topography and another could contain the locations of industrial storm water dischargers. Additional layers might contain information on the layout of the municipal system, locations of structural source controls and outfalls, and land-use patterns (both present and future).

A CAD-based system can be useful, not only in presenting information easily and graphically, but also in its ability to transfer spatial data, such as XYZ coordinates, to commonly available PC-based database applications. This spatial data can be merged with other databases containing more generic information including facility name, address, and SIC codes. However, one potential drawback to CAD systems is that most of them cannot store "real-world" (e.g., latitude-longitude) coordinates and are not generally designed for spatial analyses.

Information stored in a CAD format may also be input into a Geographic Information System (GIS). With some conversion, the CAD system coordinates may be transformed into the "real-world" coordinates typically employed by GIS. GIS are integrated database management systems designed for the input, storage, retrieval, analysis, output, and display of geographically or spatially indexed data.

The key attribute of GIS is the relational database capabilities that make these systems powerful tools for conducting spatial analyses. Using GIS, a municipality could overlay several layers of data and derive new information from this existing information. For example, using GIS, an applicant could overlay a map showing the 100-year flood plain with a map showing locations of industrial facilities. The GIS could then calculate the amount of industrial area within the 100-year flood plain and plot this data on a new overlay. This type of spatial analysis might be a powerful tool in the design of the municipality's storm water management program.

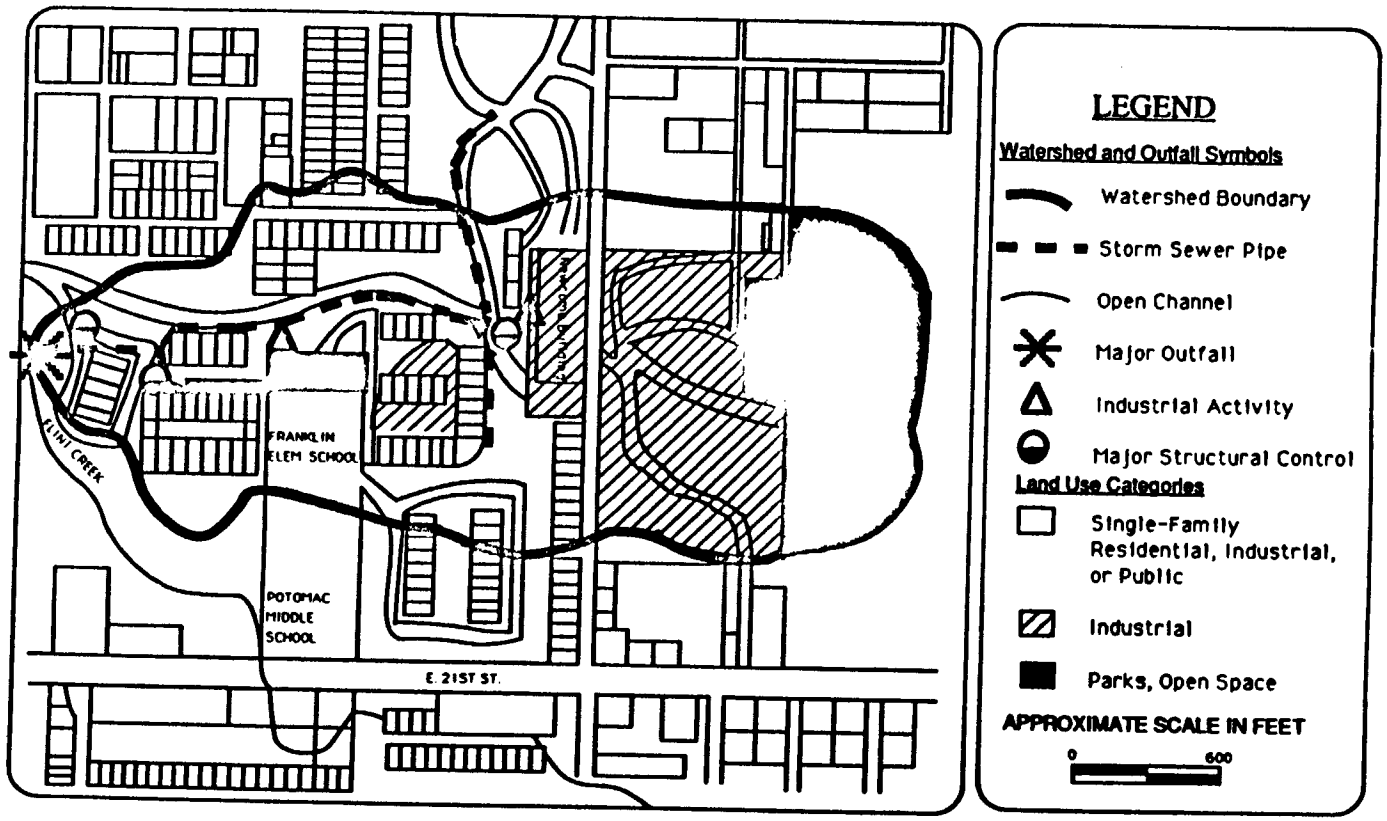
Another benefit of GIS is the ability for common data to be shared efficiently among several agencies. For example, the flood management agency, department of transportation, and storm water control agency could all contribute data to and use analyses from the same GIS. On the other hand, one potential drawback to GIS is their relatively high cost. Often, developing accurate, appropriate base maps is one of the most resource intensive parts of the system.

The techniques presented in this section to organize industrial dischargers by watershed are not the only methods that the applicant can use. For example, municipalities may elect to present the information in tabular form. Using a CAD, GIS, or other automated system is entirely up to the municipality. There is no requirement that municipalities use these systems in the development of either the Part 1 or Part 2 NPDES permit applications. Each applicant will have to examine its existing resources (including computer systems, personnel, and budget) and projected needs before deciding which method will be the most efficient and most useful in the long term.

A discussion of maintaining and/or updating the industrial inventory is provided in Section 6.3.3.2 of this guidance.

Exhibit 4-2 illustrates an example of the procedure discussed in Sections 4.3 and 4.4.

Exhibit 4-2
Example of a Map Organizing Industry by Watershed



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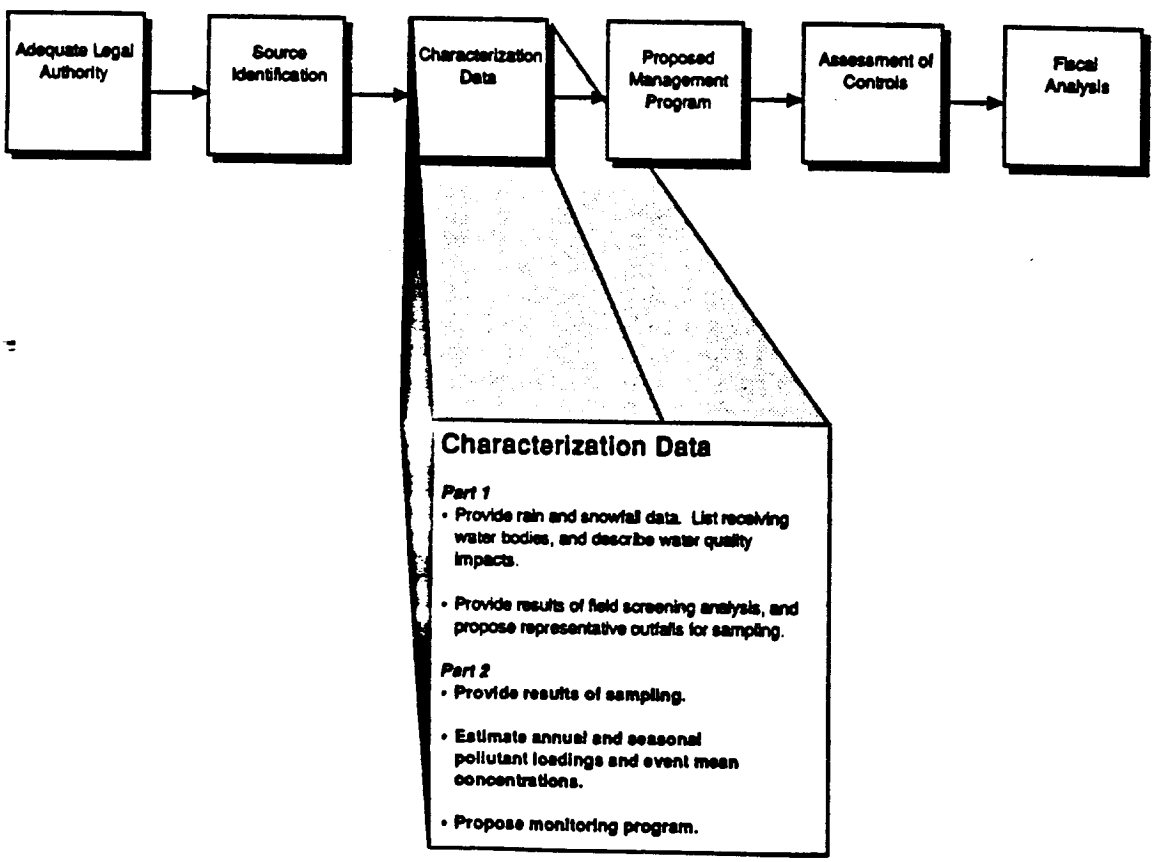
CHAPTER 5
CHARACTERIZATION DATA



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5.0 CHARACTERIZATION DATA

5.1 BACKGROUND

5.1.1 Objective of this Section

This section addresses the requirements for reporting the physical and chemical characteristics of municipal storm water runoff as specified by 40 CFR 122.26(d)(2)(iii). These requirements describe the minimum quantitative and descriptive data necessary to begin characterizing storm water discharges.

The applicant is encouraged to provide additional information, if available, which may provide a basis for a more effective storm water management program. The additional information may also help the permitting authority make more informed decisions regarding the specifications of the permit to be issued.

The NPDES permit application regulations require the applicant to identify all major outfalls that are part of the MS4 [§122.26(d)(1)(iii) and 126(d)(2)(ii)]. Part 1 requires the municipality to propose a sampling plan that identifies 5-10 outfalls that would be appropriate for representative data collection under Part 2 of the application [§122.26(d)(1)(iv)(E)]. The next step is to collect and analyze samples from these outfalls (or others designated by the permitting authority) for a variety of pollutant parameters from 3 representative storm events.

5.1.2 Potential Impacts of Storm Water Runoff

The Nationwide Urban Runoff Program (NURP) study showed that discharges from MS4s contribute to the degradation of water quality in the Nation's waters (EPA, 1983). The NURP study also concluded that the effects of urban runoff on receiving water quality are very site specific. The effects depend on the types, size, and hydrology of the water body, the designated beneficial use, the pollutants which affect that use, the urban runoff quality characteristics, and the amounts of urban runoff dictated by local rainfall patterns and land use. *The National Water Quality Inventory, 1990 Report to Congress* as required by Section 305(b) of the Clean Water Act, stated that one-third of the impairment in assessed waters is due to storm water runoff (EPA, 1990d).

Quantity Impacts

Urbanization often increases the quantity and reduces the quality of storm water runoff. For example, vegetated or forested areas with pervious surfaces are often replaced with impervious surfaces (e.g., concrete and asphalt) that prevent or minimize the amount of rainfall available for ground water recharge. This increases the volume and velocity of storm water runoff.

Vegetated areas play a crucial role in ground water recharge and in the maintenance of stream baseflow. This is especially true during extended dry periods, when ground water is often the only source that preserves stream baseflow. In highly urbanized areas, ground water recharge may be so severely reduced that ground water flow to perennial streams during dry periods is not sufficient. Further, the natural hydrology of a watershed is often altered by urbanization, because developing areas often provide drainage appurtenances that rapidly conduct storm water runoff away from these areas. Such drainage may also affect the geometry of natural streams, especially where natural streams have been modified through the installation of man-made channels. Ultimately, reduced perviousness due to urbanization increases the magnitude and the frequency of localized flooding which can have the long term effect of substantially increasing the width of natural streams through erosion and scouring.

Increases in peak discharge velocity and runoff volume can also result in substantial erosion of natural streambanks and the washout of benthic habitats. Since streambeds often consist of unconsolidated silt and sediment, they may be stripped away substantially by excessive discharge velocities. Increased discharge velocities can also lead to undercutting and destabilization of streambanks, which may cause erosion that extends beyond the natural boundary of the streambank.

Further, silt and sediment can increase the turbidity of the receiving water, thus interfering with the growth of aquatic plants which depend on photosynthesis. Increased turbidity can also interfere with aquatic feeding, eliminate spawning areas for fish, and cause abrasion and clogging of fish gills. Also, because silt and sediment may remain in the watershed, they can blanket benthic habitats and severely reduce streamflow capacity.

In the presence of excessive volumes of storm water runoff and discharge velocities, the net impact on receiving waters can be almost indistinguishable from impacts commonly associated with the discharge of toxics (e.g., increased mortality, reduced biodiversity, and reduced reproduction).

Deposition and Resuspension of Toxicants

Research is currently on-going to examine the impact of the deposition and resuspension of toxicants as a result of wet weather events. Questions about the survivability of benthic habitats when exposed to toxicants in deposited sediments still remain. The impact of resuspended toxicants from the sediments is not well known since toxics are often bound to sediment particles that may reduce the concentrations available for biological uptake and subsequent bioaccumulation. The applicant should also be aware that different metal contaminants in sediments can exhibit different solubilities. Under varying conditions of pH and temperatures, metals deposited in sediment can become soluble again and be reintroduced into the water column.

Excessive Bacterial Levels

The NURP study final report concluded that "coliform bacteria are present at high levels in urban runoff and can be expected to exceed EPA water quality criteria during and immediately after storm events." This is of significant concern, particularly in swimming and shellfish areas.

Dissolved Oxygen Depression

The presence of oxygen-consuming pollutants in receiving waters can lead to severe dissolved oxygen depression. Factors that can cause dissolved oxygen depression include the resuspension of biodegradable organic material (which can occur in the presence of high flow velocities) or the discharge of organic pollutants in storm water discharges. The NURP study demonstrated that storm water discharges exhibit biochemical oxygen demand (BOD) levels in excess of levels commonly associated with secondary treated effluent from publicly owned treatment works (POTWs). Severe dissolved oxygen depression could contribute to fish kills, which are one of the most readily observable impacts of pollution on receiving waters.

Eutrophication

Eutrophication, or the aging of a water body, can be accelerated by excessive nutrient loadings from storm water. Advanced stages of eutrophication are often associated with substantial variations in dissolved oxygen concentration. Nutrients of concern are nitrogen and phosphorus. Phosphorus is typically the growth-limiting nutrient for plants in fresh water systems. Storm water discharges routinely contain excess concentrations of these nutrients, which can lead to excessive algal growth, commonly referred to as algal blooms. Excessive concentrations of algae can cause odor and taste problems in drinking water and can result in aesthetically unpleasant

environments. In addition, the eventual decomposition of large concentrations of algae can depress dissolved oxygen in the water body to levels where fish kills occur. In nature, the process of eutrophication occurs over a substantial period of time; however, storm water discharges can rapidly accelerate this process.

Exceedance of Chronic Toxicity Criterion

Long-term exposure to toxics in excess of chronic toxicity criteria can cause sublethal effects on aquatic life. Indicators of chronic toxicity include reduced fertility, reproduction, and growth rates and a decline in the diversity of aquatic organisms. The NURP study clearly indicated that storm water discharges contain concentrations of trace metals, such as lead, cadmium, zinc, and copper in amounts that exceed the chronic toxicity criteria. Prolonged exposure to chronic concentration levels of toxics can also be lethal to aquatic organisms, primarily from the bioaccumulation of toxics within the cell tissue of the organism over a extended period of time.

Thermal Impacts

The temperature of storm water runoff may become significantly elevated via conductive and convective heat transfer with impervious, man-made surfaces. In the case of contact with impervious surfaces, the resulting temperature elevation of storm water runoff can be substantial. For example, the surface temperature of parking lots during summer months may exceed 100 degrees Fahrenheit. Consequently, storm water runoff from these parking lots will be elevated in temperature. Many aquatic organisms are extremely sensitive to changes in water temperature. Increased water temperature also reduces dissolved oxygen in streams, rivers, lakes, and wetlands. Therefore, significant discharges of storm water at elevated temperatures can, over the long term, lead to the alteration of aquatic populations.

5.1.3 Use of the Characterization Data

The NURP study analyzed storm water discharge from 28 sites representing 12 major river basins of the United States. NURP detected 77 EPA priority pollutants present in the storm water discharges sampled, including samples with concentrations that exceeded water quality criteria for certain pollutants. Those pollutants detected in at least 10 percent of the samples studied in NURP are identified in Exhibit 5-1.

The data gathered for storm water discharge characterization can be used to create a baseline measurement of pollutant concentration and loadings. The data also can be used to evaluate the effectiveness of best management practices (BMPs) as well as help identify storm water control priorities. In addition, it can be used to help identify the sources of pollutants in storm water runoff, to help establish an effective monitoring program for the life of the permit, and to help predict the impact of storm water runoff on receiving waters that are known to be impaired.

5.1.4 Storm Water Sampling and Analysis Procedures

The regulation requires that the process of collecting quantitative data for storm water characterization follow certain guidelines.

> §122.26(d)(2)(iii) *Characterization data*. When "quantitative data" for a pollutant are required under paragraph (d)(1)(iii)(A)(3) of this paragraph, the applicant must collect a sample of effluent in accordance with 40 CFR 122.21(g)(7) and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method.

Exhibit 5-1. Priority Pollutants Detected in at Least 10% of NURP Samples.

PARAMETERS	FREQUENCY OF DETECTION (%)
Metals and inorganics:	
Antimony	13
Arsenic	52
Beryllium	12
Cadmium	48
Chromium	58
Copper	91
Cyanides	23
Lead	94
Nickel	43
Selenium	11
Zinc	94
Pesticides:	
Alpha-hexachlorocyclohexane (alpha-BHC)	20
Alpha-endosulfan	19
Chlordane	17
Lindane (gamma-BHC)	15
Halogenated aliphatics:	
Methane, dichloro-	11
Phenols and cresols:	
Phenol	14
Phenol, pentachloro-	19
Phenol, 4-nitro	10
Phthalate esters:	
Phthalate, bis(2-ethylhexyl)	22
Polycyclic aromatic hydrocarbons:	
Chrysene	10
Fluoranthene	16
Phenanthrene	12
Pyrene	15

Source: U.S. Environmental Protection Agency, *Results of the Nationwide Urban Runoff Program*, EPA Planning Division (National Technical Information Service (NTIS) Accession No. PB84-8552). December 1983.

The data collection procedures must follow the guidelines for storm water sampling outlined in §122.21(g)(7), *Effluent Characteristics*. This portion of the NPDES regulation describes the conditions under which a storm water discharge will be sampled, and which collection procedure (grab sample versus flow-weighted composite sample) is required for the water quality parameter being analyzed. These guidelines are discussed in more detail in Sections 5.3.2 and 5.3.4 of this guidance manual. In addition, EPA has available a *Storm Water Sampling Guidance Document* that describes in detail the methods used for storm water discharge sampling (EPA, 1992a).

The methods for the chemical analyses of storm water discharge samples must be conducted in accordance with 40 CFR Part 136, *Guidelines for Establishing Test Procedures for the Analysis of Pollutants*. These guidelines refer the applicant to EPA-approved methods and cite the source of the approved methods (e.g., Standard Methods for the Examination of Water and Wastewater, ASTM methods, etc.). Note that alternative methods (i.e., those not included in Part 136) may be used under certain circumstances (see Section 5.3.4) as described in 40 CFR Part 136, and reiterated in the Characterization Data section of Part 2 of the storm water discharge NPDES permit.

The specific constituent pollutants and water quality parameters that must be analyzed in the storm water samples are presented in Section 5.3.4.

5.2 SUMMARY OF REGULATORY REQUIREMENTS

The following is a summary of the characterization data requirements for the Part 2 application:

- Quantitative data on physical and chemical characteristics of the discharge taken from at least 5 to 10 representative outfalls chosen by the permitting authority (Section 5.3);
- Estimates of both the annual pollutant load and event mean concentration of the cumulative discharges from all municipal outfalls during a storm event (Section 5.4);
- A proposed schedule to provide estimates for each major outfall of the seasonal pollutant load and the event mean concentration for constituents detected in required sampling (Section 5.5); and
- A proposed monitoring program for the life of the permit that meets specific requirements established in the regulations (Section 5.6).

5.3 QUANTITATIVE AND QUALITATIVE DATA REQUIREMENTS

5.3.1 Selection of Representative Sampling Sites

In the Part 1 application, the municipality is required to describe a plan for obtaining characterization data [§122.26(d)(1)(iv)(E)]. The plan should reflect the requirements of §122.26(d)(2)(iii).

Different types and intensities of land use activities influence, in part, the types of pollutants and the pollutant concentrations in municipal storm water runoff. Therefore, Part 1 of the permit application [§122.26(d)(1)(iii)(B)(2)] requires the applicant to describe the land use activity within the area to be covered by the permit. In Part 1, the applicant also must select a subset of all the major outfalls (see Section 4.2.1 for definition of major outfall) identified that represented surface runoff discharge of the various land use activities described. In some cases, a municipality preparing a Part 2 application may want to supplement its sampling program by collecting and analyzing samples from major outfalls that were not identified in the Part 1 application or designated by the permitting authority. This additional sampling may provide the

municipality with data that better characterizes its MS4 discharges.

5.3.2 Criteria for Storm Water Discharge Sampling

Land use activities are not the only factors that affect the pollutant composition of storm water runoff. Storm water composition also varies according to the nature of the storm event (e.g., duration, volume), and the composition may vary throughout the duration of a single storm event (i.e., the initial discharge, or "first flush," tends to have higher pollutant loads). In order to obtain data that represents an "average" storm event, EPA requires samples from three separate storm events to characterize the surface water runoff; however, the permitting authority may allow exemptions.

> §122.26(d)(2)(iii)(A)(1) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at §122.21(g)(7) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

The criteria for sampling storm water discharge are detailed in §122.21(g)(7), *Effluent Characterization*. EPA's *Storm Water Sampling Guidance Document* addresses these criteria. For the purpose of this discussion, a brief synopsis of these criteria follows:

- For each outfall or field screening point selected, samples must be collected from three separate storm events.
- The three storm events must be at least one month apart.
- Each sampled storm event must have a rainfall of at least 0.1 inch in the drainage area.
- There must be no storm event in excess of 0.1 inch in the drainage area for at least 72 hours prior to the sampled storm event.
- The rainfall event should not vary by plus or minus 50 percent from the average or median per storm volume and duration for the region.

EPA understands that climatic conditions may make it difficult for some municipalities to sample storm events meeting these criteria. For example, storm events may be so infrequent in arid and semi-arid areas that sufficient samples cannot be obtained by the application deadline. In other areas, storms may be so frequent that it may not be possible to wait the required 72 hours between storm events. In such cases, the applicant should confer with the permitting authority in advance. In instances where representative storm events do not occur prior to the application due date, the municipality should submit its application with as much information as possible. It should include an explanation [certified by a principal executive officer or ranking elected official in accordance with §122.22(a)(3)] as to why sampling data were unavailable.

The municipality may need to perform some initial research and calculation to meet the requirements listed above. In order to determine what constitutes an average storm event for the area, the applicant should contact the National Weather Service or National Oceanographic and Atmospheric Administration's National Climate Center. Weather data is also available commercially and from airports. The applicant may also refer to the information provided in the *Storm Water Sampling Guidance Document*.

5.3.3 Narrative Description of Storm Event

> §122.26(d)(2)(iii)(A)(2) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

Under §122.26(d)(2)(iii)(A)(2), the municipality must provide a narrative description of each storm that produced the discharge to be chemically and physically characterized. Such a narrative description must include:

- The date and duration of the rainfall event that produced the discharge sampled. Measurements describing the peak intensity of the storm, if available, should also be reported;
- The amount of rainfall. Rainfall conditions may vary significantly across large drainage areas, so rainfall characteristics should be spatially averaged over the drainage area, if possible. If more than one rain gauge is used, averages should be reported. Rain gauges operated near the drainage area by the National Weather Service may be used, or the discharger may collect this information;
- The time elapsed since the last rainfall event greater than 0.1 inches. Historical rainfall data from rainfall gauges can be used to provide this information. If a gauge records only daily data, municipal field personnel could be asked to provide information on times during the day a rainfall event began or ended.

5.3.4 Chemicals/Water Quality Parameters to be Measured

The storm water discharge samples must be analyzed for a number of pollutant parameters.

> §122.26(d)(2)(iii)(A)(3) For samples collected and described under paragraphs (d)(2)(iii)(A)(1) and (A)(2) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:
>
> Total suspended solids (TSS)
> Total dissolved solids (TDS)
> COD
> BOD_5
> Oil and grease
> Fecal coliform
> Fecal streptococcus
> Ph
> Total Kjeldahl nitrogen
> Nitrate plus nitrite
> Dissolved phosphorus
> Total ammonia plus organic nitrogen
> Total phosphorus
>
> *[Note that total kjeldahl nitrogen is actually a substitute for total ammonia plus organic nitrogen.]*

The complete list of chemicals is provided in Exhibits 5-2, 5-3, and 5-4. Exhibits 5-2 and 5-3 are derived from 40 CFR Part 122, Appendix D, Tables II and III, respectively. Exhibit 5-4 comes from the text of the regulation (see box above). The EPA-approved analysis procedure for the pollutants in Exhibits 5-2 and 5-3 can be found in 40 CFR Part 136. If a municipality is seeking approval to use an alternative method of analysis, then a request should be made according to procedures outlined in 40 CFR 136.4.

Exhibit 5-2: Pollutants Listed in Table II in Appendix D of 40 CFR Part 122

Pollutant		Pollutant	
Volatiles		**Acid Compounds**	
Acrolein	1,2-Dichloropropane	2-Chlorophenol	
Acrylonitrile	1,3-Dichloropropylene	2,4-Dichlorophenol	
Benzene	Ethylbenzene	2,4-Dimethylphenol	
Bromoform	Methyl bromide	4,6-Dinitro-o-cresol	
Carbon tetrachloride	Methyl chloride	2,4-Dinitrophenol	
Chlorobenzene	Methylene chloride	2-Nitrophenol	
Chlorodibromomethane	1,1,2,2-Tetrachloroethane	4-Nitrophenol	
Chloroethane	Tetrachloroethylene	p-Chloro-m-cresol	
2-Chloroethlyvinyl ether	Toluene	Pentachlorophenol	
Chloroform	1,2-trans-Dichloroethylene	Phenol	
Dichlorobromomethane	1,1,1-Trichloroethane	2,4,6-Trichlorophenol	
1,1-Dichloroethane	1,1,2-Trichloroethane		
1,2-Dichloroethane	Trichloroethylene		
1,1-Dichloroethylene	Vinyl chloride		
Base/Neutral		**Pesticides**	
Acenaphthene	Diethyl phthalate	Aldrin	Endrin
Acenaphthylene	Dimethyl phthalate	Alpha-BHC	Endrin aldehyde
Anthracene	Di-n-butyl phthalate	Beta-BHC	Heptachlor
Benzidine	2,4-Dinitrotoluene	Gamma-BHC	Heptachlor epoxide
Benzo(a)anthracene	2,6-dinitrotoluene	Delta-BHC	PCB-1242
Benzo(a)pyrene	Di-n-octyl phthalate	Chlordane	PCB-1254
3,4-benzofluoranthene	1,2-diphenylhydrazine (as azobenzene)	4,4'-DDT	PCB-1221
Benzo(ghi)perylene	Fluoranthene	4,4'-DDE	PCB-1232
Benzo(k)fluoranthene	Fluorene	4,4'-DDD	PCB-1248
Bis(2-chloroethoxy)methane	Hexachlorobenzene	Dieldrin	PCB-1260
Bis(2-chloroethyl)ether	Hexachlorobutadiene	Alpha-endosulfan	PCB 1016
Bis(2-chloroisopropyl)ether	Hexachlorocyclopentadiene	Beta-endosulfan	Toxaphene
Bis(2-ethylhexyl)phthalate	Hexachloroethane	Endosulfan sulfate	
4-bromophenyl phenyl ether	Indeno(1,2,3-cd)pyrene		
Butylbenzyl phthalate	Isophorone		
2-Chloronaphthalene	Naphthalene		
4-Chlorophenyl phenyl ether	Nitrobenzene		
Chrysene	N-nitrosodimethylamine		
Dibenzo(a,h)anthracene	N-nitrosodi-n-propylamine		
1,2-Dichlorobenzene	N-nitrosodiphenylamine		
1,3-Dichlorobenzene	Phenanthrene		
1,4-Dichlorobenzene	Pyrene		
3,3'-Dichlorobenzidine	1,2,4-trichlorobenzene		

Source: 40 CFR Part 122, Appendix D

Exhibit 5-3: Pollutants Listed in Table III in Appendix D of 40 CFR Part 122

Pollutant	Pollutant	Pollutant
Antimony, total	Copper, total	Silver, total
Arsenic, total	Lead, total	Thallium, total
Beryllium, total	Mercury, total	Zinc, total
Cadmium, total	Nickel, total	Cyanide, total
Chromium, total	Selenium, total	Phenols, total

Source: 40 CFR Part 122, Appendix D

Exhibit 5-4. Conventional Pollutants Listed in Section 122.26(d)(2)(iii)(A)(3)

Pollutant	Pollutant
Total suspended solids (TSS)	pH
Total dissolved solids (TDS)	Total Kjeldahl nitrogen (TKN)*
COD	Nitrate plus nitrite
BOD,	Dissolved phosphorus
Oil and grease	Total ammonia plus organic nitrogen
Fecal coliform	Total phosphorus
Fecal streptococcus	

* Total ammonia plus organic nitrogen is interchangeable with TKN.

Source: 40 CFR 122.26(d)(2)(iii)(A)(3)

Section 122.21(g)(7) specifies that certain pollutant parameters will be analyzed on grab samples taken from the outfall, whereas the remainder of the pollutant parameters require that composite samples be taken from the outfall. These types of sampling procedures are differentiated as follows:

Grab samples: discrete, individual samples taken within a short period of time (usually less than 15 minutes). Analysis of grab samples characterizes the quality of a storm water discharge at a given time of the discharge. The following measurements must be made from grab samples:

- pH
- Temperature
- Cyanide
- Total phenols
- Residual chlorine
- Oil and grease
- Fecal coliform
- Fecal streptococcus

Note that measurements of temperature and pH must be taken in the field to avoid time-dependent changes that may occur between sampling time and actual analyses.

Flow-weighted composite samples: single unit volumes composed of a mixture of samples collected proportional to flow throughout the entire runoff event or at least for the first three hours of the storm water event, if it lasts more than three hours. The flow-weighted composite sample must consist of at least three discrete aliquots per hour from the storm water discharge, or a continuous sampler may be used.

All parameters (see Exhibits 5-2, 5-3, 5-4) not listed under the description of grab samples above must be analyzed from flow-

weighted composite samples. Details on taking flow-weighted composite samples may be found in the EPA *Storm Water Sampling Guidance Document*.

5.3.5 Additional Quantitative Data

Section 122.26(d)(2)(iii)(A) concludes with a provision that allows the permitting authority to request additional quantitative data if necessary to determine permit conditions.

> §122.26 (d)(2)(iii)(A)(4) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

To ensure the storm water discharge system is accurately represented, the permitting authority may require that quantitative data include additional parameters and may establish specific sampling conditions, such as:

- Location where the sample is taken;
- Season of sample collection;
- Form of precipitation (snowmelt, rainfall);
- Evidence of impact to aquatic ecosystems; or
- Other parameters necessary to ensure the system is accurately characterized.

The data generated from the qualitative and quantitative analyses described under §122.26 (d)(2)(iii)(A) will be used to calculate the annual pollutant loads and event mean concentrations for each pollutant as described in subsequent parts of this section. Estimates of annual pollutant loads and event mean concentrations would then be used to assist in establishing storm water management priorities and selecting BMPs.

5.4 ESTIMATION OF SYSTEM-WIDE EVENT MEAN CONCENTRATIONS AND ANNUAL POLLUTANT LOADS

The applicant must submit estimates of the event mean concentration and annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls.

> §122.26(d)(2)(iii)(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under §122.21(g)(7)) for BOD_5, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

Estimates of annual pollutant loads will be somewhat imprecise; however, municipalities should exercise best professional judgement in deriving these estimates. A description of what assumptions were made to derive pollutant loadings must be included.

Under §122.26(d)(2)(iii)(B) (see box above) applicants must provide the following:

- Estimates for the event mean concentration for pollutants listed in Exhibit 5-5 below, which can be used to estimate the annual pollutant load associated with all municipal outfalls identified under §122.26(d)(1)(iii) and (d)(2)(ii);

- A description of the procedures for estimating constituent loads and concentrations; and

- Details on data analysis, models used, and calculation methods.

Data sources and procedures that municipal applicants may use to estimate event mean concentrations and annual pollutant loads of the cumulative discharges are discussed below.

The primary purpose for estimating annual pollutant loads and event mean concentrations is to assign priorities for implementing BMPs. Municipalities should consider the magnitude of individual pollutant loadings when assigning priorities to resources to reduce these loadings. The areas receiving the highest priority for implementation of BMPs will be those portions of the MS4 that appear to contribute the largest load of pollutants to the system. Therefore, it is the relative value of these calculations that is of importance within this regulation, not the absolute value.

Over time the accuracy of the available methods to calculate loads and concentrations will improve and the use of these estimates may assume a larger role in determining permit conditions and estimating the success of the comprehensive municipal storm water management program. The emphasis for now, however, is on the application of the most practicable methods to reasonably estimate annual loads and event mean concentrations.

5.4.1 Data Sources

The Part 1 application requires municipalities to submit all existing storm water sampling data, along with all relevant water quality data, sediment data, fish tissue or other biosurvey data taken over the past 10 years. All historical data must accompanied by a narrative description of the watershed served by the outfall from which the data are obtained, a description of the sampling and quality control program, and the monitoring location of the receiving water.

To estimate an annual pollutant load for a given pollutant, a value must be derived for the average concentration, or event mean concentration, of that pollutant. To derive this value, applicants may use either site-specific data, or data from a national or regional study, such as NURP.

Municipalities with adequate historical data may choose to use these data to estimate annual pollutant loads in the Part 2 application. However, many applicants may not have enough site-specific data to develop valid estimates. These applicants may choose to use generic data (e.g., from regional and national studies), such as the data provided in the NURP study. The NURP study's estimated range of detected concentration for specific pollutants is summarized in Exhibit 5-6.

Exhibit 5-5: Pollutants for which Event Mean Concentrations and Annual Pollutant Loads Must be Calculated

Pollutant	Pollutant
BOD_5	Total phosphorus
COD	Dissolved phosphorus
TSS	Cadmium
Dissolved solids	Copper
Total nitrogen	Lead
Total ammonia plus organic nitrogen	Zinc

Source: 40 CFR 122.26(d)(2)(iii)(B) (55 FR 48070, November 16, 1990)

Exhibit 5-6. NURP Study Range of Detected Concentration for Specific Pollutants

Parameter	Concentration µg/L
Metals and inorganics:	
Antimony	2.6 - 23
Arsenic	1 - 50.5
Beryllium	1 - 49
Cadmium	1 - 14
Chromium	1 - 90
Copper	1 - 100
Cyanides	2 - 300
Lead	4 - 23,000
Nickel	1 - 182
Selenium	0.2 - 0.8
Zinc	10 - 2400
Pesticides:	
Alpha-hexachlorocyclohexane (alpha-BHC)	0.027 - 0.10
Alpha-endosulfan	0.008 - 0.20
Chlordane	n/a
Lindane (gamma-BHC)	0.007 - 0.1
Halogenated aliphatics:	
Methane, dichloro-	5 - 14.5
Phenols and cresols:	
Phenol	1 - 13
Phenol, pentachloro-	1 - 115
Phenol, 4-nitro	1 - 37
Phthalate esters:	
Phthalate, bis(2-ethylhexyl)	4 - 62
Polycyclic aromatic hydrocarbons:	
Chrysene	0.6 - 10
Fluoranthene	0.3 - 2
Phenanthrene	0.3 - 10
Pyrene	0.3 - 16

Source: U.S. Environmental Protection Agency, *Results of the Nationwide Urban Runoff Program*, EPA Planning Division (National Technical Information Service (NTIS) Accession No. PB84-8552). December 1983.

The applicant should be aware of limitations associated with data from national and regional studies before deciding on methods to estimate pollutant loadings. In some cases, it may be more appropriate to use any available site-specific data rather than data from national or regional studies. For example, the NURP study did not collect pollutant concentration data from industrial areas. In this instance, even limited site specific concentration data from industrial areas may be more meaningful.

EPA encourages applicants to seek data from a variety of sources to better characterize the quality of their storm water discharges. Regardless of the data source, a description of the procedures for estimating constituent loads and concentrations, including any modeling, data analysis, and calculation methods, must be included.

There will be a degree of uncertainty associated with estimating pollutant loadings in the Part 2 application. The requirement to calculate pollutant loadings and concentrations is intended to be a planning and screening effort to assign program priorities, and not necessarily to determine absolute values.

5.4.2 Event Mean Concentrations

Event mean concentrations (C_i in Equation 1 on page 5-16) are determined from analyses of flow-weighted composite samples collected from each of the designated field screening points. Section 2.2.4 of the *Storm Water Sampling Guidance Document* describes procedures for collecting flow-weighted composite samples (EPA, 1992a). Concentration values must be reported in the applicant's Part 2 Permit Application for each representative storm event sampled. The applicant should report the average of these results as the event mean concentration for each parameter measured. Municipalities are encouraged to present data in a tabular format. However, the applicant has flexibility to present the data in other ways, provided the data is clearly presented.

As stated previously, applicants must sample storm events for at least three hours, or for the entire storm event if it lasts less than three hours. If a storm event lasts more than three hours, the applicant may choose among three approaches for calculating the event mean concentration of the storm. First, the applicant may report the event mean concentration for the first three hours of the event (or longer, if the applicant monitored more than three hours). Second, if the applicant has data available on the correlation between flow and concentration which allows it to be more specific about the event mean concentration, an estimation technique may be used to derive the event mean concentration. If the applicant uses such an estimation technique, the methodology must be explained. Third and finally, the applicant may monitor the entire storm event and report the actual event mean concentration.

Whichever approach the applicant uses, the same method should be used to derive event mean concentrations in the future. This will assist the applicant in identifying meaningful trends in changes in event mean concentrations over time.

5.4.3 Annual Pollutant Loadings

Municipalities may choose from a variety of acceptable procedures for estimating the annual pollutant loads of the cumulative discharge. This guidance contains an example of calculating the annual pollutant loads using the "simple method," which is adapted from Schueler (1987). The guidance also discusses some dynamic models that applicants may wish to employ.

Regardless of which method applicants choose, they must describe and document the specific technique used. The description should include (but is not limited to) the key equations used to calculate reported values, such as:

- Assumptions for selecting site-specific parameters (e.g., runoff coefficients);

- References to any source documentation (e.g., previously completed studies or reference textbooks); and
- Justification for any assumed parameter values.

The Simple Method

The following method of computing pollutant loadings is referred to as the "simple method" and is adapted from Schueler (1987). For purposes of satisfying Part 2 application requirements, the simple method provides a quick and reasonable estimate of pollutant loadings with a minimal amount of data required. Although the regulations require a system wide (cumulative) annual pollutant load calculation for each of the pollutants listed in Exhibit 5-5 (above), the single pollutant load values provide limited insights into potential problem areas and what BMPs might yield the best results. Consequently, the municipality may want to consider using the simple method to estimate "individual" pollutant loadings from drainage areas. The individual pollutant loadings can be aggregated to derive a cumulative annual pollutant loading for the entire MS4. In the procedure below, for example, Step 1 computes the annual loading for each outfall of the MS4. Then in Step 2, the resulting pollutant loadings are summed to derive annual pollutant loads on a per-watershed basis. In Step 3, the annual pollutants loads for each watershed are summed to derive a system-wide annual pollutant load.

As stated above, this procedure is only one example of how a municipality could calculate a system-wide annual pollutant load. Estimates of annual pollutant loads for individual outfalls, watersheds, or other discrete areas are not specifically required by the regulations. However, municipalities will find such estimates helpful in making relative comparisons among different areas of the MS4. Ultimately, these estimates could assist the municipality with selecting BMPs and assigning priorities to potential problem areas.

Step 1: Use the Simple Method to Calculate Annual Pollutant Loads on a Per-Outfall Basis

The first step in this example is to calculate annual pollutant loads for individual outfalls. However, the applicant may choose to begin by calculating annual pollutant loads for each watershed or other discrete area. As stated above, this example uses the simple method, which is given by the following equation:

EQUATION 1:

$$L_i = \left[\frac{(P)(CF)(Rv_i)}{12}\right](C_i)(A_i)(2.72)$$

where: L_i = Annual pollutant load (lb/outfall/yr)
P = Annual precipitation (in/yr)
CF = Correction factor that adjusts for storms where no runoff occurs (a value of 0.9 is typically used)
Rv_i = Weighted-average runoff coefficient for the area served by the outfall (the calculation of runoff coefficients is discussed below)
C_i = Event mean concentration of pollutant (mg/L)
A_i = Catchment area (acres)

The numbers 12 and 2.72 are conversion factors that account for unit conversions.

Each of the parameters in Equation 1 is defined below:

- **Annual pollutant load** is the total amount of a specific pollutant discharged in pounds per time period (in this case, per year) for the particular segment of the MS4 being modeled (in this case for each outfall). Pollutant loads may also be expressed for alternative time periods, or on a system-wide or watershed basis.

- **Annual precipitation** is the total inches of rainfall occurring in a single year plus the contribution of snowmelt. Estimates of the annual rainfall can be based on the rainfall data provided in Part 1 of the application.

- **Correction factor** is an adjustment factor for the number of storm events that do not actually produce any runoff (i.e., the percentage of storm events that have a total accumulation greater than a specific threshold value). This value will vary by region. Without this adjustment factor, the municipality would be assuming that all storm events produce runoff, which may or may not be the case. A typical value for this correction factor is 0.9 (90%). However, this value can vary between climatic regions. Municipalities should review historical rainfall data to estimate the percentage of storm events that produce runoff versus the number of storm events per year.

- **Weighted-average runoff coefficient** is a relative measure of imperviousness or the percentage of rainfall that becomes surface runoff. Runoff coefficients are a function of the type of surface, intensity of the rainfall, the degree of soil saturation and storativity (storage capacity) of the soil. To deterimine runoff coefficients, the municipality may use Equations 2 or 3 (which follow). Alternatively, the municipality may use actual field measurements, relevant hydrologic studies, average values published in civil engineering reference manuals, or default values provided in Exhibit 3-12 of EPA's *NPDES Storm Water Sampling Guidance Document*.

- **Event mean concentration of pollutant** is the event mean concentration value for the specific pollutant determined from the analysis of flow-weighted composite samples. Equation 1 requires a value for each pollutant concentration. As discussed previously, the applicant may use site-specific concentration data (e.g., storm water sampling data) or generic (e.g., NURP) data to derive event mean concentrations. In other words, the applicant should use best professional judgement to decide which of the following concentration values to use:

  - a mean concentration value from the NURP study;

    OR

  - an average of all event mean concentrations from all samples over three representative storm events;

    OR

  - an event mean concentration attributable to a specific land use activity.

  The applicant will have to consider the extent of the variability of the data when selecting an appropriate concentration value. NURP or other regional studies used to estimate pollutant concentrations can be compared to existing site-specific data in order to assess the uncertainty associated with generic approaches.

- **Catchment area** is the size of the drainage area for the particular segment of the MS4 being modeled (in this case, the outfall drainage area). Areas that are served by combined sewers or that are not otherwise served by the MS4 should not be included.

Weighted-average runoff coefficient. Runoff coefficients can be based on flow measurements or estimated from land use characteristics. In order to determine an average runoff coefficient for an area with a diversity of land

use activities, the following equation should be used to estimate a weighted-average runoff coefficient:

EQUATION 2

$$Rv_i = \frac{(\sum A_i R_v)}{\sum A_i}$$

where: Rv_i = Weighted-average runoff coefficient
A_i = Catchment area (acres)
R_v = Catchment runoff coefficient

As an alternative to Equation 2, Equation 3 can be used to estimate weighted-average runoff coefficients from percent imperviousness data (Shelley, 1986):

EQUATION 3

$$Rv_i = 0.05 + 0.009 * I$$

where: Rv_i = Weighted-average runoff coefficient
I = Percent imperviousness

The percent imperviousness can be estimated from land use data. Residential land can be assumed to be 24% impervious; commercial land 75% impervious; industrial land 55% impervious; and open space 15% impervious. The percent imperviousness of residential land was estimated from the following empirical equation of NURP and USGS data, which relates population density to percent imperviousness:

EQUATION 4

$$I = 9 * D^{0.5}$$

where: I = Percent imperviousness
D = Population density (persons/acre)

Similar to Equation 1, individual parameters for Equations 2, 3, and 4 can be used on a system-wide basis, or modified to reflect more realistic conditions within smaller or discrete segments (e.g., individual watersheds or outfalls).

Step 2. Use the Per-Outfall Annual Pollutant Loads to Calculate Per-Watershed Annual Pollutant Loads

If the simple method is used to compute the annual loading on a per-outfall basis, Equation 5 may be used to estimate annual pollutant loadings on a per watershed basis. The approach of computing pollutant loadings on a watershed basis is used by some counties where larger watersheds are segregated into smaller watersheds or drainage areas on the basis of similar land use designations. One county uses this method in conjunction with forecasts of future development within the county to develop preliminary estimates of future pollutant loadings. This approach minimizes the possibility of computing an annual pollutant loading that is too conservative.

EQUATION 5

$$L_w = \sum L_i$$

where: L_w = Annual pollutant load for a particular watershed
ΣL_i = Summation of individual annual pollutant loadings from all major outfalls within a specific watershed

Step 3: Use the Watershed-Based Annual Pollutant Loads to Calculate System-Wide Annual Pollutant Loads

To calculate the annual loadings system-wide, use the following equation:

EQUATION 6

$$L_a = \sum L_w$$

where: L_a = Annual pollutant load for an entire MS4

ΣL_w = Summation of individual annual pollutant loadings from all watersheds within a municipal separate storm sewer system

Dynamic Models

In instances where a municipality has a significant amount of historical data for the drainage areas serviced by storm sewer outfalls, including historical precipitation data and receiving water concentration and flow data, the MS4 may elect to use dynamic models to derive pollutant loads and to analyze the effects of MS4 discharges on receiving waters.

Dynamic models are designed to calculate a complete probability distribution for the output being modeled. Therefore, dynamic models take into consideration the inherent variability of data associated with MS4 discharges, such as variations in concentration, flow rate, and runoff volume.

One benefit of using a dynamic model is that the calculation of a complete probability distribution allows the modeler to consider a multitude of "what-if" scenarios. For example, when sufficient historical data is available, the modeler could consider the benefits and risks associated with alternative BMP strategies.

Dynamic models have one additional benefit over steady-state models in that dynamic models determine the entire discharge concentration frequency distribution. Consequently, this would enable the modeler to examine the effects of storm water discharges on receiving water quality in terms of the frequency by which water quality standards may be exceeded. For purposes of computing pollutant loadings, a number of models are available including EPA's Stormwater Management Model (SWMM) and Hydrologic Simulation Program (HSPF); U.S. Army Corps of Engineers' Storage, Treatment, Overflow, Runoff Model (STORM); and Illinois State Water Survey's Model QILLUDAS (or Auto-QI).

Regardless of the method employed, the applicant must document how pollutant loadings are derived. Applicants must provide estimates of annual pollutant loads and event mean concentrations for each outfall with their Part 2 applications. However, some outfalls will need to be more completely characterized, and conditions will change after the permit is approved. This is one reason why, as described in Section 5.4, data collection will continue throughout the term of the permit. Estimates of the individual contribution of pollutant loadings for each watershed or major outfall will help the applicant select priorities for specific watersheds.

5.5 PROPOSED SCHEDULE FOR SEASONAL LOADS AND REPRESENTATIVE EVENT MEAN CONCENTRATIONS OF MAJOR OUTFALLS

> §122.26(d)(2)(iii)(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section;

Seasonal pollutant loads are important because they are a more accurate representation of loadings that may occur during a short time interval. To further refine the annual pollutant load estimates, Part 2 requires the applicant to propose a schedule to estimate seasonal

pollutant loadings and event mean concentrations for each major outfall.

The quality of the data available when the Part 2 application is prepared will affect the accuracy and usefulness of the initial estimates of pollutant loadings and average concentrations. These estimates can be improved as more site-specific data are collected during the term of the permit. A long-term site specific monitoring program will capture the variability in data that is essential to estimate more accurate pollutant loadings over time. Therefore, the impacts associated with these loadings can also be estimated with greater certainty. In addition, a site specific record collected over a longer time frame allows the effectiveness of the comprehensive municipal storm water management program to be evaluated.

Estimates must be submitted for any contaminant detected in any sample required under the Part 2 sampling effort [§122.26(d)(2)(iii)(B)]. Seasonal pollutant load estimates are required for any pollutants listed in Exhibits 5-2, 5-3, and 5-4 that were detected during the sampling procedure described in Section 5.3.4. Therefore, the analyses required for seasonal pollutant loads will potentially be more comprehensive than the analyses of annual pollutant loads. This results from the possibility that additional pollutants will be detected as part of the storm water characterization studies.

In some regions, precipitation patterns vary significantly from season to season, resulting in significantly different pollutant loadings throughout the year. In arid and semi-arid parts of the country, pollutants accumulate during dry spells, resulting in significantly higher pollutant concentrations in storm water discharges after extended dry weather. Because of the buildup of accumulated pollutants, pollutant concentrations in discharges from MS4s are typically highest during the "first flush," or initial discharge.

In other regions, pollutants that accumulate in snow may lead to high pollutant concentrations in runoff from the spring thaw. Therefore, using an annual average pollutant loading might disguise the impact of shock loadings (discharges that occur within a very short time period and which often exceed acute toxicity criteria) of certain pollutants. Numerous factors contribute to the total volume of snowmelt runoff including shortwave and longwave radiation, condensation or vaporization, convected heat transfer by wind, heat content of rain water, and conductive heat transfer from the ground. Therefore, for regions with significant snowfall, pollutant loading estimates need to be adjusted to account for the additional volume of runoff attributable to snowmelt.

Since snowmelt runoff can occur in either the presence or absence of a storm event, the computation of seasonal pollutant loadings becomes significantly more complex. The determination of total snowmelt runoff, however, is beyond the scope of this manual. Affected municipalities are encouraged to contact the U.S. Geological Survey or the Army Corps of Engineers for historical data on snowmelt runoff.

The effects of pollutant load can also vary by season. Nutrient pollutant loads from storm water discharges can promote algal blooms in receiving waters during the spring and summer, but they may be of little consequence during winter in surface waters with good flushing characteristics. Quantifying seasonal variations in pollutant loads may aid the development of more cost-effective storm water management programs.

Pollutant loads also may vary significantly from one outfall to another. Within a drainage area, the type of land use, the percent of surface that is impervious, and the extent of exposure of storm water to contaminants affect the pollutant load from an outfall. Procedures for estimating seasonal pollutant loadings must be proposed for major outfalls only.

Under §122.26(d)(2)(iii)(C) the regulation requires a schedule to provide estimates of:

- The seasonal pollutant load for each identified major outfall.
- The event mean concentration of a representative storm for any constituent detected in any sample required.

The following steps can be taken to develop a proposed schedule for estimating seasonal loadings at major outfalls:

1. Use historical or long-term hydrologic data to define seasons.
2. Describe the procedure to be used to estimate seasonal loads. This could be an adaption of the simple method or another mathematical model used for annual loads (e.g., instead of using a total annual rainfall accumulation, use an average rainfall accumulation associated with a specific season). If the simple method is used, the municipality could still use Equation 1. However, the amount of rainfall (P) would no longer be an annual value. Instead, it would be the amount of rainfall associated with a particular season defined by the municipality. In addition, the applicant may have to adjust the average runoff coefficient to reflect seasonal changes (e.g., frozen ground can behave like an impervious surface and substantially increase the amount of runoff). Lastly, substantial differences in the frequency and duration of seasonal storm events may increase or decrease the correction factor *CF* (e.g., during a dry season, the number of storms that actually produce runoff may be substantially lower than during a wet weather season).
3. Identify data elements that need to be refined. In cases where there is substantial seasonal variation, revised runoff coefficient values may be necessary. For example, during rainy seasons, ground surfaces are more saturated than during the dry season. As a result, the same amount of rainfall in the wet season will lead to a greater volume of storm water runoff than in the dry season.
4. Proposed procedures for collecting the appropriate data or otherwise improving estimates.
5. Provide an approximate time frame for data collection and submission of seasonal load estimates.

Proposed procedures for estimating seasonal pollutant loadings and event mean concentrations should explain when and how data used for the estimates will be obtained. The data can be based on site-specific information, or they can be obtained from municipal systems with similar characteristics (such as Regional NURP data).

5.6 COLLECTION OF REPRESENTATIVE DATA FOR PROPOSED MONITORING PROGRAM FOR THE TERM OF THE PERMIT

Under §122.26(d)(2)(iii)(D), applicants are given the opportunity to propose monitoring programs to be carried out during the term of the permit.

> §122.26(d)(2)(iii)(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

Applicants should consider their specific needs and identify priorities for the proposed

monitoring program. After receiving the Part 2 application, the permitting authority will review proposed monitoring programs and make appropriate adjustments when establishing permit conditions.

The applicant must propose a monitoring program for representative data collection for the term of the permit that describes:

- The location of outfalls or field screening points to be sampled (or the location of instream stations);
- Why the location is representative;
- The frequency of sampling;
- Parameters to be sampled; and
- A description of sampling equipment.

Municipalities must submit sampling data over the life of a permit so that changes in storm water quality can be assessed. Like initial sampling data, the data from an ongoing monitoring program can be used by the municipality to allocate resources to achieve reduction in pollutants. The monitoring data will also serve as an environmental indicator of the success of the storm water management program. Many municipalities may require an extended period of time (possibly the entire permit term) and substantial data to definitively evaluate the effectiveness of a storm water management program. Therefore, a plan for data collection must be proposed by the municipality for the five-year term of the permit. During the permit term, the results of the monitoring program will be submitted in the municipality's annual report [§122.42(c)(4), discussed in Section 7.3 of this guidance].

5.6.1 Goals of a Monitoring Program

The first and most important step in developing a proposed monitoring program is to define the program's objectives as clearly as possible. Development of monitoring program goals should be closely coordinated with development of the proposed storm water management program. Applicants are required to propose monitoring programs as part of their proposed management programs to reduce pollutants from industrial site runoff. The monitoring plan is part of *Characterization Data* [§122.26(d)(2)(iii)]. The storm water management program is discussed in Section 6.

A comprehensive monitoring program should be designed to support specific goals, including:

- Characterizing discharges;
- Evaluating the source of specific pollutants;
- Evaluating the performance of specific source controls; and
- Identifying the full range of chemical, physical, and biological water quality impacts.

5.6.1.1 Characterizing Discharges

Monitoring pollutants in discharges from MS4s serves several purposes. Quantitative data on specific pollutants in storm water runoff can support estimates of annual and seasonal pollutant loadings and modelling efforts to identify the magnitude of water quality impacts. Over the long term, monitoring data may suggest that new outfalls should be selected for sampling. As municipalities gain experience in storm water sampling, they likely will target BMPs that achieve the greatest improvements in storm water quality.

5.6.1.2 Evaluating the Source(s) of Specific Pollutants

Some sources of storm water (e.g., industrial sources that must be covered by NPDES permits, highways with heavy traffic flows, and large parking lots) are expected to generate significantly higher concentrations of pollutants than typical urban runoff. Monitoring efforts to quantify sources of

priority pollutants can provide support for resource allocations to address pollutant sources posing the greatest environmental risk. How proposed monitoring efforts will be structured to identify and quantify pollutant sources should be discussed in proposed storm water management programs.

The monitoring program may also include procedures to conduct dry-weather monitoring over the term of the permit to help detect illicit discharges and improper dumping. This can include recording visual observations and odors observed in dry weather flows.

5.6.1.3 Evaluating the Performance of Specific Controls

Pollutant removal efficiencies are fairly well known for certain structural BMPs. However, sampling may still be necessary to ensure that the BMP is meeting original design expectations. The expected pollutant removal efficiency for a structural control must take into account site-specific conditions. For example, an infiltration basin has a certain expected pollutant removal efficiency, but actual field efficiency is affected by subsurface soil conditions and the extent and frequency of maintenance.

The efficiency of a particular structural control will be affected by many factors, such as detention time. However, efforts to determine the efficiency of structural controls must include consideration of pollutant concentrations and flow volumes into and out of the control. The efficiency of nonstructural source controls can be characterized by comparing discharges at a given location before and after the control measures are implemented. Over time, sufficient monitoring data may be gathered to draw substantive conclusions about the effectiveness of certain BMPs. Alternatively, discharges from a sampling site with source controls can be compared with discharges from a similar site that lacks source controls. Efforts to monitor the effectiveness of controls should be closely coordinated with the assessment of control efficiencies discussed in Chapter 7.

5.6.1.4 Identifying the Full Range of Chemical, Physical, and Biological Water Quality Impacts

Characterizing the effect of storm water discharges on water quality is complicated by a number of factors. EPA recommends an integrated approach to assessing water quality impacts associated with discharges from MS4s. Monitoring procedures that help assess water quality impacts include:

- Discharge and receiving water monitoring to support water quality models and to identify hydraulic impacts of increased peak flows and to identify parameters of concern; and
- In-stream monitoring of water chemistry;
- Bioassessments and biosurveys; and
- Sediment sampling.

Discharge and Receiving Water Monitoring to Support Water Quality Models

As discussed above, when there is sufficient historical data available from monitoring, these data may be used as inputs to models that predict or validate the effects of pollutant loadings from MS4s on receiving water quality characteristics. In addition to monitoring data, data on receiving water quality characteristics are also necessary to calibrate a particular model.

Once the model has been calibrated to reflect site-specific conditions, future monitoring data could be used to validate long term reductions in pollutant loadings, the effectiveness of nonstructural BMPs, and/or pollutant removal efficiencies of existing structural controls.

The information gathered from this approach may also help define those BMPs that which appear to be the most effective. For example, in developing areas, monitoring data could eventually support future planning efforts that would seek to minimize the impact of future development on local receiving waters.

In-stream Monitoring

Using models to estimate pollutant concentrations in receiving waters can be inaccurate. In-stream monitoring can directly measure pollutant concentrations. General designs for in-stream monitoring are:

- **Monitoring above and below a set location.** This method is generally more useful for evaluating control effectiveness than documenting the severity of a diffuse source of pollutants.

- **Monitoring at different times.** Monitoring at different times and seasons can provide valuable information on seasonal variations in pollutant concentrations. Dry weather in-stream monitoring can be compared with in-stream monitoring during storm events.

- **Paired watersheds.** Evaluating similar water bodies can document management program improvements by controlling for meteorologic and hydrologic variability. This approach can also be used to compare receiving waters to background conditions associated with undeveloped watersheds.

Detailed guidance on applying these approaches is provided in the draft *Nonpoint Source Monitoring and Evaluation Guide*, February 26, 1988, Nonpoint Source Branch, U.S. EPA.

Bioassessments and Biosurveys

A biological assessment, or "bioassessment," is an evaluation of the biological condition of a water body using biological surveys and other direct measurements of resident biota in surface waters. A biological survey or "biosurvey," consists of collecting, processing, and analyzing representative portions of a resident aquatic community to determine the community structure and function. Biosurveys and bioassessments can be used directly to evaluate the overall biological integrity (structure and/or functional characteristics) of an aquatic community. Deviations from the biological integrity can be measured directly using biosurveys only when the impacted community is compared against a predetermined reference condition. Without the proper reference conditions, biosurveys may underestimate the extent of impairment.

Biosurveys are useful in that they can assess or detect the aggregate effect of impacts upon an aquatic community where discharges are multiple, complex, and variable, and where point, nonpoint, and storm water discharges are all affecting the biological condition of the receiving water. Because of this, biosurveys cannot measure the impacts of one particular discharge or effluent being discharged to receiving waters. Currently, biosurveys cannot be used as a predictive water quality assessment tools.

Biosurveys provide a useful monitor of both aggregate ecological impact and historical trends in the condition of an aquatic ecosystem. They can also detect impacts that other assessment methods may miss. More importantly, biosurveys can detect impacts caused by habitat degradation such as channelization, sedimentation, and historical contamination that disrupt the interactive balance of the components of the aquatic community.

Sediment Sampling

Pollutants, both organic and inorganic, associated with storm water discharges may become physically or chemically bound with sediment particles. Depending upon the size distribution of the sediment particles, a portion of the contaminated sediment particles will settle out of the water column. Consequently, the potential exists for a buildup of contaminated sediment over time. The effects of heavily contaminated sediments on both benthic habitat and water quality have been documented to the extent that EPA is developing sediment quality criteria (SQC) that will allow assessments of the toxicological effects of contaminated sediments on varying types of receiving waters.

The amount of sediment material found in storm water discharges suggests that applying sediment quality criteria could be a useful component of a monitoring program. For example, sediment quality criteria could be a valuable preventative tool to ensure that point source discharges of storm water do not cause or contribute to the contamination of sediments.

In addition, a MS4 could make comparisons of field measurements to sediment quality criteria as a means of providing an early warning of a potential problem. Consequently, an early warning could provide an opportunity to take corrective action to prevent further contamination. For long term planning, consideration could also be given to the feasibility of establishing target levels or goals that would ensure that point sources discharges of storm water do not contribute to sediment contamination.

5.6.2 Monitoring Procedures

Monitoring procedures will depend on the objectives of the monitoring effort. To a large extent, the type of receiving water will be an important factor in developing monitoring procedures and techniques. For example, grab samples may be appropriate for monitoring discharges from a retention pond, while composite samples may be appropriate for monitoring flows into the pond. The following information, at a minimum, should be included for each sampling site:

- The criteria for storm selection;
- Whether grab, composite, continuous, or other sampling techniques are to be used;
- The criteria on when to begin and end sample collection;
- The basis for selecting the time interval between sequentially collected samples;
- How seasonal factors affect the selection of monitoring frequencies;
- The method of estimating rates or volumes of flow passing the sampling point; and
- The analytical methods used for analyzing pollutant parameters and their detection limits.

Location of Monitoring Sites and Description of Drainage Basins

The selection of monitoring sites should depend on the goals of the monitoring program. Applicants should identify the location of each proposed monitoring site and the boundary of its drainage basin. They should describe the estimated size and land use characteristics of the drainage basin for each sampling location. The applicant also should explain why the sampling sites are representative or will otherwise provide information to support a monitoring program goal. Other monitoring sites can be selected to evaluate unique conditions in the drainage area that have significant or unusual potential for generating pollutants in storm water discharges.

Samples should be analyzed in accordance with the analytical methods approved under 40 CFR Part 136.

Parameters to be Analyzed

The applicant must list all parameters to be analyzed, which should depend on the objective of the sampling effort. For example, it may only be necessary to monitor several indicator parameters (such as TSS, settleable solids, nutrient, and a metal) to characterize the pollutant removal efficiency of a wet pond.

Sampling Equipment

The applicant must describe the equipment to be used in the proposed sampling program. Only the primary pieces of equipment need be identified. Descriptions can be made by reference to equipment supplied by a vendor or manufacturer if distinctive enough to be readily identified.

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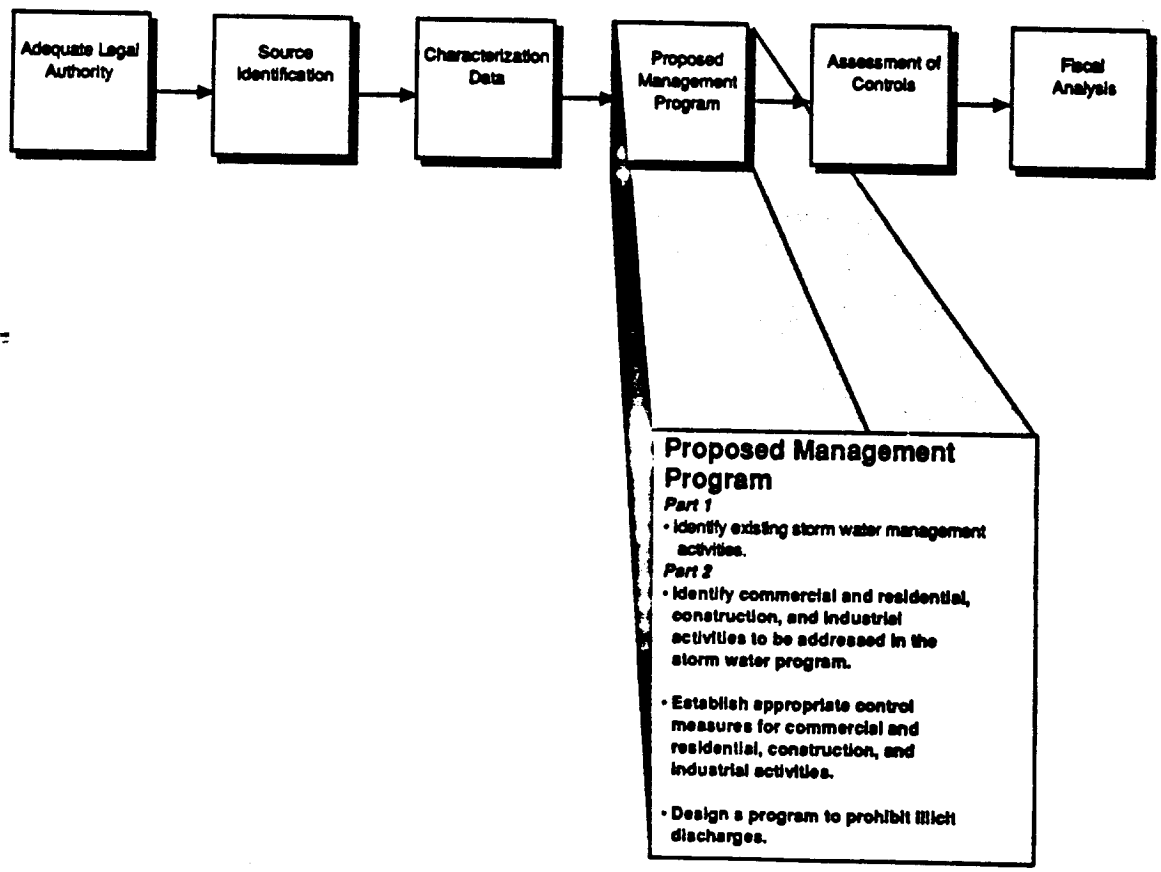
CHAPTER 6
PROPOSED MANAGEMENT PROGRAM



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6.0 PROPOSED MANAGEMENT PROGRAM

6.1 BACKGROUND

Under the Part 2 application requirements, municipalities must propose site-specific storm water management programs. This is the most important aspect of the permit application. The Part 2 application requirements provide each MS4 with the flexibility to design a program that best suits its site-specific factors and priorities.

The regulations require the applicant to provide a description of the range of control measures considered for implementation during the term of the permit. Applicants must meet all the requirements of the Part 2 application regulation. However, flexibility in developing permit conditions is encouraged by allowing municipalities to emphasize the controls that best apply to their MS4. For example, a municipality that expects significant new development may focus more on requirements for new development and construction, while a municipality that does not expect significant new development may focus more on a program to prohibit illicit discharges or control industrial contributions. In any case, a satisfactory proposed management program will address: management practices; control techniques and systems; design and engineering methods; and other measures to ensure the reduction of pollutants to the "maximum extent practicable (MEP)."

If the municipality proposes a thorough and complete program, the permitting authority is likely to incorporate all or part of the proposed management program into the NPDES storm water permit written for that municipality. Therefore, the proposed programs provide municipalities with the opportunity to have substantial input into their NPDES permit conditions.

This section of the guidance manual describes the minimum information requirements for proposed storm water management programs. Examples of how the program elements should be addressed are provided. These examples illustrate minimum information requirements for the program elements, and occasions when municipalities may opt to go beyond minimum requirements in order to meet the MEP standard.

6.2 SUMMARY OF REGULATORY REQUIREMENTS

The municipality must develop and submit a proposed management program that covers the duration of the permit. The program must integrate the information and actions described in the Part 1 application and portions of the Part 2 application (see Chapters 3, 4, and 5 of this guidance). The regulatory requirements for the proposed management program are in 40 CFR 122.26(d)(2)(iv).

At a minimum, the proposed management program must include:

- A comprehensive planning process that involves both public participation and intergovernmental coordination;
- A description of management practices, control techniques, and system design and engineering methods to reduce the discharge of pollutants to the MEP; and
- A description of staff and equipment available to set up and assess the storm water management program.

Additional provisions under §122.26(d)(2)(iv)(A) require applicants to include:

- Programs to control storm water runoff from commercial and residential areas, construction sites, and industrial

facilities (including waste handling sites), (Section 6.3);

- Identification of structural control measures to be included in these proposed programs, such as detention controls, infiltration controls, and filtration controls that the municipality plans to apply to the activities addressed in its storm water management program (Section 6.4); and

- Programs to detect and remove illicit discharges, and to control and prevent improper disposal into the MS4 of materials such as used oil or seepage from municipal sanitary sewers (Section 6.5).

6.3 PROGRAMS TO CONTROL STORM WATER RUNOFF FROM COMMERCIAL AND RESIDENTIAL AREAS, CONSTRUCTION SITES, AND INDUSTRIAL FACILITIES

A proposed management program must identify the activities or areas that require controls to reduce pollutants in storm water runoff. Specifically, a proposed management program must address storm water runoff from **commercial and residential areas** (Section 6.3.1), **construction sites** (Section 6.3.2), and **industrial facilities** (Section 6.3.3). Also, areas where illicit connections or illegal discharges may occur must be identified (Section 6.5).

In addition to the requirements of the proposed storm water management program, other provisions of the Part 1 and Part 2 applications require information that will help enable the municipality to focus on identifying activities and areas that may need control measures. Examples of these provisions include:

- Identification of sources [Part 1, §122.2(d)(1)(iii)(B)(3)-(4), and Part 2, §122.26(d)(2)(ii)];

- Identification of water bodies that may be adversely affected by storm water runoff [Part 1, §122.26(d)(1)(iv)(C)];

- Organization of sources by watershed [Part 2, §122.26(d)(2)(ii)];

- Description of land use activities [Part 1, §122.26(d)(1)(iii)(B)(2)];

- Results of field screening analysis [Part 1, §122.26(d)(1)(iv)(D)];

- Results of the sampling program [Part 2, §122.26(d)(2)(iii)(A)(3)];

- Estimates of annual pollutant loads and event mean concentrations, and schedules to submit seasonal pollutant loads and event mean concentrations [Part 2, §122.26(d)(2)(iii)(B) and (C)]; and

- Findings from an on-going monitoring program [Part 2, §122.26(d)(2)(iii)(D)].

6.3.1 Commercial and Residential Activities

Under §122.26(d)(2)(iv)(A), applicants must propose structural and source control measures to reduce pollutants from commercial and residential areas.

> §122.26(d)(2)(iv)(A). [The proposed management program must include a] description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls.

To ensure that proposed control measures are effective, the applicant should study how storm water runoff from pollutant sources affects the existing municipal system, how the proposed

control measures will enhance the existing system, and what impact the proposed measures will have on receiving waters. The control measures should recognize and emphasize the interaction between pollutant sources and the physical attributes of the municipal system and receiving waters.

Specific commercial and residential activities that must be addressed include maintenance activities and a maintenance schedule for structural controls to reduce pollutants in storm water runoff. This provision is discussed in Section 6.4.2. Other activities to be addressed include:

- Post-construction controls to reduce pollutants in discharges to MS4s resulting from new development and significant redevelopment (Section 6.3.1.1);
- Practices for maintaining and operating public streets, roads, and highways that will reduce the impact on receiving waters from storm water runoff discharges (Section 6.3.1.2);
- Procedures to assure that the impacts on receiving waters from flood management projects are assessed, and that existing structural control devices have been evaluated to determine if retrofit controls are feasible (Section 6.3.1.3);
- A program to monitor pollutants in runoff from operating or closed municipal landfills that identifies priorities and procedures for inspections and establishing and implementing control measures (Section 6.3.1.4); and
- A program to reduce to the maximum extent practicable, pollutants in storm water runoff associated with the application of pesticides, herbicides, and fertilizer (Section 6.3.1.5).

To reduce pollutants in storm water runoff from commercial and residential activities, a proposed management program might include the use of infiltration devices, detention and retention basins, vegetated swales, water quality inlets (which may include oil and water or oil/grit separators), screens, channel stabilization/riparian habitat enhancement efforts, wetland restoration and preservation projects, as well as various source control strategies and other nonstructural control measures.

6.3.1.1 New Development and Significant Redevelopment

Summary of Regulatory Requirement

New development or redevelopment often increases impervious land surfaces, which usually leads to increased pollutant levels in storm water runoff. Chemical and thermal changes in storm water runoff are commonly associated with new development and can adversely affect the quality of receiving waters. In addition, urbanization results in an increase in the volume of storm water discharges.

The Nationwide Urban Runoff Program (NURP) study (EPA, 1983) and more recent investigations indicate that controlling the contribution of pollutants in storm water discharges at the onset of land development is the most cost-effective approach to storm water quality management. Mitigating problems caused by pollutants after they have entered a MS4 is often more expensive and less efficient than preventing or reducing the discharge of pollutants at the source. Therefore, a satisfactory proposed management program will propose structural and nonstructural measures to reduce pollutants in storm water discharges from areas of new development and redevelopment. Examples of such measures are discussed below.

> §122.26(d)(2)(iv)(A)(2). [The applicant must include a] description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed.

Provisions under §122.26(d)(2)(iv)(A)(2) focus on the reduction of pollutants in storm water runoff after construction in areas where new development or redevelopment is completed. Controls that are required during construction are discussed in Section 6.3.2 of this guidance.

Post-Construction Controls

Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective.

Further, storm water management program goals should be reviewed during planning processes that guide development to appropriate locations and steer intensive land uses away from sensitive environmental areas. A municipality may, for example, include provisions in the planning process that ensure that all new development in targeted areas or zones provides for a certain percentage of undisturbed area to assist in preserving post-development runoff quality and velocity as similar as possible to pre-development conditions. In its Part 2 application, a municipality should describe how it plans to implement the proposed standards (e.g., through an ordinance requiring approval of storm water management programs, a review and approval process, and adequate enforcement).

The proposed storm water management program should identify and include planning procedures and control measures that will be used in the municipality.

Planning Procedures

Comprehensive planning procedures typically involve incorporation of land use goals and objectives into a plan document or a plan map. These plans are often called Master Plans, Comprehensive Land Use Plans, or Comprehensive Zoning Plans.

Comprehensive or master plans are often non-binding. They provide support and direction to local officials that have the authority to make land use decisions.

While applicants do not need to submit a complete comprehensive or master plan with the Part 2 application, they should detail the planning process employed by the municipality. They must thoroughly describe how the municipality's comprehensive plan is compatible with the storm water regulations. The description should clearly:

- Identify management objectives for streams, wetlands, and other receiving waters;
- Identify areas where urban development is likely to occur and areas that are sensitive to the effects of urbanization. Consideration should be given to receiving waters, topography, soil types, ground water uses and potential impacts, and other relevant factors;
- Describe standards such as design criteria and performance standards for storm water controls for new developments, such as buffer zones,

open space preservation, erosion and sediment controls, etc.;

- Describe other measures to minimize the effects of new development on storm water quality (these may include local code and ordinance requirements); and

- Identify or discuss the site development review process for the evaluation and approval of storm drainage or storm water management programs. Requirements in drainage or storm water management programs can be coordinated with review of other related plans such as those for site grading or landscaping.

There will be great variation among municipalities in their sophistication of land use planning. If the municipality has recently updated its land use plan, it may detail storm water quality issues. In other instances, there may be no policy to include storm water quality considerations in land use decisions. In such cases, the applicant must describe how consideration of those activities that affect storm water quality are to be incorporated into the municipality's comprehensive or master plan and its approval process for construction projects.

Control Measures

Most traditional storm water control measures focus on efficient collection and conveyance of storm water runoff to an offsite location. This approach can increase downstream property damage due to increased storm water runoff quantity and flow velocity. Corrective action often involves expensive public works projects, such as enlarging and reinforcing channels or constructing swales to provide an adequate outfall from affected or damaged areas. The traditional approach has typically involved downstream channel stabilization projects. However, these projects may also result in increased storm water runoff quantity and flow velocity.

Some recent approaches to storm water management include preserving the natural features of a watershed by maintaining vegetative cover and establishing buffer zones and open space or green areas. The benefit of employing this approach is the protection afforded to riparian areas and wetlands, as well as the preservation of a stable watershed. One additional benefit from this approach includes maintaining ground water recharge through infiltration. These approaches to storm water management minimize the impact of erosion, flooding, and other damage to natural drainage features such as streams, wetlands, and lakes. Preservation of natural habitat can be achieved through effective storm water quality control measures. More recent approaches use storm water to:

- Recharge ground water sources with runoff from impervious areas;

- Preserve baseflows of surface water bodies;

- Augment water supplies used for street cleaning and other municipal functions, such as watering public lawns;

- Increase recreational opportunities including swimming, fishing, and boating; and

- Sometimes, augment drinking water supplies if it is treated and in compliance with all applicable drinking water standards.

The municipality should consider storm water controls and structural concerns in planning, zoning, and site or subdivision plan approval. An example of effective structural control is described in Exhibit 6-1. Non-structural control measures are highly recommended for new development. They can be included during the planning, site-selection, and development stages. Examples of non-structural controls include street sweeping, buffer strip preservation, and public education.

Exhibit 6-1
Storm Water Programs in Delaware and Florida

Delaware requirements for on-site measures include water quality ponds with permanent pools. Ponds must be designed to release the equivalent volume of runoff from the first 1/2 inch of runoff from the site over a 24-hour period and have a storage volume designed to accommodate at least 1/2 inch of runoff from the site. Water quality ponds without permanent pools may also be used in Delaware's program. These pools are to be designed to release the first inch of runoff from the site over a 24-hour period.

Developers are instructed to consider infiltration practices only after ponds are eliminated for engineering or hardship reasons. Infiltration structures must be designed to accept at least the first inch of runoff from all streets, roadways, and parking lots. Other practices may be acceptable if they meet the equivalent removal efficiency of 80 percent for suspended solids. More stringent requirements may be established on a case-by-case basis.

The 80 percent removal efficiency for suspended solids that Delaware requires takes into account pollutant settling. The 24-hour detention period allows for substantial settling where most of the pollutant removal occurs. In addition, the requirement that the first inch of runoff be released over a period of no less than 24 hours reduces downstream erosion.

Source: Schueler, 1987.

For significant redevelopment, municipalities can incorporate both structural and nonstructural storm water controls. However, there are generally far more constraints and limitations on the control opportunities available at redevelopment sites. One of the primary constraints is the availability of sufficient open area to accommodate structural controls such as detention ponds. In instances where redevelopment is occurring in densely urbanized areas, storm water runoff volumes may be so large that sufficient storage capacity can not be provided without further compounding problems associated with siting and retrofitting existing storm water conveyance systems. In such cases, the municipality should consider nonstructural control measures such as traffic flow control, the use of porous construction materials for roads and parking lots, revisions to street sweeping or deicing policies, or public education programs.

6.3.1.2 Public Streets, Roads, and Highways

Summary of Regulatory Requirement

Public streets, roads, and highways can be significant sources of pollutants in discharges from MS4s. Therefore, proposed management programs must include a description of practices for operation and maintenance of public streets, roads, and highways, and procedures for reducing the impact of runoff from these areas on receiving waters.

§122.26(d)(2)(iv)(A)(3). [The application must include a] description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities.

Road maintenance practices, especially snow management and road repair, and traffic are significant sources of pollutants in storm water discharges. Measures to reduce the pollutants in storm water runoff from these sources should be addressed in the proposed management program.

Snow Management

Deicing salts are the main source of pollutants in runoff of urban snowmelt. Municipalities can reduce these pollutants by calibrating equipment, educating equipment operators, using alternative deicing materials, and properly storing deicing materials. As alternatives to deicing salts, the Federal Highway Administration is considering many materials that may be less polluting. However, most of these deicers contain sodium or chloride ions that are harmful to roadside trees, shrubs, and soils. One deicer, calcium magnesium acetate (CMA) may be the best option for environmentally sensitive areas (Chollar, 1990). In salt storage facilities, salt piles should be completely covered, storage and handling areas should have impervious surfaces, and contaminated runoff should be contained.

Road Repair

Road maintenance and repair activities may contribute pollutants through erosion caused by the elimination of stabilizing vegetation from roadside shoulders and ditches. Maintenance crews can decrease the potential for erosion by disturbing only the area under repair. Graded areas should also be limited in size so that repairs can be completed the same day and graded areas stabilized by the end of the workday. Other measures to reduce pollutants in storm water include scheduling potential pollutant-causing repair work during dry seasons, when possible.

Municipal equipment yards and maintenance shops that support road maintenance activities can also be significant sources of pollutants. Therefore, municipalities should consider instituting procedures that address spill prevention, material management practices, and good housekeeping.

Traffic

Oil and grease and metals from traffic are the pollutants of most concern with respect to aquatic toxicity and their ability to "wash off" roadways and enter a MS4.

In almost all instances, the pollutant concentrations in initial storm water discharge from heavily travelled streets is significant. When the initial runoff reaches the velocity needed to entrain particulates, highly soluble pollutants that have accumulated between storms are transported to the storm sewer system. Therefore, shortly after a storm event begins, the pollutant loading in the initial flow to a MS4 is often the greatest.

Pollutants from traffic can be minimized by using nonstructural controls (e.g., traffic reduction and improved traffic management), structural controls (e.g., traditional and innovative BMPs), and changing maintenance activities. Traditional structural controls to reduce pollutants in road runoff include vegetated swales, infiltration devices and detention/retention basins. Highways often afford opportunities for using structural controls such as detention basins on entrance or exit ramps and upstream or downstream of culvert crossings (Steward, 1992). Smaller roads may also have low-cost structural control opportunities available at culvert crossings such as vegetated swales. Many structural controls can also be placed on public or private land that is outside the right-of-way, but still may be proximate enough to capture road runoff. Any time controls are placed at culvert crossings, potential wetland impacts and instream treatment issues need to be considered.

Maintenance activities that can reduce pollutants in storm water discharges include catch basin cleaning, litter control, and targeted street sweeping. For municipalities that have

developed transportation plans under the Clean Air Act, applicants should describe how they will review the plan, and amend it where appropriate, to address water quality concerns. Potential locations for installing new structural controls to reduce pollutants from road and highway runoff should be identified by applicants.

6.3.1.3 Flood Management Projects

Summary of Regulatory Requirement

The traditional focus of storm water management in many communities has been water quantity (i.e., flood) control. The proposed management program must demonstrate that flood management projects take into account the effects on the water quality of receiving water bodies, and the program must discuss whether existing structural flood control devices can be retrofitted to control water quality.

> §122.26(d)(2)(iv)(A)(4). [The application must include a] description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible.

Opportunities for pollutant reduction should be considered when determining specific controls to be proposed as the MEP standard in the storm water management program.

Control Measures

Storm water management devices and structures that focus solely on water quantity are usually not designed to remove pollutants, and may sometimes harm aquatic habitat and aesthetic values. For example, channels that are completely lined with concrete typically do not provide for aquatic habitat and tend to increase potentially erosive velocities and elevate ambient water temperatures, resulting in downstream channel enlargement and increased pollutant loadings. However, this condition can be mitigated through alternative stabilization methods.

Channel management measures that can enhance streams and their ecological values include corridor preservation, biological bank treatment, and, where necessary, geomorphic restoration (Ferguson, 1991). The municipality may also install structural devices to dampen the hydraulic energy of the flow and minimize downstream erosion. As another example, willow saplings could be planted between rip-rap, timbers, and other stabilization structures that are anchored into terraces on the side of the streambank.

Flood-control projects can be built or subsequently modified to address water quantity and water quality concerns. Sometimes existing flood control structures can be retrofitted to provide water quality benefits as well as water quantity control (EPA, 1989b). Basin retrofits are a common example. For such a retrofit, dry flood control or detention basins can be converted to wet basins by modifying outlet orifices. Additional storage can be obtained by raising the elevation of the basin embankment.

Dry retention basins, or extended dry or wet retention basins can be used to improve water quality. Dry retention basins are not as efficient or as effective in improving water quality as extended dry or wet retention basins, but dry retention basins are generally less costly to design and maintain. The decision to use dry retention or extended dry or wet retention basins should consider all these factors.

Optimally, such measures should be considered in the planning process (discussed previously). However, they can also be implemented later in the land development

process (e.g., site review or public facilities requirements stage).

If a flood control authority is responsible for a portion of the MS4, the applicant should take the lead in coordinating efforts to incorporate pollutant reduction considerations in flood control projects. EPA recommends the use of Memoranda of Agreement and Memoranda of Understanding to clarify roles and responsibilities between two or more political entities.

6.3.1.4 Municipal Waste Facilities

Applicants must describe programs that identify measures to monitor and reduce pollutants in storm water discharges from facilities that handle municipal waste, including sewage sludge.

> §122.26(d)(2)(iv)(A)(5). [The application must include a] description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.

The first step is to identify facilities that handle municipal waste and summarize their operations. The types of facilities that should be included are:

- Active or closed municipal waste landfills;
- Publicly owned treatment works, including water and wastewater treatment plants;
- Incinerators;
- Municipal solid waste transfer facilities;
- Land application sites;
- Uncontrolled sanitary landfills;
- Maintenance and storage yards for waste transportation fleets and equipment;
- Sites for disposing or treating sludge from municipal treatment works; and
- Other treatment, storage, or disposal facilities for municipal waste.

Applicants may combine this part of the proposed management program with the program established under §122.26(d)(2)(iv)(C), which sets standards for monitoring and controlling pollutants from similar types of solid waste facilities (e.g., those with hazardous wastes, or subject to the requirements of SARA Title III—Section 313 of the Emergency Protection and Community Right-to-Know Act). Monitoring should include all the parameters listed in §122.26(d)(2)(iv)(C) and any additional parameters listed in an effluent guideline. Procedures to evaluate, inspect, monitor, and establish control measures for municipal waste sites over the term of the NPDES permit should be described. For example, after one year of monitoring each waste handling facility category listed above, the municipality may have collected enough data to decide which facilities or types of facilities should receive a higher priority for pollutant reduction. More attention could then be focused on the high-priority sites.

6.3.1.5 Pesticides, Herbicides, and Fertilizers

The proposed management program must include a description of procedures to reduce the contribution of pollutants associated with pesticides, herbicides, and fertilizers discharged to the MS4.

§122.26(d)(2)(iv)(A)(6). [The application must include a] description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

The proposed program should include educational measures for the public and commercial applicators, and should include integrated pest management measures that rely on non-chemical solutions to pest control. The program should also describe how educational materials will be developed and distributed. Applicants are encouraged to consider providing information for the collection and proper disposal of unused pesticides, herbicides, and fertilizers, or to establish their own program. An effective and safe program would include:

- Development of an inventory of products that may be accepted under the program, and collection of the Material Safety Data Sheets (MSDSs) for these products;
- Identification of transportation, storage, and disposal requirements;
- A shelf-life program to dispose of expired products;
- Applicator training or certification (the pretreatment program may be helpful as a source of industry-specific information or as a model approach for obtaining and tracking information on chemical applicators and distributors); and
- Safety training.

Any certification/training program for the collection and disposal of pesticides, herbicides, and fertilizers must be in compliance with Federal, State, and local laws such as the Resource Conservation and Recovery Act; the Federal Insecticide, Fungicide, and Rodenticide Act; the Department of Transportation's hazardous materials regulations; and State and local ordinances.

In addition, applicants must include a discussion of controls for the application of pesticides, herbicides, and fertilizers in public-rights-of-way and at municipal facilities. Planting low-maintenance vegetation, such as perennial ground covers, reduces pesticide and herbicide use. Native vegetation is often preferable because there is less need to apply fertilizers and herbicides, and to perform other forms of maintenance, such as mowing (Horner, 1988).

If herbicides are used, a herbicide-use plan must be proposed as part of the storm water management program. The plan might include:

- A list of selected herbicides and their specific uses;
- Information about the formulations of various products, including how to recognize the chemical constituents from the label, and directions and precautions for applicators that explain if products should be diluted, mixed, or only used alone;
- Application methods and estimated quantities to be used;
- Equipment use and maintenance;
- Training in safe use, storage, and disposal of pesticides (safety requirements for individual products are listed on the products' MSDSs);
- Inspection and monitoring procedures; and

- Recordkeeping and public notice procedures.

6.3.2 Construction Sites

As specified in §122.26(d)(2)(iv)(D), applicants must describe proposed regulatory programs to reduce pollutants in storm water runoff from construction sites to the MS4.

> §122.26(d)(2)(iv)(D). [The application must include a] description of a program to implement and maintain structural and nonstructural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system.

This part of the proposed management program must address:

- Implementation of BMPs;
- Procedures for reviewing site plans to ensure that they are consistent with local sediment and erosion control plans;
- Inspection of construction sites; and
- Enforcement measures and educational activities for construction site developers and operators.

EPA encourages municipalities to (1) coordinate requirements to reduce pollutants in construction site runoff with management programs to reduce pollutants from new development, and (2) maintain, to the degree possible, pre-construction hydrologic conditions (Section 6.3.1.1). Applicants are encouraged to describe these two proposed management program components together. Implementation of this program component will rely on the establishment and maintenance of both structural and nonstructural BMPs. This requirement extends to all construction activity within the municipality.

All construction sites, regardless of size, must be addressed by the municipality. To begin to identify these sites, the applicant should obtain lists of construction site operators that are covered by general or individual storm water NPDES permits from the NPDES permitting authority. However, construction sites not covered by a storm water discharge permit also need to be addressed by the municipality. The best way to identify these construction sites and implement an effective BMP program to reduce pollutants in their runoff is through the site planning process (see Section 6.3.2.1).

The BMPs envisioned for construction site runoff are generally well established technologies and practices. They rely predominantly on erosion and sediment controls and other measures applicable to construction sites (e.g., control of solid wastes, and prohibitions on discharging concrete truck washing runoff into storm drains). The technologies proposed should be referenced, and a description of when and how the controls will be used should be included. Municipality-specific technical guidance for construction site operators, such as handbooks and inspection checklists, are examples of suitable reference sources. If an applicant chooses to develop such handbooks and checklists, they should be referenced and described in the application.

The major requirements of this program component include:

- Site planning that considers the potential impacts on water quality;
- Nonstructural and structural best management practices;
- Procedures that consider physical site characteristics when identifying priorities for inspection and enforcement; and
- Educational and training measures for construction site operators.

Each of these requirements, and the reasons that they are important elements of a proposed storm water management program, is described in more detail below.

6.3.2.1 Site Planning

Sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times those of forest lands. Over a short period, construction sites can contribute more sediment to streams than had been deposited over several decades. Runoff from construction sites can also include other pollutants such as phosphorus and nitrogen from fertilizer, pesticides, petroleum derivatives, construction chemicals, and solid wastes.

To address these problems, the proposed management program should describe procedures for site planning that consider potential water quality impacts.

> §122.26(d)(2)(iv)(D)(1). [The program for construction sites must include a] description of procedures for site planning which incorporate consideration of potential water quality impacts.

The objective is for the municipality and the developer to address storm water discharges from construction activity early in the project design process so that potential water quality impacts can be eliminated or minimized and consequences to the aquatic environment assessed. Nonstructural approaches to minimize the generation of runoff from the construction site will also need to be considered. These measures may include phasing development to coincide with seasonal dry periods, minimizing areas that are cleared and graded to only the portion of the site that is necessary for construction, exposing areas for the briefest period possible, and stabilizing and reseeding disturbed areas rapidly after construction activity is completed.

It is often easier and more effective to incorporate storm water quality controls during the site plan review process or earlier. The process typically culminates with the developer of the construction site submitting detailed engineering plans to the municipality for review and approval.

Upon completion of the site plan review stage, the developer and the municipality have invested considerable time and money into the project. If storm water quality issues are considered only after significant detailed engineering has gone into the project, municipal site reviewers may only address minor drainage issues. In recent years, however, many municipalities have developed separate teams of site inspectors to implement erosion and sediment control measures in the field. In these municipalities, site inspectors should be part of the site review team (if they are not already) in order to incorporate their expertise on the appropriate erosion and sediment controls for the given circumstances.

The above discussion reinforces the importance of site planning, as described in the section on site planning for new development (Section 6.3.1). In general, the sooner planners consider storm water quality issues, the better the opportunity for efficient and effective pollutant reduction. In some cases storm water issues should be considered in the conceptual stage of planning (e.g., as a planning or zoning function).

Some municipalities include a final step in the planning process that requires a developer to provide a far greater level of design detail than earlier conceptual design approvals. This step may be required as a condition of the final approval for certain zoning categories. Municipalities with such a step in the development process can consider potential storm water quality issues in detail at this stage. Municipalities that do not currently require such detailed plans should consider adopting this procedure as part of their storm water management program.

6.3.2.2 Nonstructural and Structural BMPs for Construction Activities

This component of the proposed management program should describe requirements for nonstructural and structural BMPs that operators of construction activities that discharge to MS4s must meet.

> §122.26(d)(2)(iv)(D)(2). [The program for construction sites must include a] description of requirements for nonstructural and structural best management practices.

As indicated above, applicants must propose site review and approval procedures that address sediment and erosion controls, storm water management, and other appropriate measures. Approvals should be clearly tied to commitments to implement structural and nonstructural BMPs during the construction process. Appropriate structural and nonstructural control requirements will vary by project. Project type, size, and duration, as well as soil composition, site slope, and proximity to sensitive receiving waters will determine the appropriate structural and nonstructural BMPs. Municipalities should acquire the authority to require operators to install and maintain applicable erosion and sediment control plans. Exhibit 6-2 summarizes common construction-site BMPs.

A description of the local erosion and sediment control law or ordinance is needed to satisfy this program requirement. The description should include information that links the enforcement of the law or ordinance to the legal authority of the applicant, as discussed in Section 3 of this manual.

While many municipalities have erosion and sediment control ordinances in place, their effectiveness is often limited because they are not adequately implemented and enforced. Examples include silt fencing that is not maintained, or excavated soils that are placed directly on top of the silt fencing. Therefore, construction sites covered under NPDES permit regulations must indicate whether they are in compliance with State and local sediment and erosion control plans. Site inspections are expected to be the primary enforcement mechanism by which erosion and sediment controls are maintained.

To ensure that developers are in compliance with erosion and sediment control plans, applicants may wish to consider expanding the use of performance bonds. This approach might depart from a traditional site bonding approach. For example, the size of bonds could be based on the amount of earth disturbed, the slope of the site, changes in grades, soil type, proximity to surface waters, sensitivity of surrounding area, and other relevant factors. In addition, the bond could clearly specify the storm water quality controls that must be included in the development. Appropriate maintenance and site cleanup could be tied to the bond-release process.

6.3.2.3 Site Inspections and Enforcement of Controls For Construction Sites

Storm water BMPs associated with construction activities are highly susceptible to damage due to the intensity of activities commonly associated with construction. Consequently, inspections are crucial to the effective operation of storm water BMPs. Therefore, the proposed management program should describe construction site inspection and enforcement procedures. The procedures should be flexible so that they can be tailored to specific construction activities and physical characteristics of the construction site.

> §122.26(d)(2)(iv)(D)(3). [The program for construction sites must include a] description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.

Exhibit 6-2
Construction Site Controls and Their Applicability

Control Type	Slope Protection	Waterway Protection	Surface Drainage	Enclosed Drainage	Large Flat Areas	Borrow Areas	Adjacent Properties
Non-structural (cover)							
temporary seeding	●		●		●	●	●
mulching & matting	○				●	●	
plastic covering	○					●	
retain natural vegetation	●	●	●	●	●	●	●
buffer zones	●	●	●	●	●	●	●
seeding & planting	○				●	●	
sodding	●		●		●	●	●
topsoiling					●	●	
Structural-erosion control							
gravel entry/truck wash			●		●		
road stabilization			●				
dust control							
pipe slope drains					●	●	●
subsurface drains	●						
surface roughening	●				●		
gradient terraces	●					●	
bioengineered slopes	●					●	
level spreader			●				
interceptor dikes/swales	●					●	●
check dams			●				●
outlet protection		●	●				
riprap	●	●	●				
vegetative streambank stabilization		●					
bioengineered streambank stabilization		●					
structural streambank stabilization		●					
Structural-sediment retention							
filter fence		●		●			●
gravel filter berm	●	○			●		●
storm drain inlet protection	○			●			●
sediment trap or sump		●	●		●	●	●
sediment pond or basin		●	●	●	●	●	●

Source: Modified from WDOE, *Public Review Draft - Stormwater Management Manual for the Puget Sound Basin*, Washington State Department of Ecology, Publication #90-73. June 1991.

Effective inspection and enforcement requires adequate staff, systematic inspection procedures, penalties to deter infractions, and intervention by the municipal authority to correct violations. Enforcement mechanisms, such as the ability to require additional storm water controls, administrative penalties (e.g., stop work orders) and injunctive relief (via citizen suits) also must be described. In addition, the applicant should describe who has the authority to require compliance.

Proposed procedures for inspecting construction sites may include minimum frequencies and an inspector's checklist. For example, the State of Delaware requires a minimum of one inspection every two weeks for sites over 50,000 square feet.

The proposed program should also specify the minimum number of inspectors that will be employed during the permit term and how they will be trained. For example, some erosion and sediment control programs require that certified private inspectors be used. In such case, procedures for inspector training and certification must also be described.

In formulating procedures to identify priorities for inspecting sites and enforcing control measures, applicants are encouraged to begin early in the process (i.e., at the site planning stage, as discussed previously) and continue throughout all ground disturbing activities. Once the nature of the construction activity has been established or perhaps modified during the site plan review process, the physical site constraints can be evaluated so that effective controls can be implemented.

For example, if the controls specified in the site plan prove to be ineffective, or if changes occur that were not anticipated during the planning process, site inspection and enforcement mechanisms can be required to mitigate the potential for pollutants to enter a downstream MS4. In this instance, a perimeter barrier, such as a temporary diversion dike, could be used to divert the concentrated runoff to a pipe slope drain terminating with a level spreader. The spreader would dissipate the erosive velocity of the runoff and release it into an undisturbed area beyond the limits of the clearing and grading at the toe of the slope.

The proximity and sensitivity of the receiving water to which the construction site discharges is an important consideration. For construction sites that discharge to receiving waters that do not support their designated use or other waters of special concern, additional construction site controls are probably warranted and should be strongly considered. These receiving waters are identified in the Part 1 municipal NPDES storm water permit application [§122.26(d)(1)(i)(C)].

6.3.2.4 Educational Measures for Construction Site Operators

Construction site operators often need training and education about the sources, control, and impacts of pollutants in runoff from construction sites (see Virginia, 1988). Therefore, applicants must describe examples of informational materials and activities to be used in education programs.

> §122.26(d)(2)(iv)(D)(4). [The program for construction sites must include a] description of appropriate educational and training measures for construction site operators.

Implementation and enforcement of erosion and sediment controls have historically been major problems even with many programs that may be otherwise exemplary. Therefore, technical information on how to incorporate storm water management with erosion and sediment control and other BMP training courses are recommended for municipal employees and construction site operators. Training on the available alternatives will help operators recognize and correct problems promptly. Tools for such training include videos, workshops, seminars, and demonstrations or field trips.

An acceptable program must include a training program, which should be supplemented by a certification program for all construction site operators (contractors and developers), plan reviewers, and inspectors that work on sites that discharge to a MS4. For example, one NPDES State has a certification program based on adequate training and minimum-competency level testing of all private individuals involved in the preparation and implementation of erosion and sediment control plans.

6.3.3 Program to Control Pollutants in Storm Water Discharges from Waste Handling Sites and from Industrial Facilities

> §122.26(d)(2)(iv)(C). [The application must include a] description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system.

The storm water regulations envision that NPDES permitting authorities and municipal operators will cooperate to develop programs to monitor and control pollutants in storm water discharges to municipal systems from various sites that handle waste and certain industrial facilities.

Operators responsible for storm water discharges associated with industrial activity must obtain NPDES permits from EPA or an authorized NPDES State. These industrial storm water permits will establish requirements such as controls, practices, and monitoring for storm water discharges from the industrial facilities to the MS4. The industrial storm water permits will also provide a basis for enforcement actions directly against the industrial owner or operator.

NPDES permits for MS4s will establish responsibilities for municipal system operators to control pollutants from industrial storm water discharged through their system. Proposed storm water management programs must address the reduction of pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage and disposal facilities; facilities subject to SARA Title III; and other priority industrial facilities, as determined by the applicant. Municipalities should consider the information gathered for the Part 1 application and other parts of the Part 2 application (particularly the Source Identification and Characterization Data components) when prioritizing storm water discharges from these sites. In addition, Appendix B contains a list of pollutants commonly associated with various industries.

In the Part 2 application, the Source Identification component (see Section 4 of this guidance manual) requires the applicant to provide an inventory of pollutant sources, organized by watershed. This inventory identifies and describes the products and services of each industrial facility that may discharge storm water to the MS4. The *Source Identification* component suggests applicants use standard industrial classification (SIC) codes for this description. EPA strongly recommends this information be used to identify priority waste handling sites and industrial facilities. A similar technique could be developed for sites that do not meet the regulatory definition of "storm water discharge associated with industrial activity" (i.e. not included in the *Source Identification* and *Discharge Characterization* components), but are identified as a high priority under the proposed management program. Applicants can obtain information on how SIC codes are used to describe the industrial facilities located within their jurisdictions from their NPDES permitting authority.

Characterization data should also be evaluated. Applicants should analyze quantitative data from representative outfalls to establish a monitoring and control program.

An integral part of this requirement is the adequacy of the applicant's legal authority. If a municipality believes that a discharge of storm water associated with industrial activity violates the industrial facility's NPDES permit limits, but the municipality does not have authority over the discharge, the municipality should contact the NPDES permitting authority for appropriate action. Examples of possible actions by the NPDES permitting authority are:

- For a facility that already has a NPDES individual permit, the permit may be reopened and further controls imposed;
- For a facility covered by a NPDES general permit, an individual site-specific permit application may be required; or
- For a facility not covered by a NPDES storm water permit, a permit may be required.

The municipality is ultimately responsible for discharges from their MS4. Consequently, the proposed storm water management program should describe how the municipality will help EPA and authorized NPDES States:

- Identify priority industries discharging to their systems;
- Review and evaluate storm water pollution prevention plans and other procedures that industrial facilities must develop under general or individual permits;
- Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them); and
- Inspect and monitor industrial facilities to verify that the industries discharging storm water to the municipal systems are in compliance with their NPDES storm water permit, if required.

6.3.3.1 Identifying Priorities

Proposed management programs must clearly identify priority industrial facilities.

> §122.26(d)(2)(iv)(C)(1). [The applicant must] identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.

This section discusses how applicants might identify priority facilities. Section 6.3.3.2 discusses how municipalities might develop procedures for inspections and implementation of control measures.

At a minimum, priority facilities include:

- Operating and closed municipal landfills;
- Hazardous waste treatment, disposal or recovery facilities; and
- Facilities subject to SARA Title III.

Municipalities must identify these and other priority industrial facilities and describe the criteria used to identify them. For example, information from the Toxics Release Inventory is one source a municipality could use to identify industrial facilities subject to SARA Title III. Other sources may include CWA Section 205 or 208 use-attainability studies, other studies that indicate a site-specific beneficial use impairment immediately downstream of a storm water outfall, or records of industrial pretreatment programs or other permit programs that identify facilities that may be the source of a use impairment or

a major contribution of pollutants. The program should also describe procedures for modifying the inventory of priority industries based on additional evaluation that occurs throughout the permit term.

Applicants may initially focus their implementation efforts on known pollution sources. The municipality may have previously identified these sources, or they may be identified through existing information compiled during the permit application process. However, the initial management program implementation strategy should be based on information gathered while completing the *Adequate Legal Authority, Source Identification,* and *Discharge Characterization* sections of the permit application (See Chapters 3, 4, and 5, respectively.)

During the term of the permit, as additional information becomes available, the municipality should target and set priorities for other program elements that emerge. For example, if the municipality has incomplete characterization data about waste handling sites identified in this program component because the inventory of dischargers to the MS4 has not been completed, the municipality could propose to direct monitoring programs to those areas. Upon acquiring sufficient characterization data, the priority of the sites discharging to these portions of the MS4 can be either determined or modified.

As noted above, when identifying priority sites, applicants must consider all the facilities listed in §122.26(d)(2)(iv)(C)(*1*). When municipalities develop criteria for identifying additional priority industrial facilities, they are advised to consider, at a minimum:

- The type of industrial activity (SIC codes can help characterize the type of industrial activity);
- The use and management of chemicals or raw products at the facility and the likelihood that storm water discharge from the site will be contaminated; and
- The size and location of the facility in relation to sensitive watersheds.

6.3.3.2 Developing Procedures

This program component should describe the specific steps that the municipality will take if it identifies a waste handling site or priority industrial facility when preparing the Part 2 application or during the permit term [§122.26(d)(2)(iv)(C)(*1*), printed in the box above]. The proposed management program must include procedures for inspecting priority industrial sites. The results of inspection may be used as a basis for requiring storm water management controls and enhanced pollution prevention measures. It should also establish an inspection schedule for each priority facility at the time it is identified.

Applicants may want to consider establishing prior notification procedures. The applicant will need to evaluate the legal authority it has over priority facilities to determine if prior notification is required. This is another example of how EPA expects the different components of the application process to be linked. In this instance, the Adequate Legal Authority section is tied directly to the prior notification procedure of the inspection and evaluation component of the proposed management plan.

Applicants also should consider developing inspection documents such as standard forms or checklists for recording observations. Forms and checklists can be used to identify high risk areas of priority facilities and to make comparisons among sites. When characterization data or baseline estimates are factored into the evaluation process, the effectiveness of pollution prevention activities at a particular site could be quantified and compared to similar sites. Other procedures that applicants should describe to effectively incorporate inspections as well as establish and implement control measures for these types of discharges can be derived from monitoring data.

Applicants also should describe a procedure for conducting follow-up inspections, where necessary, as part of this program component. For example, follow-up inspections might be needed to verify the installation of a specific control or implementation of a practice specified in a negotiated agreement between the municipality and the industrial site. A system-wide approach to establishing priorities for inspection procedures is recommended. The system-wide approach should begin with the evaluation of existing information, followed by the identification and evaluation of new information during the permit term. Therefore, applicants should link these procedures with information from the *Source Identification* and *Discharge Characterization* components.

6.3.3.3 Establishing and Implementing Controls

A municipality must consider if it should place more stringent controls on discharges associated with industrial activity than are required in an industrial facility's existing NPDES storm water permit [§122.26(d)(2)(iv)(C)(*1*), printed in box above]. Usually, the municipality will not need to impose controls beyond those required in the industrial facility's NPDES storm water permit (for more information on appropriate controls, refer to *Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices*, EPA 832-R-92-006, September, 1992).

However, nothing in the Federal regulations would prohibit the municipality from requiring additional controls beyond the permit requirements for industrial activities. For this reason, EPA recommends that municipal applicants incorporate a provision in the proposed storm water management program that allows the municipality to require priority industrial facilities to implement the controls necessary for the municipality to meet its permit responsibilities.

Finally, the applicant should suggest procedures for requiring pollutant control measures in runoff from priority industrial facilities. Applicants should provide information to the industrial facilities that discharge to the MS4s and industry-specific guidance on appropriate control measures that industries discharging to their systems should follow (WDOE, 1991).

Priority industrial facilities should focus on controlling activities such as the use, storage, and handling of toxic chemicals. Standard methods for implementing control measures at different types of facilities should be described. To facilitate this, municipalities should obtain copies of the pollution prevention plans developed by industrial permittees. Control measures that the municipality may suggest include preventing exposure of pollutant sources to precipitation, on-site pretreatment, and oil/water separators. Applicants should provide a schedule for setting up this program component at priority industrial facilities. The schedule should include educational services for industrial site operators and technical BMP guidance, training courses, videos, workshops, and seminars for plan reviewers, inspectors, contractors, and developers.

6.3.3.4 Inspection and Monitoring

The proposed management program should describe the inspection procedures that will be followed. Storm water inspections can be coupled with inspections for other purposes (e.g., pretreatment programs, fire and safety). Proposed management programs should address minimum frequency for routine inspections. For example, how often, how much of the site, and how long an inspection may take are appropriate to explain in this proposed management program component. Applicants should also describe procedures for conducting inspections and provide an inspector's checklist.

In addition, these inspection procedures should identify the minimum number of inspectors that will be employed and describe

the programs to train them. For example, if the number of inspectors is expected to increase over the term of the permit, it should be noted in the proposed management program. Also, if storm water inspections are combined with other program inspections, means of cross-training inspectors and coordinating schedules should be outlined.

Municipalities are urged to evaluate pollution prevention plans and discharge monitoring data collected by the industrial facility to ensure that the facility is in compliance with its NPDES storm water permit. Site inspections should include (1) an evaluation of the pollution prevention plan and any other pertinent documents, and (2) an on-site visual inspection of the facility to evaluate the potential for discharges of contaminated storm water from the site and to assess the effectiveness of the pollution prevention plan. A municipality could begin the inspection process with information from the facility's notification to the municipality, which should have been submitted by May 15, 1991. Industrial facilities must also submit an individual NPDES permit application, participate in a group storm water permit application, or file a Notice of Intent (NOI) to be covered by a general permit to the NPDES permitting authority. Section 308 of the CWA provides the legal authority for any individual (including a municipality) to obtain information from the NPDES permitting authority.

The proposed management program also must include a description of a monitoring program for storm water discharges associated with industrial facilities [§122.26(d)(2)(iv)(C)(2)].

The monitoring program should describe the framework and rationale for selecting monitoring sites. Sites that may be appropriate for monitoring include locations with several upstream industrial facilities, industrial facilities that are representative of a significant number of similar facilities, and priority industrial sites with significant potential for high levels of pollutants in their storm water discharges. The description of the proposed monitoring program should address how the monitoring data will be used and what the frequency of the monitoring will be.

> §122.26(d)(2)(iv)(C)(2). [The application must describe] a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of qualitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD_5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).

Identifying who will actually conduct the monitoring (e.g., industry or municipality) is appropriate to include in the program description. Linking this element of the monitoring program to the Adequate Legal Authority section of the permit application is vital. The legal authority to require monitoring should prescribe the specific monitoring protocols required elsewhere in the regulation [§122.26(d)(2)(i)(F)]. Applicants should describe proposed procedures for monitoring industrial facilities, including methods for determining parameters to be sampled throughout the term of the permit. At a minimum, parameters that must be considered for monitoring include:

- Any pollutant limited in effluent limitations guidelines for the subcategory of industry;
- Any pollutant that is controlled in a NPDES permit for the process discharge from an industrial site;
- Oil and grease, COD, pH, BOD_5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen; and

- Certain pollutant(s) known or suspected to be in the discharge, based on §122.21(g)(7)(iii) and (iv) (Section 5.3).

If a municipality believes (based on the results of monitoring and inspections) that an industrial facility is not meeting its NPDES permit requirements, the municipality should petition the NPDES authority to either require the facility to change its pollution prevention plan or institute an enforcement action. Municipalities may also file citizen suits under CWA Section 505 to enforce the conditions of the NPDES permit.

6.4 STRUCTURAL CONTROLS

6.4.1 Description of Structural Controls

Applicants are required to identify the location of major structural controls for storm water (retention basins, detention basins, major infiltration devices, etc.) in Part 1 of the application [§122.26(d)(1)(iii)(B)(5)]. In Part 2, applicants must describe additional controls that they plan to implement [§122.26(d)(2)(iv)]. The controls must address the activities described in Section 6.3. In addition, the applicant must describe maintenance procedures [§122.26(d)(2)(iv)(A)(1), discussed in Section 6.4.2]. Later, when the municipality submits its annual report, it will have to report on its progress in implementing these controls [§122.42(c)(1), discussed in Section 7.3 of this guidance].

The matrix in Exhibit 6-3 provides information on commonly used structural and source control BMPs. Structural practices to control urban storm water runoff rely on three basic mechanisms: detention, infiltration, and filtration. More detailed technical information about source controls (particularly in the selection of structural BMPs) is available in the technical BMP manuals (MWCOG, 1991; Schueler, 1987; WDOE 1991; and EPA 1990c). The following summary of structural and source control BMPs draws extensively from those manuals.

Applicants should note that CWA Section 404 permits may be required for some structural controls, including any control projects that involve the discharge of dredged or fill material into waters of the United States, including wetlands. States may also require permits that address water quality and quantity. To the extent possible, municipalities should avoid locating structural controls in natural wetlands. Before considering siting of controls in a natural wetland, the municipality should demonstrate that it is not possible or practicable to construct them in sites that do not contain natural wetlands, and that the use of other nonstructural or source controls are not practicable or as effective. In addition, impacts to wetlands should be minimized by identifying those wetlands that are severely degraded or that depend on runoff as the primary water source. Moreover, natural wetlands should only be used in conjunction with other practices, so that the wetland serves a "final polishing" function (usually targeting reduction of primary nutrients and sediments). Finally, practices should be used that settle solids, regulate flow, and remove contaminants prior to discharging storm water into a wetland.

Another concern for siting controls is the possible adverse effect that infiltration and detention controls may have on ground water. This issue is addressed in more detail in Section 7.2.3.

Exhibit 6-3
Structural Controls Matrix

CONTROL AND MAINTENANCE REQUIREMENTS	ADVANTAGES	DISADVANTAGES
Extended Detention Dry Basin • Periodic mowing • Regular debris removal • Sediment removal annually	• Provides peak flow control • Possible to provide good particulates removal • Can serve large development • Requires less capital cost and land area when compared to wet basin • Does not usually release warmed or oxygen-depleted water downstream • Protects against downstream channel erosion • Can create valuable wetland and meadow habitat when properly landscaped	• Low removal rates for soluble pollutants • Generally not feasible for drainage areas less than 10 acres • If not adequately maintained, can become a nuisance; (becomes unsightly, breeds mosquitos, and creates undesirable odors) • Periodic mowing and maintenance can be detrimental to nesting birds or other animals inhabiting the area
Vegetative Filter Strip • Inspection • Fertilizer use if necessary to maintain stable vegetation	• Low maintenance requirements • Can be used as part of the runoff conveyance system to provide pretreatment • Can reduce particulate pollutant levels in areas where runoff velocity is low to moderate • Enhances urban wildlife habitat diversity • Economical	• May concentrate water, significantly reducing effectiveness • Soluble pollutant removal highly variable • Limited feasibility in highly urbanized areas where runoff velocities are high and flow is concentrated • Requires periodic repair, regrading, and sediment removal to prevent channelization • Maintenance can be detrimental to nesting birds or other animals inhabiting the area • Fertilizer use can lead to higher nutrient loadings in storm water runoff
Grassed Swale • Periodic mowing • Fertilizer use if necessary to maintain stable vegetation	• Requires minimal land area • Can be used as part of the runoff conveyance system to provide pretreatment • Can provide sufficient runoff control to replace curb and gutter in single-family residential subdivisions and on highway medians • Economical and aesthetically pleasing	• Low pollutant removal rates • Leaching from culverts and fertilized lawns may actually increase the presence of trace metals and nutrients • Fertilizer use can lead to higher nutrient loadings in storm water runoff

Exhibit 6-3 (continued)
Structural Controls Matrix

CONTROL AND MAINTENANCE REQUIREMENTS	ADVANTAGES	DISADVANTAGES
Porous Pavement • Routine removal of fine particles from surface • May need weight limit of traffic imposed for protection	• Provides ground water recharge • Provides water quality control without additional consumption of land • Can provide peak flow control • High removal rates for sediment, nutrients, organic matter, and trace metals • When operating properly can replicate pre-development hydrologic conditions • Eliminates the need for storm water drainage, conveyance, and treatment systems off-site	• Requires regular maintenance • Possible risks of ground water contamination • Only feasible where soil is permeable, of sufficient depth to bedrock and water table, and gentle slopes are present • Not suitable for areas with high traffic volume or heavy vehicles • Need extensive feasibility tests, inspections, and very high level of construction workmanship • High failure rate due to clogging • Not suitable to serve large offsite pervious areas • Limited use in snowy climates where sanding and salting operations occur
Concrete Grid Pavement • Periodic mowing, if planted	• Provides peak flow control • Provides ground water recharge • Provides water quality control without additional consumption of land	• Requires regular maintenance • Not suitable for area with high traffic volume • Possible risk of contaminating ground water • Only feasible where soil is permeable, of sufficient depth to bedrock and water table, and gentle slopes are present
Filtration Basin • Periodic vacuuming and power washing	• Ability to accommodate moderately large-sized development (3-80 acres) • Flexibility to provide or not provide ground water recharge • Can provide peak volume control	• Requires pretreatment of storm water through sedimentation to prevent filter media from premature clogging

Exhibit 6-3 (continued)
Structural Controls Matrix

CONTROL AND MAINTENANCE REQUIREMENTS	ADVANTAGES	DISADVANTAGES
Wet Retention Basin • Periodic dredging, preferably from forebay area, if properly designed • Mowing of impoundment to prevent successional growth	• Provides peak flow control • Can serve large developments; most effective for large, intensively developed sites • Enhances species diversity, aesthetics, and provides recreational benefits • Little ground water discharge • Permanent pool in wet ponds helps prevent scour and resuspension of sediments • Provides moderate to high removal of both particulate and soluble pollutants	• Generally not feasible for drainage area less than 10 acres • Potential for safety and liability issues if not properly built and maintained • If not adequately maintained, can become a nuisance; (becomes unsightly, breeds mosquitos, and creates undesirable odors) • Requires considerable space, which limits use in densely urbanized areas with expensive land and property values • Not suitable for hydrologic soil groups "A" and "B" (SCS classification) • Potential for thermal discharge and oxygen depletion, which may severely impact downstream aquatic life
Extended Detention Wet Basin • Periodic dredging of sediment forebay	• Provides peak flow control • Can serve large developments; most effective for large, intensively developed sites • Enhances species diversity, aesthetics, and provides recreational benefits • Permanent pool in wet ponds helps prevent scour and resuspension of sediments • Provides better nutrient removal than traditional wet basin	• Not feasible for drainage area less than 10 acres • Potential for safety and liability issues if not properly built and maintained • If not adequately maintained, can become a nuisance; (becomes unsightly, breeds mosquitoes, and creates undesirable odors) • Requires considerable space, which limits use in densely urbanized areas with expensive land and property values • Not suitable for hydrologic soil groups "A" and "B" (SCS classification) • Potential for thermal discharge and oxygen depletion, which may severely impact downstream aquatic life

Sources: Modified from MWCOG, 1991; Schueler 1987; and WDOE, 1991.

6.4.1.1 Detention Controls

Detention controls temporarily store storm water runoff to control peak runoff rates and provide a reduction in pollutant concentrations by the gravitational settling of suspended solids and associated contaminants. Except for incidental losses due to evaporation or percolation, essentially all the detained water is subsequently discharged to a surface water conveyance (e.g., a stream or MS4). The most common examples of detention practices are extended detention basins and wet (retention) basins.

Variations on these basic detention controls include constructed storm water wetlands and multiple pond systems. These types of controls also rely on detaining flows (leading to sedimentation) as the primary means of pollutant removal. Recent investigations suggest that wetlands vegetation within a detention control can also reduce nutrient loads and certain other pollutants by incorporating them into plant tissue.

If properly designed, detention controls can protect downstream channels by reducing the frequency of bankfull flood events and associated erosion. Reduction in velocity and sediment load is also important for minimizing the adverse impacts of discharges to MS4s. Detention facilities also can provide terrestrial and aquatic wildlife habitat if they are landscaped and planted appropriately.

When considering detention controls, the municipality should consider the potential negative effects of downstream warming that may be caused by the shallowness of the water in the control. The municipality should also consider negative impacts of detention controls, such as reduced baseflow; bacterial contamination due to waterfowl; and potential impacts to wildlife from concentrated contaminants, waterfowl diseases, and maintenance practices. Safety and liability issues and nuisance factors, such as mosquitoes and odor, also should be considered. Setting detention controls in sensitive floodplains or in existing wetlands should generally be avoided. The flooding effect of impounding and detaining water is a particular concern if the upstream watershed drains more than 250 acres, because the volume of runoff and required detention times can cause inundation of upstream channels to occur.

Detention controls incorporating multiple pond systems and/or constructed storm water wetlands also treat runoff through the processes of absorption, filtration, biological uptake, volatilization, precipitation, and microbial decomposition. Recent investigations by the Metropolitan Washington Council of Governments suggest that multiple pond systems, in particular, have shown potential to provide higher and more consistent levels of treatment than traditional detention controls. The redundancy afforded by the multiple pond system generally increases the reliability of the control. However, the potential concerns and drawbacks affecting retention basins also apply to these systems. Many of these systems are currently being designed to include vegetative buffers and deep water areas to enhance wildlife habitat and to improve the appearance of the facility. If a municipality selects one of these more innovative designs, it should recognize that periodic maintenance is necessary. The effectiveness of these controls, like most controls, depends on proper operation, maintenance, and monitoring of the entire system.

Wet (Retention) Basins

Wet (retention) basins are designed to maintain a permanent pool of water and temporarily store storm water runoff until it is released at a controlled rate. Unlike extended detention ponds, wet basins cannot detain runoff for long times, because most of their storage capacity is needed for holding the permanent pool. Enhanced designs include a forebay to trap incoming sediment where it can be easily removed. A fringe wetland also can be established around the perimeter of the basin. Similar to detention controls, locating

retention basins in sensitive floodplains or existing wetlands should be avoided if possible.

Extended Detention Basins

Extended detention basins temporarily detain a portion of storm water runoff for 24 to 48 hours after a storm, gradually releasing the stored water through a fixed opening to allow urban pollutants to settle out. The basins normally return to a "dry" condition between storm events and do not have any permanent standing water. These basins are typically composed of two stages: an upper stage, which remains dry except during larger storms, and a lower stage, which is designed for typical storms. Pollutant removal from extended detention basins can be enhanced if they are equipped with plunge pools near the inlet, a micropool at the outlet, and an adjustable reverse-sloped pipe as the extended detention control device.

Water Quality Inlets

Water quality inlets (also referred to as catch basins) are small underground systems that, like retention basins, rely on settling to remove pollutants before discharging water to the MS4. Several designs of water quality inlets exist. In their simplest form, catch basins are single-chambered storm water inlets with the bottom lowered to provide 2 to 4 feet of additional space between the outlet pipe and the bottom of the structure for collection of trash and sediment. Some water quality inlets include a second chamber with a sand filter to provide additional removal by filtration. The first chamber provides effective removal of coarse particles and helps prevent premature clogging of the filter media.

Water quality inlets may include an oil/grit separator. There are 3 basic types of oil/grit separators: the spill control (SC), the coalescing plate interceptor (CPI), and a design credited to the American Petroleum Institute (API). Most of the oil/grit separators that are promoted for use in reducing hydrocarbon loads in storm water are a modification of the API design, although there are appropriate applications for all three separator designs. Oil/grit separators based on the API design consist of three chambers. The first chamber removes coarse material and debris. The second chamber provides separation of oil, grease, and gasoline from the storm water runoff; and the third chamber provides a safety relief should a blockage occur.

Recent experiences have shown that, because of their volume limitations, oil/grit separators have limited pollutant removal effectiveness. They are perhaps the best example of a structural control that is only effective with frequent maintenance. Proper disposal of the standing water, trapped sediments, and floating hydrocarbons are problems in the few locations that have been studied.

Constructed Storm Water Wetlands

Constructed storm water wetlands are a hybrid, drawing on elements of detention and retention basins. Constructed storm water wetlands are shallow pools and are often designed to simulate the pollutant removal functions of natural wetlands. Enhanced designs may include a sediment forebay, carefully contoured topography, and multiple species of wetland plants. Constructed storm water wetlands, while a promising technology for pollutant removal from storm water, may not replicate all the ecological functions of natural wetlands.

6.4.1.2 Infiltration Controls

Infiltration controls rely chiefly on absorption to treat storm water discharges. In the ideal case, storm water percolates through a porous medium and into native soils where filtration and biological action remove pollutants. Typical controls of this type include infiltration trenches, infiltration basins, filtration basins, porous pavement, and concrete or block pavers. Systems that rely on soil absorption work best in deep, highly permeable soils that

are at least four feet away from the seasonal ground-water table.

The Soil Conservation Service (SCS) classifies soils into four major soil groups A-D. The soil groups are as follows:

Group A: Sand, loamy sand
Group B: Sandy loam, loam
Group C: Silt loam, sandy clay loam
Group D: Clay loam, silty clay loam, sandy clay, silty clay, and clay

Soils in Group A provide the highest infiltration rate while soils in Group D provide the lowest. Suitable soils for infiltration-type controls typically fall in soil groups A and B. Other types of soils may be suitable, provided the clay content does not exceed 30 percent (clay has very low hydraulic conductivity). The clay content of soil may be determined from the SCS soil textural triangle, which can be found in many civil engineering references texts.

If suitable soils are available, the widespread use of infiltration in a watershed can be useful in helping to maintain, restore, or replicate pre-development hydrology. Specific benefits of infiltration often include increased dry-weather baseflow in streams and a reduction in the frequency of bankfull floods. However, infiltration systems are not recommended unless soil conditions warrant. Also, infiltration should not be used where ground water requires protection. For example, the use of infiltration-type controls may not be appropriate in areas that recharge sole source aquifers.

Infiltration Basins

Infiltration basins are areas that intercept incoming storm water runoff and temporarily store it until it gradually infiltrates into the soil surrounding the basin. Infiltration basins should be designed to control drainage areas ranging from about 5 to 50 acres. They also should drain within 48 to 72 hours to maintain aerobic conditions favoring bacteria that aid in pollutant removal, and to ensure that the basin is ready to receive the next storm. The runoff entering the basin is usually pretreated to remove coarse sediment that may clog the surface soil pores on the basin floor. Concentrated runoff may flow through a sediment trap or by sheet flow (vegetative filter strip).

Infiltration Trenches

Infiltration trenches are shallow (e.g., 2 to 10 feet deep) excavated ditches or vaults that have been backfilled with a coarse stone aggregate. The aggregate forms an underground reservoir that has approximately 40 percent void space. Storm water runoff diverted into the trench gradually infiltrates from the bottom of the trench into the subsoil and eventually into the ground water. Variations in the design of infiltration trenches include dry wells and percolation pits that are designed to control small volumes of runoff, such as the runoff from a rooftop. A more complex variation is the enhanced infiltration trench, which is equipped with filter fabric or a more extensive pretreatment system to remove sediment and oil. Depending on the quality of the runoff, pretreatment may be necessary to lower the failure rate of the trench. Infiltration trenches are generally best suited for drainage areas of less than 10 acres. They are particularly applicable for use on residential lots, small commercial areas, down slope from parking lots, and under drainage swales.

Grassed Swales

A grassed swale is an infiltration method that is usually used as a form of pretreatment before discharging runoff to another storm water control device (e.g., a detention basin). However, the grassed swale itself is a control that can remove significant amounts of pollutants through sediment entrainment. A grassed swale is a shallow, vegetated, man-made ditch with the bottom elevation above the water table to allow runoff to infiltrate into the ground water. The vegetation helps to

prevent erosion, filters sediment, and allows for some uptake of nutrients.

Porous Pavement

Porous pavement, which is basically traditional asphalt aggregate without the fine particles, is an alternative to conventional pavement. Proper design and application of this control can reduce or eliminate the need for curbs and gutters, storm drains and sewers, and offside controls. Instead, runoff is diverted through a porous asphalt layer into an underground stone reservoir. The stored runoff gradually exfiltrates out of the stone reservoir into the subsoil. Soil considerations are important when evaluating the appropriateness of this control. Generally, grades should be gentle, and subsoil should be at least 3 feet thick (to bedrock) and moderately permeable (capable of infiltrating about one half inch per hour). Because porous pavement tends to clog with fine sediments and because it loses its effectiveness under heavy loads, its application should generally be limited to low-traffic areas (e.g., overflow parking areas) and areas that are not exposed to large bearing loads caused by heavy vehicles.

Concrete Grid Pavement

Concrete grid pavement has concrete blocks with regularly interdispersed void areas that are filled with pervious materials, such as gravel, sand, or grass. The blocks are typically placed on a sand or gravel base. They are usually designed to provide a load-bearing surface adequate for supporting vehicles, while allowing infiltration of surface water into the underlying soil.

6.4.1.3 Filtration Controls

Filtration controls treat storm water flows by using vegetation or sand to filter and settle pollutants. Generally, these controls are most effective before the flows become concentrated (e.g., sheet flow). In certain instances, infiltration and treatment in the subsoil also may occur through the processes of absorption and adsorption. After passing through the filtration media, the treated water is usually directed to a stream or MS4, although it may be evaporated or percolated into the ground. Filtration controls include filter strips, grass swales, and sand filters. Sand filters are particularly useful for ground water protection. Applicants must consider the influence of climate when they select vegetative systems.

Vegetative Filter Strips

Vegetative filter strips (also called bio-filters) are vegetated sections of land designed to accept runoff as overland sheet flow from upstream development. They may adopt any natural vegetated form, from grassy meadow to small forest. The dense vegetative cover facilitates sediment reduction and pollutant removal. Filter strips cannot treat high-velocity flows. Therefore, these strips generally have been recommended for use in agriculture and low-density development and other situations where runoff does not tend to be concentrated. Unlike grassed swales, filter strips are effective only for overland sheet flow, as opposed to concentrated flow. Grading and level spreaders can be used to reduce the energy of concentrated flows and distribute the runoff evenly across the filter strip. Vegetative filter strips are often used as pretreatment for other structural practices, such as infiltration trenches. Leaving a buffer of natural vegetation along an urban stream valley is an example of a vegetative filter strip and also an example of a nonstructural control.

Filtration Basins

Filtration basins are usually small impoundments lined with filter media, such as sand or gravel. Storm water drains through the filter media and perforated pipes into the subsoil. For optimal pollutant removal, recommended detention times range from 24 to 48 hours with a maximum drainage area of about 50 acres. Grassed swales or other structural controls can be used to filter coarse sediments and thereby minimize clogging of the filter medium.

6.4.2 Maintenance Activities

After summarizing the location of major structural storm water controls, applicants must submit a description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants.

> §122.26(d)(2)(iv)(A)(1). [The application must include a] description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.

Typical maintenance requirements include:

- Inspection of basins and ponds after every major storm for the first few months after construction and annually thereafter;
- Mowing of grass filter strips and swales at the frequency necessary to prevent woody growth and promote dense vegetation;
- Regular removal of litter and debris from dry ponds, forebays, and water quality inlets;
- Periodic stabilization and revegetation of eroded areas;
- Periodic removal and replacement of filter media from infiltration trenches and filtration ponds;
- Deep tilling of infiltration basins to maintain infiltrative capability; and
- Frequent vacuuming or jet hosing of porous pavement or concrete grid pavements.

Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. Maintenance programs should address measures for catch basins and drainage channels in addition to major structural controls.

The proposed program should provide for maintenance logs and identify specific maintenance activities for each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually, and removing litter from channels twice a year. If maintenance activities are scheduled infrequently, inspections must be scheduled to ensure that the control is operating adequately. In cases where scheduled maintenance is not appropriate, maintenance should be based on inspections of the control structure or frequency of storm events. If maintenance depends on the results of inspections or if it occurs infrequently, the applicant must provide an inspection schedule. The applicant should also identify the municipal department(s) responsible for the maintenance program.

Municipalities should use caution in adopting controls that do not have sufficient history of use for their performance characteristics and maintenance requirements to be adequately evaluated. A good example is the oil/grit separator used on small commercial or retail sites. Some municipalities have required the use of these technologies, but due to poor performance, municipalities have often rescinded the requirement. In these cases, it is not clear whether the control technology was ineffective or the maintenance program was flawed.

Because maintenance is critical to successful program implementation, it must be considered throughout the term of the permit. Applicants may wish to develop a matrix that identifies maintenance tasks on a timeline indicating criteria for inspection, repair, and replacement. PERT charts, GANT charts, or other critical path analyses (available for personal computers) can help organize a maintenance program and schedule. For a summarized

listing of appropriate maintenance activities and schedules refer to the matrix in Exhibit 6-3.

6.4.3 Considerations for Planning and Siting Controls

The storm water management program should describe the criteria used to identify that a particular structural control is warranted and the circumstances under which it will be required. The possibilities for new control sites should be evaluated for their storm water quality control potential. Guidelines and performance standards that identify specific structural controls for new development should be proposed in the procedures for new development. From this evaluation, priorities based on the feasibility of implementing a particular control at a given location can be determined.

6.4.3.1 Use of Municipal Lands

Applicants should discuss existing major structural controls and sites that have the potential for new structural controls which could be installed on municipal lands and other major rights-of-way (e.g., major roads and highways). Note that existing controls are identified in Part 1 applications [(§122.26(d)(1)(iii)(B)(5)]. The location of publicly owned parks, recreational areas, and other open areas are also identified [§122.26(d)(1)(iii)(6)].

To determine what storm water quality controls are necessary for public lands and facilities, current activities and functions that may affect the quality of storm water discharges should be identified. Such activities and functions include parks, trails, and other recreational land uses, road maintenance and snow management, and storage and repair yards/shops for municipal vehicles. An inventory of public land uses may be necessary to help make determinations of what controls are needed. An effective inventory should involve coordination among all of the local departments and agencies that have authority over the use of public lands and facilities.

Opportunities for controlling storm water quality problems that are identified through the inventory process can be evaluated on a site-specific basis and included in the proposed management program.

There are several benefits to the establishment of structural controls on municipal lands:

- Municipal lands often provide greater retrofit opportunities because they typically do not require additional property purchases;
- Municipal lands ensure opportunities to provide future maintenance and security in preservation of the retrofit control;
- Applicants may be able to adapt existing municipal functions (such as industrial pretreatment program implementation, fire-safety inspections, and flood-control activities) to address storm water quality concerns (Expanding their mission to address storm water concerns may be more cost-effective than initiating entirely new programs.);
- Applicants may be able to adapt functions of development on municipal lands (such as planning, zoning, and construction oversight functions); and
- After considering controls on municipal lands, the applicant will be in a better position to address the private land under its jurisdiction.

As a precaution, however, applicants need to consider potential conflicts arising over the multiple use of public lands. Criteria other than land ownership (e.g., locating controls downstream of developed areas) also should be considered when deciding where to locate storm water runoff controls.

6.4.3.2 Use of Private Lands

A municipality also may incorporate storm water quality controls into its land use plan to indicate controls that may be necessary for new development. Some of the best opportunities to prevent pollution and to implement effective storm water quality controls occur during development. Local governments typically play a strong role in overseeing new development and have, or can adapt, administrative infrastructure to address storm water quality concerns.

The storm water management process should begin with land use planning and zoning and continue through the development and redevelopment processes. Municipalities generally can obtain commitments from land developers more easily prior to relinquishing jurisdictional leverage over the parcel where the potential control is to be located. Leverage can be achieved through plan approval or zoning changes. The negotiation process for the dedication, condemnation, or other acquisition of land and the process for getting the land developer to construct or otherwise implement controls will vary dramatically among municipalities, particularly among those in different States.

Source and structural controls are most cost-effective when development is planned with storm water quality controls in mind. However, it is probably more appropriate for the municipality to propose a flexible plan that specifies a variety of program objectives through the development process rather than identifying a certain priority and rigid schedule. Other benefits of early and flexible planning include ecological diversity, wetlands preservation, and the creation of controls that also function as amenities. Comprehensive land use plans, zoning ordinances, and subdivision ordinances are important mechanisms to implement these controls early in the development process. Consideration of storm water quality during pre-development is one of the most effective ways to implement controls. This is because the maximum flexibility (and opportunity) to incorporate BMPs exists prior to final land use decisions and construction activities (see Section 6.3.1.1)

6.4.3.3 Siting Considerations

Imperviousness

The degree of imperviousness affects the concentration of pollutants in storm water, which in turn affects the type of structural controls that may be necessary. As the imperviousness of an area increases, the runoff volume and the pollutant loading increase. Studies show that runoff from industrial areas, which generally have a high degree of imperviousness, can have a wider variety and greater concentration of pollutants than runoff from other land uses. Recent studies also indicate that the degree of imperviousness can be inferred from the level of degradation in urban receiving streams. (For example, see Schueler 1991 and Klien 1979.) Population projections will not indicate the degree to which industrial land use will increase unless planning and zoning information is also considered.

Soil Conditions

Controls designed to infiltrate storm water will be affected by site specific soil conditions. For example, clay content of the soil and the antecedent moisture content (degree of soil saturation at the time of a given storm event) will strongly influence the effectiveness, and therefore the applicability, of infiltration controls for a given location.

6.5 PROGRAM AND SCHEDULE TO DETECT AND REMOVE ILLICIT DISCHARGES AND IMPROPER DISPOSAL

NPDES permits for discharges from MS4s require effective detection and removal from the MS4 of illicit or improper discharges and disposal.

§122.26(d)(2)(iv)(B). [The application must include a] description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.

The NURP study concluded that the quality of urban runoff can be adversely impacted by illicit connections and illegal dumping. Often, large amounts of wastes, particularly used oils, are improperly disposed of in storm sewers. Elimination of these sources of pollutants would result in a dramatic improvement in the quality of storm water discharges from MS4s. Procedures to eliminate such discharges should be an important part of the proposed management program.

The regulatory requirement cited above is intended to directly implement the mandate of Section 402(p)(3)(B)(ii) of the CWA, which requires permits for MS4s to effectively prohibit non-storm water discharges into storm sewers. In certain instances, the most appropriate action will be for the municipality to ensure that illicit discharges become covered by a NPDES permit. However, in most cases, elimination of illicit discharges or improper dumping is the appropriate focus of this program component. The quality of storm water runoff from inner-city core areas, particularly in older parts of the country, would benefit most from this component.

The applicant should propose a schedule for implementing this program component throughout the initial permit term. This schedule should reflect the priorities identified by the municipality during the application process and be based on the problems particular to the specific MS4.

6.5.1 Prohibiting Illicit Discharges

The proposed management program must include a description of inspection procedures, orders, ordinances, and other legal authorities necessary to prevent illicit discharges to the MS4.

§122.26(d)(2)(iv)(B)(*1*). [The application must include a] description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States . . . . *[these sources are listed in the guidance].*

This proposed management program component also should describe how the prohibition on illicit discharges will be implemented and enforced. The description should include a schedule and allocation of staff and resources. A direct linkage should exist between this program component and the adequate legal authority requirements for the ordinances and orders to effectively implement the prohibition of illicit discharges.

While this program component is required to prohibit all types of illicit discharges, the following categories of non-storm water discharges need only be prohibited by the MS4 when they are identified by the MS4 as sources of pollutants to waters of the United States:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to separate storm sewers
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensation
- Irrigation water

- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water

While EPA does not consider these flows to be innocuous, they are only regulated by the storm water program to the extent that they may be identified as significant sources of pollutants to waters of the United States under certain circumstances. If an applicant knows, for example, that landscape irrigation water from a particular site flows through and picks up pesticides or excess nutrients from fertilizer applications, there may be a reasonable potential for a storm water discharge to result in a water quality impact. In such an event, the applicant should contact the NPDES permitting authority to request that the authority order the discharger to the MS4 to obtain a separate NPDES permit (or in this case, the discharge could be controlled through the storm water management program of the MS4).

The applicant should consider the specific land use, age, and stage of development in this program component. For example, one study in an established metropolitan area found that 60 percent of automobile-related businesses had improper storm drain connections. While some of the problems discovered in this study were the result of improper plumbing or illegal connections to storm drains, the majority of the connections were approved by the municipality when they were built.

For problem identification and problem-solving, a municipality may elect to implement a follow-up study that traces identified pollution incidents to their source (e.g., up the system). A variety of pollutant-tracing techniques and field screening can be used to identify illicit discharges.

6.5.2 Field Screening

Part 1 of the application requires applicants to submit the results of field screening studies to evaluate the possible occurrence of illicit connections and improper dumping [§122.26(d)(1)(iv)(D)]. Dry weather flows that were encountered during the initial field screening were sampled and analyzed. The analysis was intended to provide information about illicit connections and improper dumping.

In Part 2, applicants are required to propose procedures for continued field screening during the term of the permit.

> §122.26(d)(2)(iv)(B)(2). [The application must include a] description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.

Applicants can propose to use procedures similar to those used for field screening required in Part 1 of the application or they can propose alternative procedures and techniques. The Part 1 field screening requirements are found in §122.26(d)(1)(iv)(D) and are explained in the Part 1 guidance manual.

The Part 2 proposed field screening program component should describe areas of the system where the continuation of the field screening program will be conducted and the rationale for selecting these areas. For example, the rationale for continuing field screening at a given location might be that a wide variation in results was obtained during the initial screens. In addition, the applicant should propose field screening for a portion of any recently-identified major outfalls that were not known to the applicant when it prepared its Part 1 application, provided sampling of these outfalls is safe and practicable.

The potential for illicit discharges and improper disposal is generally higher for areas of older development, areas with many automobile-related industries, and areas with significant numbers of heavy industrial facilities. Therefore, in most cases applicants should include these areas in the proposed field screening program.

The description of the field screening component should provide a detailed summary of the departmental responsibility for field activities, frequency of inspections, procedures and equipment to be used, and the procedures for documenting field activities, both in the field and in the office. Generally, the Part 2 field screening program should reflect a continuously narrowing process to trace illicit and improper sources.

6.5.3 Investigation of Potential Illicit Discharges

In order to submit a comprehensive proposed management program, applicants are required to describe procedures for investigating portions of the municipal system where field screening or other information indicates a reasonable potential for illicit discharges.

> §122.26(d)(2)(iv)(B)(3). [The application must include a] description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation).

Applicants should propose criteria to identify portions of the system where follow-up investigations are appropriate. For example, calculating a frequency distribution of dry weather flows at each screening site could aid in establishing criteria to identify where follow-up investigations are appropriate.

Procedures to investigate priority locations for illicit connections include inspection of the storm sewer system, use of remote-control cameras, on-site inspections and dye-testing at priority or suspect facilities, and additional discharge monitoring to pinpoint pollutant sources. In some cases, these investigations may be coordinated with pretreatment program inspections. Such approaches are summarized in Exhibit 6-4. Coordinating inspections can be a very effective use of resources. For example, portions of the sanitary sewer system that need evaluation to detect illicit discharge may already be undergoing inspection by operators of the municipal treatment plant.

A checklist should be developed for inspectors to use to detect illicit connections. The checklist should be structured to ensure a comprehensive evaluation of the problem and stipulate the use of the easiest and least expensive detection methods first.

Regardless of the format in which information is compiled (e.g., table, list, text description), EPA suggests that the applicant prepare a map identifying the location of suspected problem areas. The map should be provided as part of the Part 2 application.

The proposed program component description should describe a step-by-step process to investigate, identify, and prohibit illicit discharges. If field screening leads to positive tests of fecal coliform, fecal streptococcus, surfactants, residual chlorine, fluorides, or potassium, a municipality should reconsider whether any of the non-storm water discharges described in Section 6.5.1 are the source (see previous section).

Exhibit 6-4
Sample Illicit Discharge Investigation Procedures Options

Results of Initial Field Screen	Procedures for Detailed Analysis	Comments
Plumbing unidentifiable	Cameras	Effective for identifying deterioration
Uncertain use of facility	On-site inspections	May be combined with other inspections
Several facilities or complex plumbing	Dye-testing	Simple and accurate if system not interconnected
Unusual pollutants	Monitoring	Particularly useful for fingerprinting

6.5.4 Spill Response and Prevention

The proposed management program must describe procedures that the municipality will implement during the term of the permit to prevent, contain, and respond to spills that may discharge into the MS4.

> §122.26(d)(2)(iv)(B)(4). [The application must include a] description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.

The municipality and the property owners (and/or operators) of sites where spills may occur need to implement procedures to prevent, contain and respond to spills. One way to implement these procedures is to modify the land use planning process and ordinance enforcement. Such modifications would require notification and emergency preparedness procedures for any land use activity that could lead to leaks and spills. Another method is to coordinate with on-going programs in other regulated areas where detection of spills is important, such as pretreatment and hazardous materials management. The goal of a spill-prevention program is to reduce the frequency and extent of spills of hazardous materials, oils, and other materials which can cause water quality impairment. Spill-containment programs may establish minimum chemical storage and handling requirements, require users to submit prevention and control plans, and ensure site inspections. The content of the descriptions that should be submitted with the Part 2 application for each of these program elements is discussed in more detail below.

Spill-response programs are intended to reduce risk to the public and the environment. Although these programs tend to focus on issues of public health and safety, such as exposure to toxic materials, fires, or explosions, spill-response teams should attempt to prevent or minimize contamination of surface water, ground water, and soil. Spill-response programs often require a coordinated response from a number of municipal departments (e.g., fire, police, health, and public works). Municipalities should describe how response procedures within these programs attempt to mitigate potential pollutant discharges to surface waters.

For example, some industrial pretreatment programs specifically require that leaks or spills be routed to the storm sewer rather than the sanitary sewer generally to protect worker health and safety and to protect biological treatment capabilities. This issue serves to reinforce the need for coordination between the various municipal programs that are related in some way to storm water.

The proposed program should identify the municipal departments responsible for implementing the program, and also should address employee training, reporting procedures, containment of spills, storage and disposal activities, documentation, and follow-up procedures. Generally, the proposed program for spill response and prevention should focus on good housekeeping and materials management practices, which are discussed in more detail below.

One of the initial elements in the development of a successful spill response and prevention program is to assess the potential of various sources at a particular property to contribute pollutants to the storm water discharges from the site. This assessment should inventory the land use, types of materials handled, and the location and types of materials management activities. Factors to consider when evaluating the pollution potential of runoff from various portions of a site include those that are likely to lead to the identification of specific structural or nonstructural controls to address problems.

Other factors to consider are the toxicity and quantity of any chemicals used, produced, stored, or discharged from the site; the history of any NPDES permit violations from a site; history of significant leaks or spills of toxic or hazardous pollutants; and the designated uses of the receiving waters.

This program element should also include a description of storm water management controls that are appropriate for the site that would control or allow for the mitigation of any leak or spill and a proposal to implement such controls. The priorities developed in the implementation proposal should reflect the nature of identified sources of pollutants at the site.

The description of spill response and prevention activities should include the steps a municipality will take to prevent, and when necessary, adequately respond to spills discharged to its MS4. The MS4 might identify special training requirements for municipal employees in order to respond to spills of hazardous chemicals from a particular facility into the storm sewer system.

Sources with the greatest potential for spills to occur (or cause the most severe damage) should be identified in the proposed storm water management program. If appropriate, specific materials handling procedures and storage requirements should be identified for these sources. Requirements for these sources could be modeled after the Spill Prevention, Control, and Countermeasure (SPCC) Plans that are required for certain facilities under Section 311 of the CWA.

Under the SPCC program, for example, personnel are trained and given responsibility for inspecting the facility for leaks and spills. These inspections include equipment and materials handling areas, which need to be investigated for evidence of, or the potential for, pollutants entering the drainage system. Procedures to ensure the availability of appropriate personnel and equipment for cleaning up spills must be identified. A system to ensure that appropriate corrective action has occurred in response to inadequacies identified during the inspection is also established under the program.

Not all of the SPCC program elements may be necessary for municipal applicants. However, EPA recommends that the proposed storm water management program describe how the records of inspections will be maintained and made available for investigations of causal factors and program effectiveness. Incidents of leaks, spills, and

improper dumping, along with other information describing the quality and quantity of storm water discharges should be included in the records. Inspections and maintenance activities, such as containment berm integrity testing or the cleaning of oil/water separators should be documented and recorded in a maintenance log.

6.5.5 Public Awareness and Reporting Program

Applicants must propose a management program component that promotes, publicizes, and facilitates public reporting of illicit discharges or water quality impacts associated with discharges from MS4s.

> §122.26(d)(2)(iv)(B)(5). [The application must include a] description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.

Timely reporting by the public of improper disposal and illicit discharges are critical components of programs to control such sources.

To enhance public awareness, programs may include setting up a public information hotline number; educating school students; establishing community and volunteer "watchdog" groups (e.g., "Adopt-a-Stream Program"); using inserts into utility bills; and newspaper, television and radio announcements to inform the public about what to look for and how to report incidents. The public awareness efforts should clarify to the public that they are the ultimate beneficiaries of a successful storm water management program.

6.5.6 Proper Management of Used Oil and Toxics

EPA estimates that annually, 267 million gallons of used oil, including 135 million gallons of used oil from do-it-yourself automobile oil changes, are disposed of improperly. An additional 70 million gallons of used oil, most coming from service stations and repair shops, are used for road oiling (55 FR 48056, November 16, 1990). If private individuals find the proper disposal of used oil or toxic materials difficult, incidents of improper disposal increase. For example, when a large fraction of service stations do not accept do-it-yourself used oil, improper disposal into the municipal storm sewer rises. Therefore, applicants are required to propose a program component that will facilitate the proper disposal of used oil and toxics from households by establishing municipally operated collection sites, or ensuring that privately-operated collection sites are available.

> §122.26(d)(2)(iv)(B)(6). [The application must include a] description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.

The proposed program should describe outreach plans to handlers of used oil and to the public, and operating plans for oil and household waste collection programs.

Examples of effective public outreach for these types of programs include dedicated municipal phone numbers (e.g., a used oil/toxic materials hotline), pamphlets, and requirements that oil retailers post the location of the nearest used oil collection facility. Programs can also inform the public about alternatives to toxic materials. Catch basin/storm sewer inlet stenciling programs can also be proposed as part of the program to increase public awareness of the connection between storm sewers and local water resources.

6.5.7 Infiltration of Seepage

In order to effectively complete this portion of a proposed management plan, the applicant must describe controls to limit infiltration of seepage from municipal sanitary sewers to MS4s, if necessary.

> §122.26(d)(2)(iv)(B)(7). [The application must include a] description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.

Raw sewage can seep from sanitary sewage collection systems through leaks and cracks in aging pipes, poorly constructed manholes and joints, and main breaks. Sewage from a leaky sanitary system can flow to storm sewers or contaminate ground water supplies. Interaction between sanitary sewers and separate storm sewers may occur at manholes and where sanitary sewer laterals and storm sewer trenches cross. Separate storm sewers and sanitary sewers may share the same trench, which is generally filled with very porous material such as gravel.

One indication of seepage from a sewage collection system may be infiltration of water. Often, the rate of exfiltration (seepage) from sanitary collection systems is significantly greater than the rate of infiltration into the system. An EPA study on sewer exfiltration found significant ratios of the rate of exfiltration of sewage to the rate of infiltration of ground water or storm water into sanitary sewers. Field and laboratory results found this ratio to vary between 1.5 to 1 and 14 to 1.

In some cases, preventive maintenance surveys or on-going infiltration and inflow (I&I) programs to determine where water is entering a sanitary sewer system may be modified to locate the source and fate of exfiltration from the system.

Identifying infiltration of seepage into a MS4 is a good example of the need for various municipal functions to be effectively coordinated. Proposed storm water management programs might discuss how personnel responsible for inspections of the sanitary sewer system could inspect for sources of exfiltration during I&I inspections, and pass any findings to personnel responsible for maintaining the MS4. If seepage is believed to be a problem, a coordinated effort with the maintenance department of the municipal sanitary sewer system is recommended.

The proposed storm water management program also should include provisions to address the discovery of previously unknown problems. There should be procedures to enact a coordinated program between the operators of the storm sewer and sanitary sewer (which in many cases will be within the same municipal agency or department).

EPA recommends that the proposed storm water management program describe controls that will be used to address seepage from malfunctioning septic systems in areas not served by a sewage treatment works. Malfunctioning septic systems may lead to more significant surface runoff pollution problems than ground water problems. A malfunctioning septic system is less likely to cause ground water contamination where an impervious bacterial mat in the soil retards the downward movement of wastewater. (Poorly located septic systems that are operating properly are the greatest threat to ground water).

Surface malfunctions of septic systems are caused by clogged or impermeable soils, or when stopped up or collapsed pipes force untreated wastewater to the surface. Surface malfunctions can vary in degree from occasional damp patches on the surface to constant pooling or runoff of wastewater to a storm sewer. An improper remedy for a surface malfunction is to install a pipe or trench over soil absorption systems to route untreated overflow away from the septic

system. This results in direct discharges to drainage ditches, empty lots, or surface waters.

Proper controls range from prescribing maximum intervals between tank pump-out to the installation of sand filters. Discharge from sand filters to surface waters may require a separate NPDES permit, because such discharge is not storm water.

Additional information about the most appropriate controls for use in correcting malfunctioning septic systems is probably best obtained from local or regional sources. Organizations such as extension services, soil and water conservation districts, and planning agencies may be good sources of information about methods that have been successful (and also those that have failed).

By obtaining this type of information, the applicant can determine what control techniques have been successful in correcting malfunctioning septic systems in similar types of soils. The value of this approach is that the applicant will know that a certain control technique has been used to correct a malfunctioning septic system in the same types of soils that occur in the municipality. Where only part of the MS4 drainage area is served by septic systems, proposed programs should address setting and maintenance of septic systems, including draft requirements and implementation procedures.

6.6 SIGNATORY AND CERTIFICATION REQUIREMENTS

Under the Federal NPDES regulations [§122.22(a)], all NPDES permit applications (including municipal storm water permit applications) must be signed by an authorized person, as defined in the regulations. Permit applications submitted by a municipality, State, Federal, or other public agency must be signed by either a principal executive officer or ranking elected official [§122.22(a)(3)]. To fulfill the signatory requirements, the person signing the municipal application must provide his or her name (printed or typed), title, and date signed. In addition, the applicant should provide the name, address, and telephone number of the person signing the application or another point of contact that can answer questions about the application.

In addition, §122.22(d) states that any person signing a permit application must make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

6.7 IMPLEMENTATION OF THE STORM WATER PROGRAM

EPA anticipates that municipal storm water management programs will mature over time to reflect advances in technology, additional data collection, changing conditions, program development, stage of implementation, and improvements in water quality. Therefore, applicants may emphasize different program components to reflect implementation priorities. The proposed management program should clearly identify each of the program components and include a schedule for implementation. Each component of the Part 2 application should be classified as: full implementation, phased implementation, pilot study, or feasibility analysis. In annual reports on the progress of storm water management programs, municipalities must report on the status of implementing program provisions [§122.42(c)(1), or Section 7.3 of the guidance].

- **Full Implementation.** Fully implemented components should be proposed when the municipality is

prepared to begin or continue full implementation after its permit is issued and it expects to continue the component throughout the life of the permit. Full implementation of a program component is generally the preferred way of demonstrating the required level of control.

- **Phased Implementation.** Phased implementation should be proposed when the level of effort to implement the component will vary during the term of the permit. Phased implementation may be appropriate when additional data must be collected or technical guidance, training materials, or appropriate ordinances must be developed prior to full implementation. A schedule that includes milestones should be part of the description.

- **Pilot Studies.** Although the municipality must implement and comply with *each* provision of the municipal storm water permit, the municipality may choose to carry out pilot studies that involve limited experimental implementation of a program component. In some cases, pilot studies may be authorized by the permit. Used to evaluate the effectiveness of a program component, pilot studies may be appropriate when a technology is unproven or when data must be collected to develop operating standards or procedures. A schedule including milestones should be included in the description of a pilot study. This schedule should provide options for phased implementation of the program component, showing alternatives based on various possible results of the pilot study.

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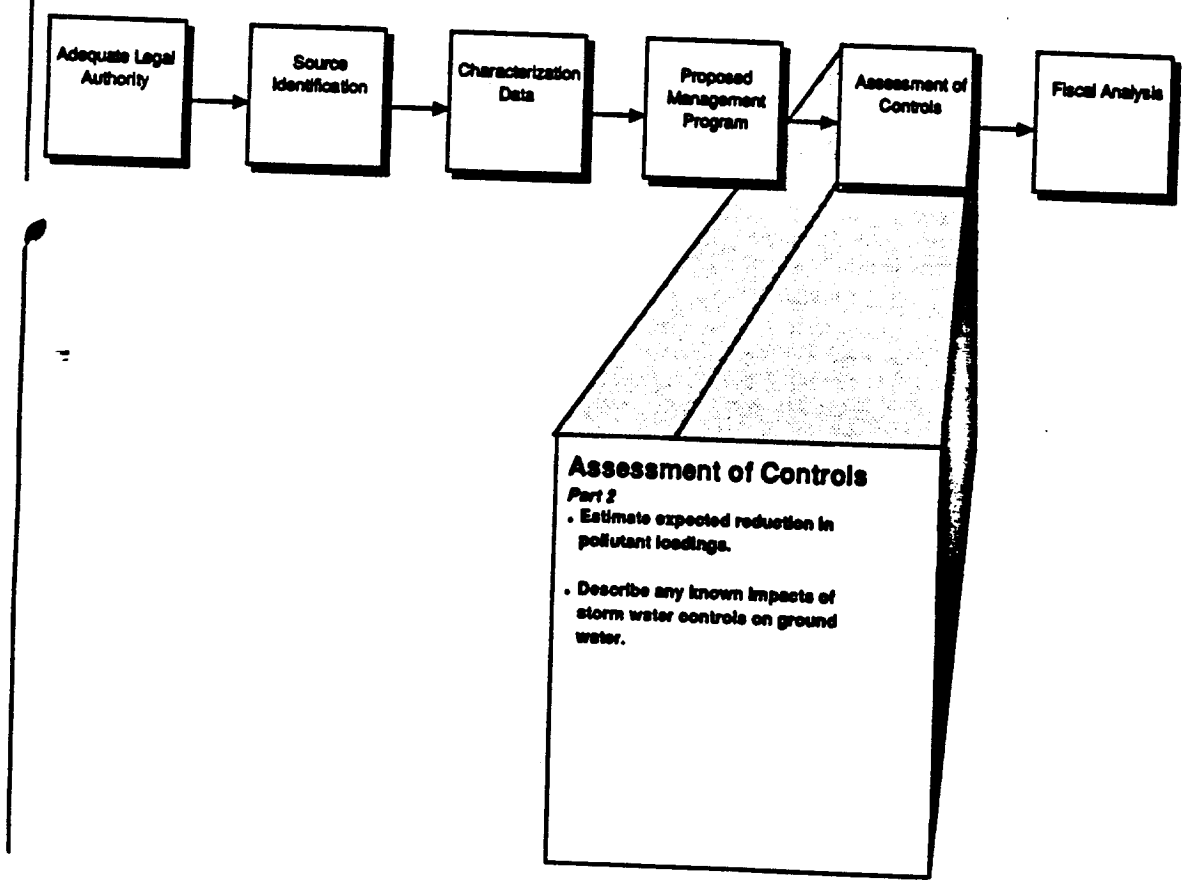
CHAPTER 7
ASSESSMENT OF CONTROLS



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7.0 ASSESSMENT OF CONTROLS

7.1 BACKGROUND

Part 2 applications require that municipalities estimate the effectiveness of their proposed storm water quality management programs. The regulations require an initial estimate or assessment because the performance of appropriate management controls is highly dependent on site-specific factors. Program effectiveness can be estimated through both direct measurements (such as reductions in annual pollutant loads) and indirect measurements (such as measurements that demonstrate increased public awareness of storm water quality issues). At a minimum, applicants must submit estimated reductions in pollutant loads expected to result from implemented controls and describe known impacts of storm water controls on ground water.

> 122.26(d)(2)(v). *Assessment of controls.* [The application must include] estimated reductions in loadings of pollutants for discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

Reductions in pollutant loads due to the implementation and maintenance of structural controls provide direct measurements of the effectiveness of the storm water management program. In addition, EPA encourages applicants to go beyond the minimum requirement and assess the effectiveness of their storm water management program through other direct measurements as well as indirect measurements. As discussed below, indirect measurements provide surrogate estimates of qualitative factors, such as increased public awareness of storm water quality issues.

Estimates of the effectiveness of the storm water management program will assist the municipality and the permit writer in:

- Determining whether the most cost-effective best management practices (BMPs) are included in the storm water management program;
- Ensuring that the storm water management program includes adequate public participation programs and intergovernmental coordination;
- Establishing on-going monitoring inspection and surveillance programs that help refine estimates of program effectiveness; and
- Developing a strategy to evaluate progress toward achieving water quality goals.

7.2 ASSESSMENT OF STORM WATER MANAGEMENT PROGRAM

For some components of a proposed storm water management program, such as structural controls (e.g., vegetative streambank stabilization, sediment pond or basin, etc.), the effect on pollution in storm water runoff is observable, and pollutant removal efficiencies can be estimated directly. For other components, pollutant reductions may be difficult to quantify. Applicants may need to use indirect estimates. For example, a program component may address source controls such as changing the behavior of citizens in the community, or improving the municipal control of industrial or commercial runoff. For

components of the proposed management program where pollutant removal efficiency cannot be reasonably estimated, applicants are strongly encouraged to identify some indirect measurement that can be used to evaluate the success of the practice.

7.2.1 Direct Measurements of Program Effectiveness

As discussed above, 40 CFR 122.26(d)(2)(v) requires that applicants submit estimates of expected pollutant load reductions with their Part 2 applications. To supplement these estimates, applicants could provide estimates of other direct measurements of program effectiveness, including:

- Removal efficiencies of BMPs that control storm water quality;
- Reductions in the volume of storm water discharged;
- Reductions in event mean concentrations; or
- Reductions in seasonal pollutant loadings.

Such direct estimates do not have to be verified with quantitative data, but can be based on accepted engineering design practices. However, the applicant should describe its procedures for estimating the effectiveness of the control. Applicants should present estimates of pollutant load reductions or other measurements separately for each component of the proposed management program. Applicants should provide estimated reductions on a watershed basis and system-wide basis.

Reductions in pollutant loadings can be estimated by first estimating the pollutant loading (based on concentrations and flows) that would result without the control measure. This value should then be multiplied by the efficiency of the control expressed in terms of a fraction or percentage. Estimated control efficiencies can be obtained from published sources, such as Schueler (1987) (see bibliography in Appendix A). Note that for most control measures, the pollutant removal efficiency differs for different classes of pollutants.

After the municipality's storm water management program is implemented, the municipality can work to refine its initial assessment of the program. For example, the permit will require applicants to submit estimates of event mean concentrations and estimates of annual pollutant loadings for each outfall in the system [§122.26(d)(2)(iii)(C), discussed in Section 5.5 of this guidance]. These estimates can be compared with the applicant's initial estimates.

In addition, the estimated removal efficiencies can be refined through the monitoring program required by §122.26(d)(2)(iii)(D) (discussed in Section 5.6 of this guidance). To refine these estimates, the monitoring program should include measurements at the inflow and outflow points of the control. Throughout the permit term, the municipality must submit refinements to its assessment or additional direct measurements of program effectiveness in its annual report (Section 7.3).

The applicant should use direct measurements of program effectiveness as it begins to assess its long-term progress in improving water quality through storm water management practices. Direct measurements of program effectiveness may not provide meaningful conclusions on trends in water quality improvements for a couple of permit terms. However, applicants are encouraged to use direct measurements of program effectiveness, such as annual pollutant loads, event mean concentrations, and seasonal pollutant loadings, to begin to estimate long-term trends. Several statistical methods that rely on linear regression have been developed

to model these measurements to determine if trends exist.

7.2.2 Indirect Measurements of Program Effectiveness

When pollutant reductions cannot be estimated through direct measurement, appropriate indirect measurements may be used. These may include the estimated level of increased enforcement activity, increased public awareness, or reduction in number of illegal dumping incidents. For example, a field screening program to identify illicit connections and improper dumping in Fort Worth, Texas, used reductions in observations of indicator pollutants as a measure of the success of the program (Fort Worth, 1988).

Other possible indirect measurements include:

- Gallons of used oil recycled;
- Amount of household hazardous waste collected;
- Number of educational brochures on storm water quality distributed;
- Number of public hearings on storm water and attendance at these hearings;
- Circulation of an annual report or periodic newsletters on progress in meeting storm water quality goals;
- Number of reports of illicit discharges or illegal dumping;
- Number of spill clean-ups;
- Number of sewer inlets stenciled;
- Acres of open space;
- Number of construction and erosion and sediment control plans submitted and approved.

Many of these indirect measurements will help to indicate whether the storm water management program includes adequate public participation and intergovernmental coordination.

7.2.3 Impacts of Storm Water Controls on Ground Water

Structural BMPs may have an impact on other media. Therefore, the Part 2 application requires that applicants discuss known impacts of storm water controls on ground water. Impacts should be identified separately for each component of the proposed management program. These controls may increase the quantity of ground water (such as infiltration leading to recharge), but degrade the quality of the ground water. For example, in arid parts of the Southwest, imported water is often used for irrigation. This increases the quantity of ground water, but, because of high levels of nutrients and total suspended and dissolved solids in the irrigation water, also results in impacts on ground water quality.

In addition, the applicant should evaluate whether structural controls for storm water impact other media, such as wetlands.

7.3. ANNUAL REPORTS ON THE EFFECTIVENESS OF THE STORM WATER MANAGEMENT PROGRAM

Under §122.42(c), applicants must provide annual reports on the progress of their storm water management programs. These reports, which are due on the anniversaries of permit issuance, must include:

- The status of implementing the components of the storm water management program that are required by the permit;
- Proposed changes to the storm water management programs that are established as permit conditions;

- Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application;
- Summary of data, including monitoring data, that are accumulated throughout the reporting year;
- Projected annual expenditures and budget for the year following each annual report;
- A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
- Identification of water quality improvements or degradation.

Applicants should refer to the specific regulatory language in §122.42(c) for a more complete discussion of annual reporting requirements.

Although the Part 2 application requirements do not specifically address annual reporting requirements, applicants should consider their strategy for preparing annual reports when they complete their Part 2 applications. A municipality may develop a strategy to assess the progress of its storm water management program throughout the term of the permit in addition to providing a baseline assessment of its program. To develop the strategy, applicants should:

- Identify the direct or indirect measurements that will be used to track the long-term progress of the applicant's program towards achieving improvements in storm water quality (the results of this assessment would appear in the municipality's annual report);
- Discuss the role of monitoring data in substantiating or refining their assessment of the progress of their program towards established objectives and goals; and
- Discuss how future additions or revisions to the assessment measurements or strategy will be implemented by the municipality (e.g., what roles and responsibilities will participating municipal agencies and/or organizations have in this area).

It is anticipated that many municipalities will use the same criteria or measurements that were used in the baseline assessment to develop their long-term assessment strategy. This is an acceptable approach provided that the municipality delineates how their program provides for a longer term assessment of the progress of their storm water management program. The municipality is encouraged to consider in advance the information requirements for annual reporting that are identified above when developing their long-term assessment strategy.

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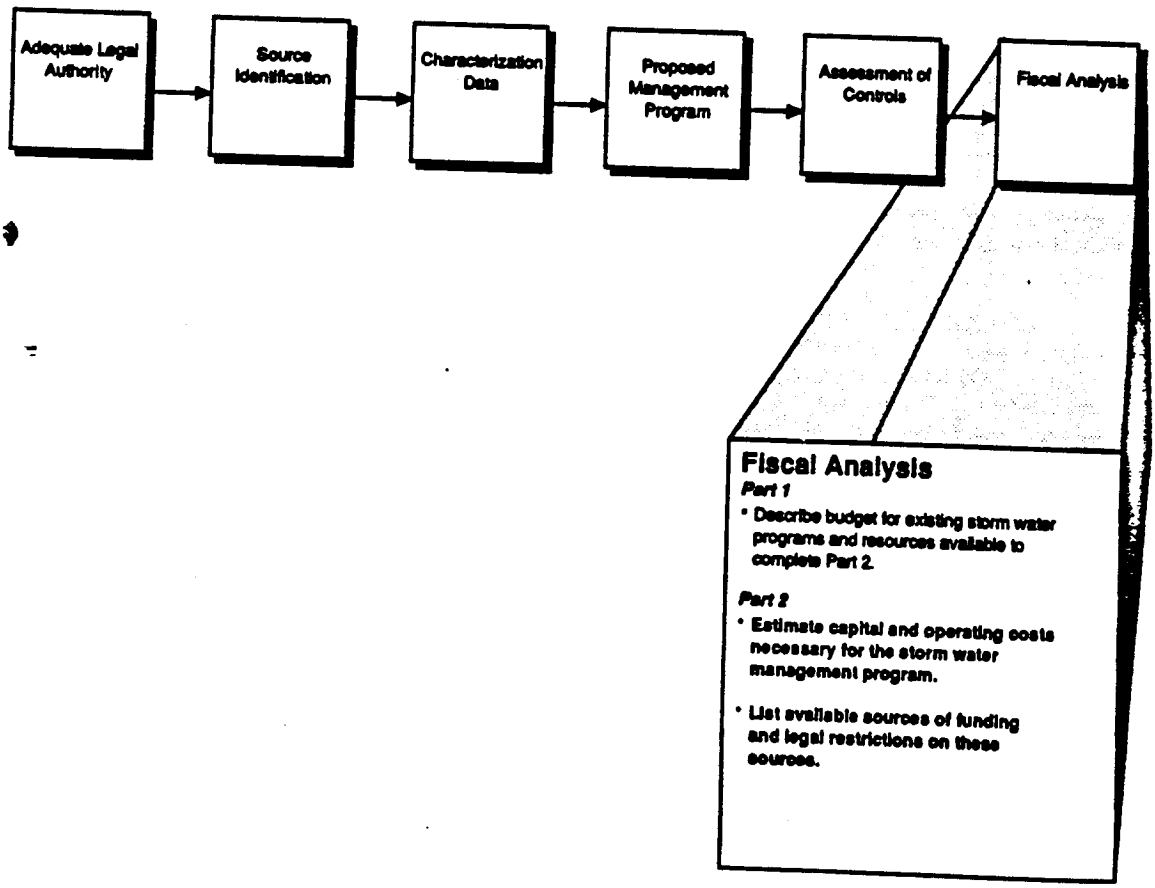
CHAPTER 8
FISCAL ANALYSIS



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8.0 FISCAL ANALYSIS

8.1 BACKGROUND

NPDES permits for discharges from MS4s will require municipal permittees to implement management programs, conduct long term storm water monitoring, and provide other information. Because these activities will result in expense to the municipality, a fiscal analysis is required in the Part 2 application.

Applicants must provide yearly cost estimates for these programs. Applicants also must provide a schedule indicating when funds will be available. Examining the levels of proposed spending and funding allows the permitting authority to gauge the ability of the applicant to implement the program and predict its effectiveness. The fiscal analysis also will help the permit writer determine whether the applicant has met the statutory requirement of reducing the discharge of pollutant to the MS4 to the maximum extent practicable. Finally, the estimates help the applicant evaluate the feasibility and cost-effectiveness of its program. A municipality must update its fiscal analysis each year for the annual report on the progress in implementing their storm water management program [40 CFR 122.42(c)(3) and (5), discussed in Section 7.3 of this guidance].

8.2 PROCEDURE FOR CONDUCTING A FISCAL ANALYSIS

Under §122.26(d)(2)(vi), each applicant must demonstrate sufficient financial resources to implement the conditions of the permit.

Adequate resources may be demonstrated by performing a fiscal analysis of the estimated capital and operation and maintenance expenditures required to complete the activities required by the regulations. This fiscal analysis must be performed for each fiscal year to be covered by the permit (5 years, in most cases). The analysis must describe the source of the funds used to meet the necessary expenditures, including any legal restrictions on the appropriated funds.

> §122.26(d)(2)(vi). [The application must include] for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

The following procedure is an example of a method of conducting the necessary fiscal analysis.

Step 1. Identify the major tasks for each component covered by this application requirement, including:

- Elements of the proposed management program;
- Estimates of seasonal loads and event mean concentrations for each major outfall covered by the permit; and
- Proposed monitoring program.

Step 2. Develop a schedule outlining when each of the tasks identified in Step 1 will be undertaken. Some tasks may be performed just once, others may be on-going. For example, the schedule should include, among other things:

- The installation of any new control measures identified in the proposed

management program [§122.26(d)(2)(iv), discussed in Section 6.4];

- A maintenance schedule for structural best management practices (BMPs) [§122.26(d)(2)(iv)(A)(1), discussed in Section 6.4.3];

- Development of seasonal pollutant loadings and event mean concentrations of a representative storm [§122.26(d)(2)(iii)(C), discussed in Section 5.5];

- Monitoring program for representative data collection for the term of the permit [§122.26(d)(2)(iii)(D), discussed in Section 5.6];

- Monitoring program for industrial facilities [§122.26(d)(2)(iv)(C)(2), discussed in Section 6.3.3];

- On-going field screening program for illicit discharges [§122.26(d)(2)(iv)(B), discussed in Section 6.5];

- Development of certification programs for construction workers or pesticide applicators, if appropriate [§122.26(d)(2)(iv), discussed in Sections 6.3.1 and 6.3.2]; and

- Implementation schedules for other components of the storm water application that have not been fully implemented at the time of application, such as additional legal authority or comprehensive development plans.

Step 3. Estimate the capital expenses necessary to accomplish the tasks identified in Step 1 and determine a schedule for purchase. Applicants may elect to define categories of capital expenditures such as "monitoring equipment," "miscellaneous monitoring supplies," "personal protective equipment," etc.

Step 4. Estimate other non-capital costs to implement the tasks identified in Step 1. Use the schedule developed in Step 2 to spread costs over the term of the permit. Costs should be presented as a total annual cost for each proposed program component. In addition, estimates of the total annual costs and annual per capita costs should be provided. Per capita costs can be compared with the per capita costs of other programs, such as sewage treatment programs.

These costs may include items such as :

- Newspaper ads announcing new programs or recycling centers;

- Holding public meetings or hearings; and

- Labor for department personnel to speak to citizens groups.

Step 5. Identify funding to be applied. Applicants must describe the sources of funding and any legal restrictions on that funding. Sources may include general revenues, storm water utilities, plan review fees, permit fees, industrial/commercial user fees, special assessment district funds, and revenue bonds. Some funding sources, such as general revenues based on property taxes, are generally unrestricted, but can be allocated by local officials annually. In a few cases, a local property tax may be dedicated to finance a storm water management program. For example, one county finances its storm water management program through a dedicated property tax of $0.135 per $100 assessed valuation. Other municipalities add special assessments to property tax bills.

A storm water utility is another source of funding dedicated to financing storm water management activities. The storm water utility offers the advantage of a stable and predictable source of funds. Other advantages of storm water utilities over general revenues are that utility charges can be more equitably based on

the user's contribution to local storm water problems, and a utility provides a mechanism to incorporate incentives for on-site storm water management.

In many cases, municipalities will evaluate sources of funds that are not currently available, such as a new storm water utility. In these cases, applicants must include a schedule of when funds will be available. For example, it usually takes a municipality 18 to 24 months of planning before local elected officials authorize a storm water utility, and another 6 to 12 months to implement the utility (Lindsey, 1988). Key milestones for planning and implementing the funding mechanism must be identified in the schedule. The following components have been found to be important in establishing storm water utilities:

- Determining the most appropriate administrative structure for implementing a storm water management program;
- Adopting a storm water utility ordinance;
- Estimating revenue needs and planning for cost recovery;
- Establishing a utility rate structure and billing system;
- Establishing a system for developer contributions; and
- Implementing a public information program.

Step 6. Compare the funding sources with the funding needs. As a last step in this process, the municipality must ensure that adequate funding is available to cover the cost of implementing the storm water management program. If adequate funding is not available, the municipality must consider alternate sources of funding, such as a storm water utility.

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APPENDIX A: BIBLIOGRAPHY

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BIBLIOGRAPHY*

Alachua County OEP, *Best Management Practices for the Use and Storage of Hazardous Materials*, Alachua County Office of Environmental Protection. No date.

Chollar, B., *An Overview of Deicing Research in the United States In the Environmental Impact of Highway Deicing*, Proceedings of a Symposium held October 13, 1989, at the University of California, Davis Campus, Institute of Ecology Publication No. 33. September 1990.

City of Fort Worth, *Operational Guide*, Drainage Water Pollution Control Program. October 1989.

City of Seattle, *NPDES Storm Water Permit Application, Part 1*, City of Seattle: 37. November 1991.

City of Tulsa, *Storm Sewer System Investigation Upstream of the Pedestrian Bridge on the Arkansas River*, City of Tulsa, OK, prepared by CH2M Hill. March 1989.

Driscoll, E.D., *Rainfall/Runoff Relationships from the NURP Runoff Database*, presented at Stormwater and Quality Models Users Group Meeting, Montreal, Quebec. September 8-9, 1983.

Duda, A.M., D. Lenat, and D. Penrose, "Water Quality in Urban Streams - What We Can Expect," *J. Water Pollut. Contr. Fed.* 54(7): 1139-1147. 1982.

Ferguson, B., "Urban Stream Reclamation," *Journal of Soil and Water Conservation*. September-October 1991.

Hamm, Denise A., *A Case Study in Ecosystem Valuation: Valuation of the Congaree Bottomland Hardwood Ecosystem Services*, Climate Change Division, Global Programs Office, EPA Office of Policy, Planning and Evaluation. August 1991.

Horner, R., *Biofiltration Systems for Storm Runoff Water Quality Control*, Report to Washington State Department of Ecology, Municipality of Metropolitan Seattle, King County and the Cities of Bellevue, Mountlake Terrace, and Redmond. 1988.

Klein, R., *Urbanization and Stream Quality Impairment*, Water Resources Bulletin, American Water Resources Association. August 1979.

Kuo, C.Y. et. al., *A Study of Infiltration Trenches*, Virginia Water Resources Control Board, Bulletin 163. April 1989.

Lindsey, Greg, *Financing Stormwater Management: The Utility Approach*, Maryland Department of the Environment, Sediment and Stormwater Administration. 1988.

Louisville and Jefferson Counties, KY, *Local Government Hazardous Control - A Program That Works*, Louisville and Jefferson Counties, KY, Metropolitan Sewer Districts. No date.

McCuen, Richard, *Policy Guidelines for Controlling Stream Channel Erosion with Detention Basins*, Department of Civil Engineering, University of Maryland. December 1987.

MWCOG, *Developing Effective BMP Systems for Urban Watersheds.* Metropolitan Washington Council of Governments, from EPA Nonpoint Source Watershed Workshop: Nonpoint Source Solutions, EPA Office of Research and Development, Office of Water, EPA 625/4-91/027. September 1991.

Salt Institute, *The Salt Storage Handbook,* Salt Institute. 1987.

Schueler, Thomas R., *Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs,* Metropolitan Washington Council of Governments. 1987.

Schueler, T. *Mitigating the Adverse Impacts of Urbanization on Streams: A Comprehensive Strategy for Local Governments,* Metropolitan Washington Council of Governments. 1991.

Schueler, T., Kumble, P., and Heraty, M., *A Current Assessment of Urban Best Management Practices: Techniques for Reducing Non-Point Source Pollution in the Coastal Zone,* Metropolitan Washington Council of Governments. 1992.

Shelley, P.E., and D.R. Gaboury, *Urban Runoff Quality,* American Society of Civil Engineers. 1986.

Steward, W., *Compost Storm Water Treatment System,* proceedings of the National Association of Environmental Professionals Conference, 1992.

Torno, H., *Pollution Abatement in Tokyo, Koyama, Takaaki in Urban Stormwater Quality Enhancement, Source Control, Retrofitting, and Combined Sewer Technology,* ASCE. 1990.

U.S. Army Corps of Engineers, *Charles River Watershed, Massachusetts Natural Valley Storage Project,* Design Memorandum No. 1, "Hydrologic Analysis," New England Division, Waltham, Massachusetts, 1976, in *Wetlands: Their Use and Regulation,* U.S. Congress, Office of Technology Assessment, OTA-00-206. March 1984.

U.S. Environmental Protection Agency, *Manual for Deicing Chemicals: Application Practices,* EPA 670/2-74-045. 1974(a).

U.S. Environmental Protection Agency, *Manual for Deicing Chemicals: Storage and Handling,* EPA 670/2-74-033. 1974(b).

U.S. Environmental Protection Agency, *An Economic Analysis of the Environmental Impact of Highway Deicing,* EPA 600/2-76-105. 1976.

U.S. Environmental Protection Agency, *Results of the Nationwide Urban Runoff Program Final Report,* EPA Planning Division, National Technical Information Service (NTIS) Accession No. PB84-8552. 1983.

U.S. Environmental Protection Agency, *Characterizing and Controlling Urban Runoff through Street and Sewage Cleaning,* prepared by Pitt, R.E., Consulting Engineer, Blue Mounds, WI, EPA 600/2-85/038, (NTIS PB 85-186500/Reb.). 1985.

U.S. Environmental Protection Agency, *Revised Baseline Flow Data for Used Oil Modelling.* March 13, 1987.

U.S. Environmental Protection Agency, *Nonpoint Source Monitoring and Evaluation Guide*, EPA Office of Water, Nonpoint Source Control Branch. February 26, 1988(a).

U.S. Environmental Protection Agency, *Design Manual, Constructed Wetlands and Aquatic Plant Systems for Municipal Water Treatment*, EPA 625/1-88/022. September 1988(b).

U.S. Environmental Protection Agency, *Facts About Stormwater Management Programs in the State of Florida*, EPA Office of Water, Nonpoint Source Control Branch. December 1989(a).

U.S. Environmental Protection Agency, *Retrofitting Stormwater Management Basins for Phosphorus Control*, EPA Office of Water, Nonpoint Source Control Branch, Publication U-1. August 1989(b).

U.S. Environmental Protection Agency. *Final Draft - Policy on the Use of Biological Assessments and Criteria in the Water Quality Program.* January 1990(a).

U.S. Environmental Protection Agency, *Water Quality Standards for Wetlands - National Guidance*, EPA Office of Water Regulations and Standards, EPA 440/5-90/011. July 1990.

U.S. Environmental Protection Agency, *Draft - Manual of Practice: Identification of Illicit Connections.* September 1990(b).

U.S. Environmental Protection Agency, *Urban Targeting and BMP Selection*, EPA Region V, Water Division. November 1990(c).

U.S. Environmental Protection Agency, *National Water Quality Inventory, 1990 Report to Congress*, Office of Water. 1990(d).

U.S. Environmental Protection Agency, *Technical Support Document For Water Quality-Based Toxics Control*, EPA/505/2-90-001, PB91-127415: 79-82. March 1991(a).

U.S. Environmental Protection Agency, *Guidance Manual for the Preparation of Part 1 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems*, EPA 505/8-91-003A. April 1991(b).

U.S. Environmental Protection Agency, *Proposed Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, EPA Office of Water. May 1991(c).

U.S. Environmental Protection Agency, *NPDES Storm Water Sampling Guidance Document*, EPA Office of Water. July 1992(a).

U.S. Environmental Protection Agency, *Storm Water Management for Industrial Activities Developing Pollution Prevention Plans and Best Management Practices*, EPA 832-R-92-006. September 1992(b).

Virginia, State House of Representatives, *An Evaluation of the Virginia Erosion and Sedimentation Control Program*, House Document No. 15, Richmond, VA. 1988.

WDOE, *Public Review Draft - Stormwater Management Manual for the Puget Sound Basin*, Washington State Department of Ecology, Publication #90-73. June 1991.

Wetlands: Their Use and Regulation, U.S. Congress, Office of Technology Assessment, OTA-00-206. March 1984.

* For additional sources of information, applicants may wish to consult the documents listed in the biblioghraphy of: Urban Drainage & Flood Control District, *Urban Storm Drainage Criteria Manual, Vol.III*, Urban Drainage and Flood Control District, Denver, CO. September 1, 1992.

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APPENDIX B:
PART 2 APPLICATION REQUIREMENTS

07120

certify, pursuant to 5 U.S.C. 605(b), that these amendments do not have a significant impact on a substantial number of small entities.

List of Subjects in 40 CFR Parts 122, 123, and 124

Administrative practice and procedure, Environmental protection, Reporting and recordkeeping requirements, Water pollution control.

Authority: Clean Water Act, 33 U.S.C. 1251 *et seq.*

Dated: October 31, 1990.

William K. Reilly,

Administrator.

For the reasons stated in the preamble, parts 122, 123, and 124 of title 40 of the Code of Federal Regulations are amended as follows:

PART 122—EPA ADMINISTERED PERMIT PROGRAMS; THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Subpart B—Permit Application and Special NPDES Program Requirements

1. The authority citation for part 122 continues to read as follows:

Authority: Clean Water Act, 33 U.S.C. 1251 *et seq.*

2. Section 122.1 is amended by revising paragraph (b)(2)(iv) to read as follows:

§ 122.1 Purpose and scope.

* * * * *

(b) * * *

(2) * * *

(iv) Discharges of storm water as set forth in § 122.26; and

* * * * *

3. Section 122.21 is amended by revising paragraph (c)(1), by removing the last sentence of paragraph (f)(7), by removing paragraph (f)(9), by adding two sentences at the end of paragraph (g)(3), by revising paragraph (g)(7) introductory text, by removing and reserving paragraph (g)(10) and by revising the introductory text of paragraph (k) to read as follows:

§ 122.21 Application for a permit (applicable to State programs, see § 123.25).

* * * * *

(c) *Time to apply.* (1) Any person proposing a new discharge, shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application 180 days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial activity. Facilities described under § 122.26(b)(14)(x) shall submit applications at least 90 days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90 or 180 day requirements to avoid delay. See also paragraph (k) of this section and § 122.26 (c)(1)(i)(G) and (c)(1)(ii).

* * * * *

(g) * * *

(3) * * * The average flow of point sources composed of storm water may be estimated. The basis for the rainfall event and the method of estimation must be indicated.

* * * * *

(7) *Effluent characteristics.* Information on the discharge of pollutants specified in this paragraph (except information on storm water discharges which is to be provided as specified in § 122.26). When "quantitative data" for a pollutant are required, the applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. When an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also apply to the substantially identical outfalls. The requirements in paragraphs (g)(7) (iii) and (iv) of this section that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. Grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform and fecal streptococcus. For all other pollutants, 24-hour composite samples must be used. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period greater than 24 hours. In addition, for discharges other than storm water discharges, the Director may waive composite sampling for any outfall for which the applicant demonstrates that the use of an automatic sampler is infeasible and that the minimum of four (4) grab samples will be a representative sample of the effluent being discharged. For storm water discharges, all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area. For all applicants, a flow-weighted composite shall be taken for either the entire discharge or for the first three hours of the discharge. The flow-weighted composite sample for a storm water discharge may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes (applicants submitting permit applications for storm water discharges under § 122.26(d) may collect flow weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director). However, a minimum of one grab sample may be taken for storm water discharges from holding ponds or other impoundments with a retention period greater than 24 hours. For a flow-weighted composite sample, only one analysis of the composite of aliquots is required. For storm water discharge samples taken from discharges associated with industrial activities, quantitative data must be reported for the grab sample taken during the first thirty minutes (or as soon thereafter as practicable) of the discharge for all pollutants specified in § 122.26(c)(1). For all storm water permit applicants taking flow-weighted composites, quantitative data must be reported for all pollutants specified in § 122.26 except pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under 40 CFR part 136, and additional time for submitting data on a

case-by-case basis. An applicant is expected to "know or have reason to believe" that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated storm water runoff from the facility.)

• • • • •

(k) *Application requirements for new sources and new discharges.* New manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits (except for new discharges of facilities subject to the requirements of paragraph (h) of this section or new discharges of storm water associated with industrial activity which are subject to the requirements of § 122.26(c)(1) and this section (except as provided by § 122.26(c)(1)(ii)) shall provide the following information to the Director, using the application forms provided by the Director:

• • • • •

4. Section 122.22(b) introductory text is revised to read as follows:

§ 122.22 Signatories to permit applications and reports (applicable to State programs, see § 123.25).

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(b) All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

• • • • •

5. Section 122.26 is revised to read as follows:

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* (1) Prior to October 1, 1992, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(i) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(ii) A discharge associated with industrial activity (see § 122.26(a)(4));

(iii) A discharge from a large municipal separate storm sewer system;

(iv) A discharge from a medium municipal separate storm sewer system;

(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at § 122.2.

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:

(A) The location of the discharge with respect to waters of the United States as defined at 40 CFR 122.2.

(B) The size of the discharge;

(C) The quantity and nature of the pollutants discharged to waters of the United States; and

(D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(3) *Large and medium municipal separate storm sewer systems.* (i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(C) A regional authority may be responsible for submitting a permit application under the following guidelines:

(*1*) The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due;

(*2*) The permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the municipal application;

(*3*) Each of the operators of municipal separate storm sewers within the systems described in paragraphs (b)(4)(i), (ii), and (iii) or (b)(7)(i), (ii), and (iii) of this section, that are under the purview of the designated regional authority, shall comply with the application requirements of paragraph (d) of this section.

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

(4) *Discharges through large and medium municipal separate storm sewer systems.* In addition to meeting the requirements of paragraph (c) of this section, an operator of a storm water discharge associated with industrial activity which discharges through a large or medium municipal separate storm sewer system shall submit, to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the location of the discharge; a description, including Standard Industrial Classification, which best reflects the principal products or services provided by each facility; and any existing NPDES permit number.

(5) *Other municipal separate storm sewers.* The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(6) *Non-municipal separate storm sewers.* For storm water discharges associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system, the Director, in his discretion, may issue: a single NPDES permit, with each discharger a co-permittee to a permit issued to the operator of the portion of the system that discharges into waters of the United States; or, individual permits to each discharger of storm water associated with industrial activity through the non-municipal conveyance system.

(i) All storm water discharges associated with industrial activity that discharge through a storm water discharge system that is not a municipal separate storm sewer must be covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to waters of the United States, with each discharger to the non-municipal conveyance a co-permittee to that permit.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must submit applications.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

(7) *Combined sewer systems.* Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must obtain NPDES permits in accordance with the procedures of § 122.21 and are not subject to the provisions of this section.

(8) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under title II, title III or title VI of the Clean Water Act. *See* 40 CFR part 35, subpart I, appendix A(b)H.2.j.

(b) *Definitions.* (1) *Co-permittee* means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) *Illicit discharge* means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(3) *Incorporated place* means the District of Columbia, or a city, town, township, or village that is incorporated under the laws of the State in which it is located.

(4) *Large municipal separate storm sewer system* means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 250,000 or more as determined by the latest Decennial Census by the Bureau of Census (appendix F); or

(ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; and

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraph (b)(4) (i), (ii), (iii) of this section.

(5) *Major municipal separate storm sewer outfall* (or "major outfall") means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) *Major outfall* means a major municipal separate storm sewer outfall.

(7) *Medium municipal separate storm sewer system* means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the latest Decennial Census by the Bureau of Census (appendix G); or

(ii) Located in the counties listed in appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (b)(7) (i), (ii), (iii) of this section.

(8) *Municipal separate storm sewer* means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

(9) *Outfall* means a *point source* as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(10) *Overburden* means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

(11) *Runoff coefficient* means the fraction of total rainfall that will appear at a conveyance as runoff.

(12) *Significant materials* includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

(13) *Storm water* means storm water runoff, snow melt runoff, and surface runoff and drainage.

(14) *Storm water discharge associated with industrial activity* means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under 40 CFR part 122. For the categories of industries identified in paragraphs (b)(14) (i) through (x) of this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph (b)(14)(xi) of this section, the term includes only storm water discharges from all the areas (except access roads and rail lines) that are listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in this paragraph (b)(14)(i)–(xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined

materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)–(vii) or (ix)–(xi) of this section are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA;

(x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221–25, (and which are not otherwise included within categories (ii)–(x));

(c) *Application requirements for storm water discharges associated with industrial activity*—(1) *Individual application.* Dischargers of storm water associated with industrial activity are required to apply for an individual permit, apply for a permit through a group application, or seek coverage under a promulgated storm water general permit. Facilities that are required to obtain an individual permit, or any discharge of storm water which the Director is evaluating for designation (*see* 40 CFR 124.52(c)) under paragraph (a)(1)(v) of this section and is not a municipal separate storm sewer, and which is not part of a group application described under paragraph (c)(2) of this section, shall submit an NPDES application in accordance with the requirements of § 122.21 as modified and supplemented by the provisions of the remainder of this paragraph. Applicants for discharges composed entirely of storm water shall submit Form 1 and Form 2F. Applicants for discharges composed of storm water and non-storm water shall submit Form 1, Form 2C, and Form 2F. Applicants for new sources or new discharges (as defined in § 122.2 of this part) composed of storm water and non-storm water shall submit Form 1, Form 2D, and Form 2F.

(i) Except as provided in § 122.26(c)(1)(ii)–(iv), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) of the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present area used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall (within a mile radius of the facility) and a narrative description of the following: Significant materials that in the three years prior to the submittal of this application have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge;

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by a NPDES permit; tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test;

(D) Existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility that have taken place within the three years prior to the submittal of this application;

(E) Quantitative data based on samples collected during storm events and collected in accordance with § 122.21 of this part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

(*1*) Any pollutant limited in an effluent guideline to which the facility is subject;

(*2*) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);

(*3*) Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;

(*4*) Any information on the discharge required under paragraph § 122.21(g)(7)(iii) and (iv) of this part;

(5) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and

(6) The date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (in hours);

(F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(i), (g)(7)(ii), and (g)(7)(v); and

(G) Operators of new sources or new discharges (as defined in § 122.2 of this part) which are composed in part or entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this section instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this section within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new source or new discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (k)(3)(ii), (k)(3)(iii), and (k)(5).

(ii) The operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. Such operator shall provide a narrative description of:

(A) The location (including a map) and the nature of the construction activity;

(B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

(C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

(D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

(E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(F) The name of the receiving water.

(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:

(A) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or

(B) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or

(C) Contributes to a violation of a water quality standard.

(iv) The operator of an existing or new discharge composed entirely of storm water from a mining operation is not required to submit a permit application unless the discharge has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(v) Applicants shall provide such other information the Director may reasonably require under § 122.21(g)(13) of this part to determine whether to issue a permit and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) *Group application for discharges associated with industrial activity.* In lieu of individual applications or notice of intent to be covered by a general permit for storm water discharges associated with industrial activity, a group application may be filed by an entity representing a group of applicants (except facilities that have existing individual NPDES permits for storm water) that are part of the same subcategory (see 40 CFR subchapter N, part 405 to 471) or, where such grouping is inapplicable, are sufficiently similar as to be appropriate for general permit coverage under § 122.28 of this part. The part 1 application shall be submitted to the Office of Water Enforcement and Permits, U.S. EPA, 401 M Street, SW., Washington, DC 20460 (EN-336) for approval. Once a part 1 application is approved, group applicants are to submit Part 2 of the group application to the Office of Water Enforcement and Permits. A group application shall consist of:

(i) *Part 1.* Part 1 of a group application shall:

(A) Identify the participants in the group application by name and location. Facilities participating in the group application shall be listed in nine subdivisions, based on the facility location relative to the nine precipitation zones indicated in appendix E to this part.

(B) Include a narrative description summarizing the industrial activities of participants of the group application and explaining why the participants, as a whole, are sufficiently similar to be a covered by a general permit;

(C) Include a list of significant materials stored exposed to precipitation by participants in the group application and materials management practices employed to diminish contact by these materials with precipitation and storm water runoff;

(D) Identify ten percent of the dischargers participating in the group application (with a minimum of 10 dischargers, and either a minimum of two dischargers from each precipitation zone indicated in appendix E of this part in which ten or more members of the group are located, or one discharger from each precipitation zone indicated in appendix E of this part in which nine or fewer members of the group are located) from which quantitative data will be submitted in part 2. If more than 1,000 facilities are identified in a group application, no more than 100 dischargers must submit quantitative data in Part 2. Groups of between four and ten dischargers may be formed. However, in groups of between four and ten, at least half the facilities must submit quantitative data, and at least one facility in each precipitation zone in which members of the group are located must submit data. A description of why the facilities selected to perform sampling and analysis are representative of the group as a whole in terms of the information provided in paragraph (c)(1)(i)(B) and (i)(C) of this section, shall accompany this section. Different factors impacting the nature of the storm water discharges, such as processes used and material management, shall be represented, to the extent feasible, in a manner roughly equivalent to their proportion in the group.

(ii) *Part 2.* Part 2 of a group application shall contain quantitative

data (NPDES Form 2F), as modified by paragraph (c)(1) of this section, so that when part 1 and part 2 of the group application are taken together, a complete NPDES application (Form 1, Form 2C, and Form 2F) can be evaluated for each discharger identified in paragraph (c)(2)(i)(D) of this section.

(d) *Application requirements for large and medium municipal separate storm sewer discharges.* The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include:

(1) *Part 1.* Part 1 of the application shall consist of:

(i) *General information.* The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

(ii) *Legal authority.* A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) *Source identification.* (A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

(*1*) The location of known municipal storm sewer system outfalls discharging to waters of the United States;

(*2*) A description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;

(*3*) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;

(*4*) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;

(*5*) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and

(*6*) The identification of publicly owned parks, recreational areas, and other open lands.

(iv) *Discharge characterization.* (A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

(*1*) Assessed and reported in section 305(b) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

(*2*) Listed under section 304(l)(1)(A)(i), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;

(*3*) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);

(*4*) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under section 314(a) of the CWA (include the following: A description of those publicly owned lakes for which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);

(*5*) Areas of concern of the Great Lakes identified by the International Joint Commission;

(*6*) Designated estuaries under the National Estuary Program under section 320 of the CWA;

(*7*) Recognized by the applicant as highly valued or sensitive waters;

(*8*) Defined by the State or U.S. Fish and Wildlife Services's National Wetlands Inventory as wetlands; and

(*9*) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) *Field screening.* Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or

any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

(*1*) A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlayed on a map of the municipal storm sewer system, creating a series of cells;

(*2*) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(*3*) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(*4*) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(*5*) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(*6*) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(*7*) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (d)(1)(iv)(D) (*1*) through (*6*) of this section, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the applicant shall establish a grid system consisting of north-south and east-west lines spaced ¼ mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(E) *Characterization plan.* Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this section. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under paragraph (d)(2)(iii)(A) of this section, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (*see* paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) *Management programs.* (A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(vi) *Fiscal resources.* (A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

(2) *Part 2.* Part 2 of the application shall consist of:

(i) *Adequate legal authority:* A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

(ii) *Source identification.* The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(*1*) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

(iii) *Characterization data.* When "quantitative data" for a pollutant are required under paragraph (d)(s)(iii)(A)(*3*) of this paragraph, the applicant must collect a sample of effluent in accordance with 40 CFR 122.21(g)(7) and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

(A) Quantitative data from representative outfalls designated by the Director (based on information received

in part 1 of the application, the Director shall designate between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) developed as follows:

(*1*) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at § 122.21(g)(7) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(*2*) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(*3*) For samples collected and described under paragraphs (d)(2)(iii)(A)(*1*) and (A)(*2*) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:

Total suspended solids (TSS)
Total dissolved solids (TDS)
COD
BOD_5
Oil and grease
Fecal coliform
Fecal streptococcus
pH
Total Kjeldahl nitrogen
Nitrate plus nitrite
Dissolved phosphorus
Total ammonia plus organic nitrogen
Total phosphorus

(*4*) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under § 122.21(c)(7)) for BOD_5, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(*1*) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section; and

(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) *Proposed management program.* A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(*1*) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(*2*) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(*3*) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(*4*) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(*5*) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

(*6*) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

(B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(2) A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(3) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD$_5$, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7) (iii) and (iv).

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(2) A description of requirements for nonstructural and structural best management practices;

(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(4) A description of appropriate educational and training measures for construction site operators.

(v) *Assessment of controls.* Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

(vi) *Fiscal analysis.* For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2) (iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where requirements under paragraph (d)(1)(iv)(E), (d)(2)(ii), (d)(2)(iii)(B) and (d)(2)(iv) of this section are not practicable or are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from such requirements. The Director shall not exclude the operator of a discharge from a municipal separate storm sewer identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph except where authorized under this section.

(e) *Application deadlines.* Any operator of a point source required to obtain a permit under paragraph (a)(1) of this section that does not have an effective NPDES permit covering its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) For any storm water discharge associated with industrial activity identified in paragraph (b)(14) (i)–(xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or which is not covered under a promulgated storm water general permit, a permit application made pursuant to paragraph (c) of this section shall be submitted to the Director by November 18, 1991;

(2) For any group application submitted in accordance with paragraph (c)(2) of this section:

(i) Part 1 of the application shall be submitted to the Director, Office of Water Enforcement and Permits by March 18, 1991;

(ii) Based on information in the part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving part 1 of the group application.

(iii) Part 2 of the application shall be submitted to the Director, Office of Water Enforcement and Permits no later than 12 months after the date of approval of the part 1 application.

(iv) Facilities that are rejected as members of a group by the permitting authority shall have 12 months to file an individual permit application from the date they receive notification of their rejection.

(v) A facility listed under paragraph (b)(14) (i)–(xi) of this section may add on to a group application submitted in accordance with paragraph (a)(2)(i) of this section at the discretion of the Office of Water Enforcement and Permits, and only upon a showing of good cause by the facility and the group applicant: the request for the addition of the facility shall be made no later than February 18,1992; the addition of the facility shall not cause the percentage of the facilities that are required to submit quantitative data to be less than 10%, unless there are over 100 facilities in the group that are submitting quantitative data; approval to become part of group application must be obtained from the group or the trade association representing the individual facilities.

(3) For any discharge from a large municipal separate storm sewer system:

(i) Part 1 of the application shall be submitted to the Director by November 18, 1991;

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by November 16, 1992.

(4) For any discharge from a medium municipal separate storm sewer system:

(i) Part 1 of the application shall be submitted to the Director by May 18, 1992.

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application.

(iii) Part 2 of the application shall be submitted to the Director by May 17, 1993.

(5) A permit application shall be submitted to the Director within 60 days of notice, unless permission for a later date is granted by the Director (*see* 40 CFR 124.52(c)), for:

(i) A storm water discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraph (a)(1)(v) of this section);

(ii) A storm water discharge subject to paragraph (c)(1)(v) of this section.

(6) Facilities with existing NPDES permits for storm water discharges associated with industrial activity shall maintain existing permits. New applications shall be submitted in accordance with the requirements of 40 CFR 122.21 and 40 CFR 122.26(c) 180 days before the expiration of such permits. Facilities with expired permits or permits due to expire before May 18, 1992, shall submit applications in accordance with the deadline set forth under paragraph (c)(1) of this section.

(f) *Petitions.* (1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require a NPDES permit for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the Census estimates of the population served by such separate system to account for storm water discharged to combined sewers as defined by 40 CFR 35.2005(b)(11) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be reduced proportional to the fraction, based on estimated lengths, of the length of combined sewers over the sum of the length of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) Any person may petition the Director for the designation of a large or medium municipal separate storm sewer system as defined by paragraphs (b)(4)(iv) or (b)(7)(iv) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition.

8. Section 122.28(b)(2)(i) is revised to read as follows:

§ 122.28 General permits (applicable to State NPDES programs, see § 123.25).

* * * * *

(b) * * *

(2) *Requiring an individual permit.* (i) The Director may require any discharger authorized by a general permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Director to take action under this paragraph. Cases where an individual NPDES permit may be required include the following:

(A) The discharger or "treatment works treating domestic sewage" is not in compliance with the conditions of the general NPDES permit;

(B) A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source or treatment works treating domestic sewage;

(C) Effluent limitation guidelines are promulgated for point sources covered by the general NPDES permit;

(D) A Water Quality Management plan containing requirements applicable to such point sources is approved;

(E) Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;

(F) Standards for sewage sludge use or disposal have been promulgated for the sludge use and disposal practice covered by the general NPDES permit; or

(G) The discharge(s) is a significant contributor of pollutants. In making this determination, the Director may consider the following factors:

(*1*) The location of the discharge with respect to waters of the United States;

(*2*) The size of the discharge;

(*3*) The quantity and nature of the pollutants discharged to waters of the United States; and

(*4*) Other relevant factors;

* * * * *

7. Section 122.42 is amended by adding paragraph (c) to read as follows:

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25).

* * * * *

(c) *Municipal separate storm sewer systems.* The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;

(2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part;

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;

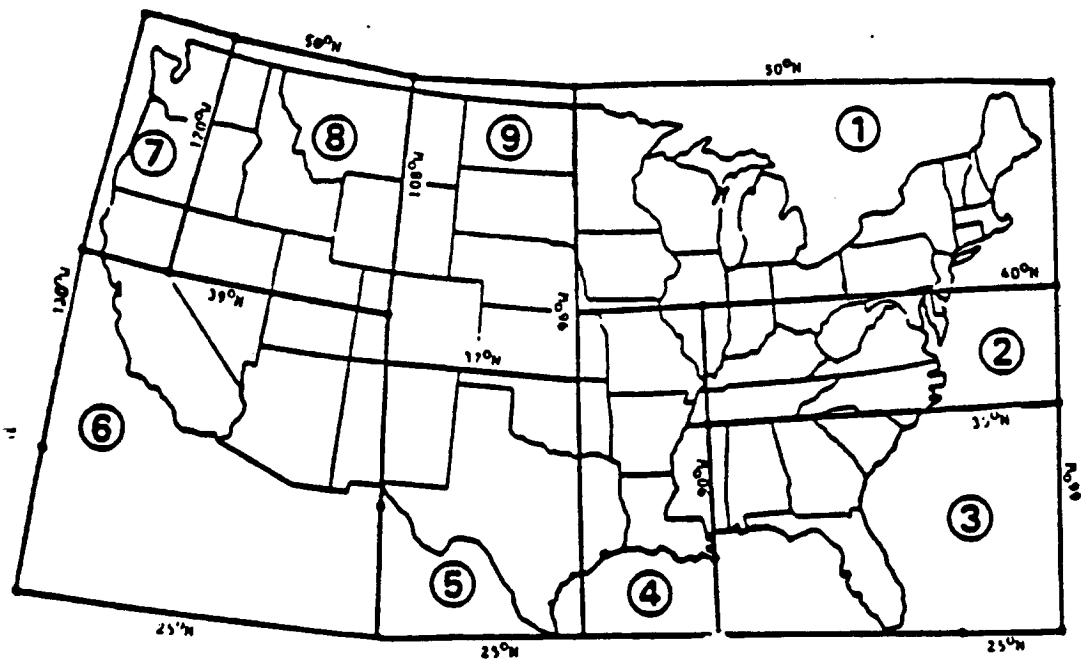
(5) Annual expenditures and budget for year following each annual report;

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs;

(7) Identification of water quality improvements or degradation;

7a. Part 122 is amended by adding appendices E through I as follows:

Appendix E to Part 122—Rainfall Zones of the United States



Not Shown: Alaska (Zone 7); Hawaii (Zone 7); Northern Mariana Islands (Zone 7); Guam (Zone 7); American Samoa (Zone 7); Trust Territory of the Pacific Islands (Zone 7); Puerto Rico (Zone 3) Virgin Islands (Zone 3).

Source: Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality, prepared for U.S. Environmental Protection Agency, Office of Water, Nonpoint Source Division, Washington, DC, 1986.

Appendix F to Part 122—Incorporated Places With Populations Greater Than 250,000 According to Latest Decennial Census by Bureau of Census.

State	Incorporated place
Alabama	Birmingham.
Arizona	Phoenix.
	Tucson.
California	Long Beach.
	Los Angeles.
	Oakland.
	Sacramento.
	San Diego.
	San Francisco.
	San Jose.
Colorado	Denver.
District of Columbia	
Florida	Jacksonville.
	Miami.
	Tampa.
Georgia	Atlanta.
Illinois	Chicago.
Indiana	Indianapolis.
Kansas	Wichita.
Kentucky	Louisville.
Louisiana	New Orleans.
Maryland	Baltimore.
Massachusetts	Boston.
Michigan	Detroit.
Minnesota	Minneapolis
	St. Paul.

State	Incorporated place
Missouri	Kansas City
	St. Louis.
Nebraska	Omaha.
New Jersey	Newark.
New Mexico	Albuquerque.
New York	Buffalo.
	Bronx Borough.
	Brooklyn Borough.
	Manhattan Borough.
	Queens Borough.
	Staten Island Borough.
North Carolina	Charlotte.
Ohio	Cincinnati.
	Cleveland.
	Columbus.
	Toledo.
Oklahoma	Oklahoma City
	Tulsa.
Oregon	Portland.
Pennsylvania	Philadelphia.
	Pittsburgh.
Tennessee	Memphis.
	Nashville/Davidson.
Texas	Austin.
	Dallas.
	El Paso.
	Fort Worth.
	Houston.
	San Antonio
Virginia	Norfolk.
	Virginia Beach
Washington	Seattle.
Wisconsin	Milwaukee.

Appendix G to Part 122—Incorporated Places With Populations Greater Than 100,000 and Less Than 250,000 According to Latest Decennial Census by Bureau of Census

State	Incorporated place
Alabama	Huntsville.
	Mobile.
	Montgomery
Alaska	Anchorage
Arizona	Mesa.
	Tempe.
Arkansas	Little Rock.
California	Anaheim.
	Bakersfield.
	Berkeley.
	Concord.
	Fremont.
	Fresno.
	Fullerton.
	Garden Grove
	Glendale.
	Huntington Beach.
	Modesto.
	Oxnard.
	Pasadena.
	Riverside.
	San Bernadino
	Santa Ana.
	Stockton.
	Sunnyvale
	Torrance.
Colorado	Aurora.
	Colorado Springs.
	Lakewood.
	Pueblo.
Connecticut	Bridgeport.
	Hartford.
	New Haven.
	Stamford.
	Waterbury.
Florida	Fort Lauderdale.
	Hialeah.
	Hollywood.
	Orlando.
	St. Petersburg
Georgia	Columbus.
	Macon.
	Savannah.
Idaho	Boise City.
Illinois	Peoria.
	Rockford.
Indiana	Evansville.
	Fort Wayne.
	Gary.
	South Bend.
Iowa	Cedar Rapids.
	Davenport.
	Des Moines.
Kansas	Kansas City
	Topeka.
Kentucky	Lexington-Fayette
Louisiana	Baton Rouge
	Shreveport.
Massachusetts	Springfield.
	Worcester.
Michigan	Ann Arbor.
	Flint.
	Grand Rapids
	Lansing.
	Livonia.
	Sterling Heights.
	Warren.
Mississippi	Jackson.
Missouri	Independence
	Springfield.
Nebraska	Lincoln.
Nevada	Las Vegas
	Reno.
New Jersey	Elizabeth.
	Jersey City
	Paterson.
New York	Albany
	Rochester
	Syracuse.
	Yonkers.
North Carolina	Durham.
	Greensboro
	Raleigh.
	Winston-Salem
Ohio	Akron.
	Dayton.
	Youngstown
Oregon	Eugene.
Pennsylvania	Allentown
	Erie.
Rhode Island	Providence
South Carolina	Columbia.
Tennessee	Chattanooga
	Knoxville.
Texas	Amarillo.
	Arlington.
	Beaumont.
	Corpus Christi
	Garland.
	Irving.
	Lubbock.
	Pasadena.
	Waco.
Utah	Salt Lake City
Virginia	Alexandria.
	Chesapeake
	Hampton.
	Newport News
	Portsmouth.
	Richmond.
	Roanoke
Washington	Spokane.
	Tacoma.
Wisconsin	Madison.

Appendix H to Part 122—Counties with Unincorporated Urbanized Areas With a Population of 250,000 or More According to the Latest Decennial Census by the Bureau of Census

State	County	Unincorporated urbanized population
California	Los Angeles	912,884
	Sacramento	449,864
	San Diego	304,756
	New Castle	257,184
Delaware	Dade	781,949
Florida	DeKalb	386,579
Georgia	Honolulu	696,178
Hawaii	Anne Arundel	271,458
Maryland	Baltimore	691,308
	Montgomery	447,893
	Prince George's	490,186
Texas	Harris	499,801
Utah	Salt Lake	304,832
Virginia	Fairfax	527,178
Washington	King	336,800

Appendix I to Part 122—Counties With Unincorporated Urbanized Areas Greater Than 100,000, But Less Than 250,000 According to the Latest Decennial Census by the Bureau of Census

State	County	Unincorporated urbanized population
Alabama	Jefferson	182,917
Arizona	Pima	111,479
California	Alameda	187,474
	Contra Costa	158,452
	Kern	117,231
	Orange	210,883
	Riverside	115,719
	San Bernardino	148,844
Florida	Broward	158,370
	Escambia	147,292
	Hillsborough	236,252
	Orange	245,225
	Palm Beach	167,089
	Pinellas	194,389
	Polk	104,150
	Sarasota	118,009
Georgia	Clayton	100,742
	Cobb	204,121
	Richmond	118,529
Kentucky	Jefferson	224,958
Louisiana	Jefferson	140,836
North Carolina	Cumberland	142,727
Nevada	Clark	201,775
Oregon	Multnomah	141,160
	Washington	169,348
South Carolina	Greenville	135,386
	Richland	124,884
Virginia	Arlington	152,599
	Henrico	161,204
	Chesterfield	108,348
Washington	Snohomish	183,489
	Pierce	198,113

PART 123—STATE PROGRAM REQUIREMENTS

8. The authority citation for part 123 continues to read as follows:

Authority: Clean Water Act, 33 U.S.C. 1251 *et seq.*

9. Section 123.25 is amended by revising paragraph (a)(9) to read as follows:

§ 123.25 Requirements for permitting.

(a) * * *

(9) § 122.26—(Storm water discharges);

* * * * *

PART 124—PROCEDURES FOR DECISIONMAKING

10. The authority citation for part 124 continues to read as follows:

Authority: Resource Conservation and Recovery Act, 42 U.S.C. 6901 *et seq.*; Safe Drinking Water Act, 42 U.S.C. 300f *et seq.*; Clean Water Act, 33 U.S.C. 1251 *et seq.*; and Clean Air Act, 42 U.S.C. 1857 *et seq.*

11. Section 124.52 is revised to read as follows:

§ 124.52 Permits required on a case-by-case basis.

(a) Various sections of part 122, subpart B allow the Director to determine, on a case-by-case basis, that certain concentrated animal feeding operations (§ 122.23), concentrated aquatic animal production facilities (§ 122.24), storm water discharges (§ 122.26), and certain other facilities covered by general permits (§ 122.28) that do not generally require an individual permit may be required to obtain an individual permit because of their contributions to water pollution.

(b) Whenever the Regional Administrator decides that an individual permit is required under this section, except as provided in paragraph (c) of this section, the Regional Administrator shall notify the discharger in writing of that decision and the reasons for it, and shall send an application form with the notice. The discharger must apply for a permit under § 122.21 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

(c) Prior to a case-by-case determination that an individual permit is required for a storm water discharge under this section (*see* 40 CFR 122.26 (a)(1)(v) and (c)(1)(v)), the Regional Administrator may require the discharger to submit a permit application or other information regarding the discharge under section 308 of the CWA. In requiring such information, the Regional Administrator shall notify the discharger in writing and shall send an application form with the notice. The discharger must apply for a permit under § 122.26 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the initial designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

Note: The following form will not appear in the Code of Federal Regulations.

BILLING CODE 6560-50-M

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APPENDIX C:
ADEQUATE LEGAL AUTHORITY

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or order; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

The City Code sections identified above are referenced in an assessment of the individual Part 2 legal authority criteria.

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer system by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity. Section 39.1-19 of the City Code prohibits the discharge of sanitary sewer flow to the storm sewer system. Section 39.2-5 of the City Code prohibits the discharge of any sewage from a private sewage disposal facility on any public or private property in the City. Section 41.1-4 of the City Code prohibits pollutants to be discharged to the storm sewer system including the discharge of industrial process water, wash water, or other unpermitted industrial discharges in Section 41.1-4(c). Section 41.1-5 of the City Code provides the City with authority to order the correction of drainage problems on any site in the City. Sections 9-10, 30-69, 41-16, and 41-17 of the City Code prohibit pollution of waters of the City and littering. Sections 42-20.1 and 42-20.2 of the City Code prohibit the obstruction of drains or drainage areas. Sections 42-24, 42-25, and 42-46 of the City Code establish regulations for protecting the City from spills or deposits of liquid wastes. Section 46-28 of the City Code prohibits pollution of the City's water supply.

contrivance for the elimination or destruction of human waste, within those portions of the watershed of the city contiguous to the intake of the city's water supply, as hereinafter described, or by placing any foul or putrescible substance, whether solid or liquid, and whether the same be buried or not, within the limits of the portion of the watershed so described.

Sec. 49-6. Application for permit.

(a) Any person who desires to use or develop any vegetated wetland and on and after January 1, 1983, any nonvegetated wetland, within this city, other than for those activities specified in section 49-3 above, shall first file an application for a permit with the wetlands board.

Sec. 49-22. Application for permit.

(a) Any person who desires to use or alter any coastal primary sand dune within this city, other than for those activities specified in section 49-20 above, shall first file an application for a permit with the wetlands board.

1.6 Authority to Meet Part 2 Permit Requirements

The NPDES stormwater permit application regulations require an assessment of whether existing legal authority is sufficient to meet the criteria for Part 2 of the permit application provided in *40 CFR 122.26(d)(2)(i)* as follows:

40 CFR 122.26(d)(2)(i)

A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer system by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water. Section 39.1-19 of the City Code prohibits the discharge of sanitary sewer flow to the storm sewer system. Section 39.2-5 of the City Code prohibits the discharge of any sewage from a private sewage disposal facility on any public or private property in the City. Section 41.1-4 of the City Code prohibits pollutants to be discharged to the storm sewer system. Sections 9-10, 30-69, 41-16, and 41-17 of the City Code prohibit pollution of waters of the City and littering. Sections 42-24, 42-25, and 42-46 of the City Code establish regulations for protecting the City from spills or deposits of liquid wastes. Section 46-28 of the City Code prohibits pollution of the City's water supply.

Enforcement provisions and penalties for violations of the referenced sections of City Code are also provided in specific chapters. Chapter 27 of the City Code provides additional authority for the abatement of nuisances.

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system. The City of Norfolk owns the entire separate storm water system and is an individual NPDES permit applicant.

The City of Norfolk relies on its In-Town Reservoir System as a vital part of the water supply system. To protect water quality within the In-Town Reservoir System, the City of Norfolk will seek an intermunicipal agreement with the City of Virginia Beach to control nonpoint source pollution for the areas of the In-Town Reservoir System bordering and located within the jurisdiction of the City of Virginia Beach. After approval of Part 1 of the application by the EPA, the City of Norfolk will meet with the City of Virginia Beach to discuss the development of an agreement before submittal of Part 2 of the application on November 16, 1992.

(E) Require compliance with conditions in ordinances, permits, contracts or order. Enforcement provisions and penalties for violations of the referenced sections of City Code are provided in specific chapters. Chapter 27 of the City Codes provides additional authority for the abatement of nuisances.

For development or redevelopment of industrial sites, the City's Zoning Ordinance establishes lot size, yard size, and maximum lot coverage requirements for industrial activity. Chapter 15 of the City Code establishes erosion and sedimentation control regulations. If development or redevelopment of industrial sites occurs within a Chesapeake Bay Preservation Area, Section 494 of the City's Zoning Ordinance and Chapter 32.2 of the City Code establish stringent criteria for stormwater management, protection of water quality, and use of Best Management Practices. Chapter 49 of the City Code protects development within wetlands or coastal primary sand dunes by requiring a permit application with the wetlands board.

Enforcement provisions and penalties for violations of the referenced sections of City Code are also provided in specific chapters. Chapter 27 of the City Code provides additional authority for the abatement of nuisances.

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer. Section 39.1-19 of the City Code prohibits the discharge of sanitary sewer flow to the storm sewer system. Section 39.2-5 of the City Code prohibits the discharge of any sewage from a private sewage disposal facility on any public or private property in the City. Section 41.1-4 of the City Code prohibits pollutants to be discharged to the storm sewer system. Section 41.1-5 of the City Code provides the City with authority to order the correction of drainage problems on any site in the City. Sections 9-10, 30-69, 41-16, and 41-17 of the City Code prohibit pollution of waters of the City and littering. Sections 42-20.1 and 42-20.2 of the City Code prohibit the obstruction of drains or drainage areas. Sections 42-24, 42-25, and 42-46 of the City Code establish regulations for protecting the City from spills or deposits of liquid wastes. Section 46-28 of the City Code prohibits pollution of the City's water supply.

Enforcement provisions and penalties for violations of the referenced sections of City Code are also provided in specific chapters. Chapter 27 of the City Code provides additional authority for the abatement of nuisances.

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(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer. Chapter 41.1, entitled "Storm Water Management", provides authority for the City's Director of Public Works to establish procedures and enforce regulations pertaining to the storm water system in Section 41.1-3. Authority to prohibit and inspect for illicit connections to the storm sewer system is provided to the Department of City Planning and Codes Administration in Section 39.1-19. Authority to enforce violations of private sewage disposal regulations is provided to the Department of Health in Section 39.2-1 of the City Code. For development and redevelopment, the Department of City Planning and Codes Administration has authority over erosion and sediment control plans, the site review process, and stormwater management regulations required for activity within the Chesapeake Bay Preservation Area. Additional authority for enforcement of erosion and sediment control regulations and stormwater management is being established for the Department of Public Works in an ordinance currently under review by the state. Authority to enforce regulations and permits of the City's Tree Ordinance is provided in Section 30-23 of the City Code.

1.7 Legal Authority Overview

Overall, the City of Norfolk has the existing legal authority, or is in the process of modifying existing City Code with ordinances, to control discharges to the municipal storm sewer system and meet the legal authority requirements of *40 CFR 122.26(d)(2)(i).*

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• U.S. GOVERNMENT PRINTING OFFICE: 1993-717-408/80080

State of California

Memorandum

To : Archie Matthews
Division of Water Quality

Date: NOV 2 1992

From : Elizabeth Miller Jennings
Senior Staff Counsel
OFFICE OF THE CHIEF COUNSEL
STATE WATER RESOURCES CONTROL BOARD
901 P Street, Sacramento, CA 95814
Mail Code: G-8

DWQ Received
Division Chief's Office
NOV 0 5 1992

Subject: COVERAGE OF STATE HIGHWAYS UNDER MUNICIPAL STORM WATER PERMITS

ISSUE

Must the State Department of Transportation (CalTrans) obtain a municipal storm water permit for discharges of storm water from state highways in urban areas which have large and medium municipal separate storm sewer systems?

CONCLUSION

CalTrans is required to obtain a municipal storm water permit for discharges of storm water from state-owned roads located in geographic areas which have large or medium municipal separate storm sewer systems. CalTrans may either be issued a separate permit, or the appropriate Regional Water Board may require CalTrans to join as a co-permittee with the local agency which has jurisdiction over disposal of storm water.

DISCUSSION

The federal Clean Water Act requires the issuance of storm water permits for discharges "from a municipal separate storm sewer system serving a population of 250,000 or more" (Section 402(p)(2)(C)) and "from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000" (Section 402(p)(2)(D)). The issue which you have asked me to address is whether highways operated by CalTrans situated in areas which meet these population requirements are part of the municipal seaparte storm sewer system and must be covered by a municipal storm water permit.

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In regulations adopted in November 1990, the federal Environmental Protection Agency (EPA) defined "municipal separate storm sewer" to mean:

> "A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):
>
> "(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
>
> "(ii) Designed or used for collecting or conveying storm water;
>
> "(iii) Which is not a combined sewer; and
>
> "(iv) Which is not part of a [POTW]." 40 CFR Section 122.26(b)(8). (Emphasis added.)

EPA's regulations require issuance of permits for discharges from large and medium municipal separate storm sewer systems. These systems are described as "all municipal separate storm sewers" located in incorporated areas with populations over 250,000 or between 100,000 and 250,000, or in urban, unincorporated areas of counties with populations over 250,000 or between 100,000 and 250,000. (40 CFR 122.26(b)(4)(i) and (ii); 40 CFR 122.26(b)(7)(i) and (ii).)

In reviewing EPA's regulations, along with the Preamble for adoption of the regulations, it appears that state highways located in geographic areas with large and medium municipal separate storm sewer systems constitute a portion of such systems. CalTrans, as a state operator and owner of municipal separate storm sewers, is required to be named in storm water permits for municipal separate storm water discharges.

As noted above, the definition of municipal separate storm sewer includes "roads with drainage systems" which are operated by "a State". As explained in the Preamble, the reference to "roads"

and the inclusion of "State" ownership indicates EPA's intention that state highway systems are included within the definition of municipal separate storm sewer system. EPA's intention to include the state highway system is explained in the Preamble to the November 1990 regulation. (Vol. 55, Federal Register, pages 47990 and following, November 16, 1990.)

At page 48036, EPA states broadly:

> "Today's rule defines 'municipal separate storm sewer' at Section 122.26(b)(8) to include any conveyance or system of conveyances that is owned or operated by a State or local government entity and is designed for collecting and conveying storm water which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2."

Regarding the inclusion of streets in the definition, the Preamble states:

> "[Commenters] recommended that further clarifying language should be added so that owners and operators of roads and streets understand that they are covered by this regulation. In light of these comments, EPA has clarified that municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains that discharge into the waters of the United States are municipal separate storm sewers." Id.

While the regulations refer to "roads" rather than to "highways", the explanation for the inclusion of "roads" in the Preamble refers to "State highways" and "systems owned and operated by States or State departments of transportation." (See, e.g. 55 Fed. Reg. at 48039.) From the context of the Preamble, it is obvious that EPA uses the terms "roads" and "highways" and "streets" interchangeably.

In order to clarify that state-owned roads are included within the meaning of "municipal separate storm sewer" EPA specifically included the term "State" within Section 122.26(b)(8) as a potential operator of a municipal storm sewer. This is at variance from the definition of "municipality" which applies to the rest of the Clean Water Act, and which does not include states. (Clean Water Act Section 502(4).) As EPA explains in the Preamble, the draft storm water regulations did not include the term "State" within the meaning of "municipal separate storm sewer" because EPA thought that it would be difficult to issue permits to various governmental entities with jurisdiction over storm sewers. (See, 55 Fed. Reg. at 48039; see, also, proposed rule, 53 Fed. Reg. pages 49416 and following, Dec. 7, 1988.)

In the Preamble, EPA explains the development of its decision to include state-owned highways as municipal separate storm sewers. EPA had originally proposed "options that relied primarily on the municipal entity which owns or operates or otherwise has jurisdiction over storm waters." 55 Fed. Reg., at p.48039. However, one of the most pervasive comments received was that:

> "Discharges from State highways, identified as a significant source of runoff and pollutants, should be included in the program and combined in some manner with one or more of the other options." Id.

In response to this comment, EPA included state-owned roads within the definition of municipal separate storm sewers. In order to avoid the problems associated with multiple permittees for system-wide discharges (see, 55 Fed. Reg. at 48039), the regulations include a method whereby systems owned and operated by local agencies and state-owned highways may be combined into a single permit. This option is contained in 40 CFR 122.26(b)(4)(iv) (large municipal systems) and 40 CFR 122.26(b)(7)(iv) (medium municipal systems). Section 122.26(b)(4)(iv) states: "The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdiction, watershed, or other appropriate basis that includes [a large municipal separate sewer system]." (Section 122.26(b)(7)(iv) is identical, except that it refers to medium systems.)

The Preamble explains that sections 122.26(b)(4)(iv) and 122.26(b)(7)(iv) allow the use of single permits for geographic areas which include more than one operator of a municipal storm sewer system:

> "This definition creates a system by virtue of the fact that storm sewers within defined geographical and political areas, and the owner/operators of separate storm sewers in those areas, are addressed or required to obtain permits. Although within these systems, different segments and discharges of storm water conveyances may be owned or operated by different public entities, EPA is convinced by comments that discharges from such conveyances are interrelated to such an extent that all of these conveyances may be properly considered a 'system.'" 55 Fed. Reg., at p. 48040.

The Preamble further states that the authority to include different municipal permittees in a single permit was specifically an outgrowth of the comments on the need to include state-owned highways within the municipal storm water framework.

The Preamble states that inclusion of subsections 122.26(b)(4)(iv) and 122.26(b)(7)(iv) "is an outgrowth of comments on all options, especially Option 4 (State owned systems/State highways)...." Id. EPA wished to accommodate the commenters who wanted state highways to be included in municipal permits, while minimizing the bureaucratic difficulties of issuing permits to various governmental entities within a single geographic area. If state-owned highways were not meant to be included within the definition of municipal storm water systems, the quoted reference to Option 4 would not make sense. At page 48043, EPA explains that under the permit application requirements, if the appropriate co-applicants are identified, one permit application may be submitted for a large or medium municipal separate storm sewer system. System-wide permit applications can then be used to issue system-wide permits which could cover all discharges in the system.

EPA further explains that, while it will encourage system-wide permits involving several governmental entities, there may be cases where it is undesirable for all municipal entities with storm water responsibility within a municipal system to be co-permittees under one system-wide permit. The permit application requirements therefore allow individual municipal entities within the system to submit permit applications and obtain a permit for that portion of the storm sewer system for which they are responsible. Thus, several permits may be issued to cover various subdivisions of a single municipal system. (See, 55 Fed. Reg. at p.48043).

Finally, I have discussed this matter verbally with Randy Hill, the EPA attorney responsible for overseeing development of the storm water regulations. He has told me that EPA's intent in adopting the regulation was to include state highways within the definition of municipal storm sewer systems, and to name state highway departments in permits for large and medium municipal separate storm sewer systems. The interpretation by an administrative agency of its own regulations is entitled to great deference.

In conclusion, the EPA regulations, when read in conjunction with the Preamble, demonstrate that EPA, after first proposing to exclude state-owned highways from municipal separate storm sewer systems, revised that position after receiving comments on its draft regulations. The final regulations do require that state-owned highways and roads, which are located within geographic areas which meet the population requirements for large and medium municipal separate storm sewer systems, must be subject to NPDES permits for municipal storm water discharges. The regulations also provide flexibility in allowing the state transportation agency either to be named as a co-permittee in a system-wide permit, or to be named in a separate municipal permit.

State of California

Memorandum

To : William H. Crooks
Executive Officer
Central Valley Regional
Water Board

Date: April 23, 1993

APR 2 6 1993

From : Elizabeth Miller Jennings
Senior Staff Counsel
OFFICE OF THE CHIEF COUNSEL
STATE WATER RESOURCES CONTROL BOARD
901 P Street, Sacramento, CA 95814
Mail Code: G-8

Subject: MUNICIPAL STORM WATER PERMIT FOR STOCKTON

The purpose of this memorandum is to comment on some of the statements made in the letter addressed to you from the Port of Stockton, dated April 7, 1993. I will also include some general comments on the legal requirements for adoption of a municipal storm water permit for Stockton.

The statutory requirements for adoption of permits regulating the discharge of storm water are found in Section 402(p) of the Clean Water Act. These requirements are amplified in regulations adopted by the federal Environmental Protection Agency (EPA) in 40 CFR, Part 122. (Unless otherwise noted, code section references will be to the EPA regulations.) Many of the issues raised in the letter from the Port of Stockton are addressed in the EPA regulations and in the Preamble thereto (Vol. 55, Federal Register, pages 47990 and following).

The Clean Water Act requires the issuance of national pollutant discharge elimination system (NPDES) permits for several categories of storm water discharges, including discharges associated with industrial activity and discharges from large and medium municipal separate storm sewer systems. (Section 122.26(a).) In the Preamble to its regulations, EPA clarified that it requires the issuance of "industrial" permits for storm water discharged from industrial facilities through municipal storm sewers. See Preamble at page 47999. Thus, there is a "double" system of permitting for discharges which are characterized as industrial and which are discharged through municipal systems. These discharges are regulated both by industrial permits issued to the industrial discharger and by

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municipal permits issued to the municipal discharger. Id. Therefore, where the Port states that it has complied with the State Water Board's industrial permit, this does not satisfy any requirements which may exist for compliance with a municipal permit. Furthermore, the fact that a discharge may be characterized as "industrial" does not mean that the discharger may not be a municipal. A review of the discharges characterized as industrial (Section 122.26(b)(14)) reveals that many of these activities are traditionally carried out by municipalities. (See, for example, Section 122.26(b)(14)(v) (landfills) and 122.26(b)(14)(ix) (treatment works).) The fact that the Port is subject to a permit for industrial discharges is not relevant to the question whether it must be subject to a municipal storm water permit.

The requirement for issuance of a municipal storm water permit for Stockton is found in Section 122.26(a)(1)(iv). That section requires issuance of a NPDES permit for discharges from a "medium municipal separate storm sewer system". Medium municipal separate storm sewer system is defined to include "all municipal separate storm sewers" which are "located in an incorporated place" with a population over 100,000 and under 250,000. Stockton is listed by the EPA as an incorporated place which meets this definition. (See Appendix G to Part 122.) Therefore, all municipal separate storm sewers which are located within the boundaries of Stockton must be subject to a municipal storm water permit. (See Preamble at page 48040.)

The term "municipal separate storm sewer" is defined as:

> "'A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains)' which are 'owned or operated by a State, city, town, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts ....'" Section 122.26(b)(8) (emphasis added).

From the documents I have reviewed, it is apparent that the storm sewers (including the streets and storm drains) located at the Port of Stockton are part of a medium municipal separate storm sewer system. It appears that all sides agree that the Port is located within the physical boundaries of Stockton. (Even if the Port was not within the boundaries of the City, the Regional Water Board could issue a municipal storm water permit by making the findings of interrelationship described in Section 122.26(b)(7)(iii).) Therefore, the storm sewers are part of the

municipal system. The question which is posed is which agency is responsible for the storm system, and must it be named in the municipal permit--the City or the Port?

First, it is clear that both the Port and the City are considered "municipal" in the EPA regulations. Municipal storm sewer systems may be owned or operated by a city or by a special district. (Section 122.26(b)(8)(i).) Second, it is quite possible that both the City and the Port may be considered municipalities which own or operate the storm sewer system. In fact, the April 7 letter from the Port seems to indicate that this is true. According to the letter, the Port owns the storm drain system while the City has generally (but not always) operated the system. The two operative requirements are that the system be owned or operated by a municipality. This is clearly the case. Where there are different owners and operators, or where there is confusion regarding jurisdiction of various municipalities, the regulations give discretion to the permit writer (the Regional Water Board) to develop an appropriate permit or permits.

Section 122.26(a)(3) explains the rules which apply where more than one municipal discharger exists within a geographical area. First, it is clear that some municipal permits must apply to all discharges from large and medium municipal separate storm sewer system. (Section 122.26(a)(3)(i), see also Preamble at page 48040.) Once it has been determined that a municipal storm sewer exists within the boundaries of a municipal system termed large or medium, all public storm sewers within that area must be subject to a NPDES permit for municipal storm water discharges. The agency issuing the permit has discretion either to issue one system-wide permit covering all discharges, or to issue separate permits for different categories of discharges within the system. Section 122.26(a)(3)(ii). Separate permits may be issued for discharges owned or operated by each municipality. Id. Furthermore, the Preamble to the EPA regulation makes clear that, in EPA's view, much of the confusion over which entity owns or operates the storm sewer system (as evidenced in this case) will become irrelevant if each municipality which owns or operates a portion of the municipal separate storm sewer system is named as a copermittee on one permit. (See, Preamble, at page 48041.) Therefore, while leaving discretion to adopt one or more permits to the permit writer, EPA encourages system-wide permits involving all municipal entities. (Preamble at page 48043.)

Before closing, I would like to address a few additional points raised by the Port in its April 7 letter. First, the Port claims that while it has legal authority over various municipal functions, including streets and storm water disposal, it has

not chosen to exercise this authority. The only criterion set forth in the EPA regulations is that the municipal entity has "jurisdiction" over such functions. (Section 122.26(b)(8)(i).) It appears that the Port does have such jurisdiction, and it is recommended that it be named so that, in the case of any necessary enforcement actions, all responsible parties could be named. Second, the Port's claim that it is not a "municipality", is clearly refuted by the broad definition of "municipal separate storm sewer" and the references in the regulation and the Preamble to various municipal discharges into one system. (For example, at page 48040 of the Preamble, it is stated that the "rule covers all municipal separate storm sewers within certain areas rather than only those operated by an incorporated place".) Finally, the Port states that where the regulations allow issuance of a system-wide permit (Section 122.26(a)(3)(ii), the Port assumes this means that the City would be responsible for the Port's sewers. Based on the regulations, and the full description of the problem of various municipal dischargers into a single system, it is clear that the Port is mistaken. Where a single system-wide permit is issued, all municipal owners and operators should be named. The regulations do indicate that where there are different owners and operators for the same storm sewers, it is the operator who should submit the application. (Section 122.26(a)(3)(iii).) If the City and the Port both agree that the City operates the sewers within the Port, the City should include those sewers in its application. If the City and Port disagree, and an application is not received, the Regional Water Board may take an enforcement action against whichever entity it determines is the operator.

In conclusion, assuming that the Port of Stockton is within the boundaries of the City of Stockton, the storm sewers (including the streets) within the Port must be subject to a municipal storm water permit. So long as the Port either owns or operates its storm sewer system, the Port must be named in a NPDES permit for municipal storm water discharges. The Regional Water Board has the discretion to issue a single permit for all municipal storm water permits within the City boundaries, or to issue a separate permit for the storm sewers at the Port, and also to any other municipal dischargers within the City's boundaries.

cc: Patricia Leary
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NPDES
Storm Water Program

Question and Answer Document

Volume II

U.S. Environmental Protection Agency
Office of Wastewater Enforcement and Compliance
Permits Division
401 M Street, SW
Washington, DC 20460

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USEFUL ACRONYMS

BAT	Best Available Technology
BCT	Best Conventional Technology
BMP	Best Management Practice
CFR	Code of Federal Regulations
CSO	Combined Sewer Overflow
CWA	Clean Water Act
CZARA	Coastal Zone Act Reauthorization Amendments
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FR	Federal Register
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council
OMB	Office of Management and Budget
POTW	Publicly Owned Treatment Works
RCRA	Resource Conservation and Recovery Act
RQ	"Reportable Quantity" release
SIC	Standard Industrial Classification
TSDF	Treatment, Storage or Disposal Facility (hazardous waste)
TSS	Total Suspended Solids
WQA	Water Quality Act
WRDA	Water Resources Development Act

STORM WATER QUESTIONS AND ANSWERS PART II

I. General Applicability

1. **What kinds of storm water discharges are required to obtain an NPDES permit under Phase I of the storm water program?**

A. The National Pollutant Discharge Elimination System (NPDES) storm water permit application regulations, promulgated by the U.S. Environmental Protection Agency (EPA), require that the following storm water discharges apply for an NPDES permit: (1) a discharge associated with industrial activity; (2) a discharge from a large or medium municipal separate storm sewer system; or (3) a discharge which EPA or the State determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. The permit application deadlines are specified in EPA's regulations.

2. **What is a "storm water discharge associated with industrial activity?"**

A. The term "storm water discharge associated with industrial activity" means a storm water discharge from one of the eleven categories of industrial activity defined at 40 Code of Federal Regulations (CFR) 122.26(b)(14)(i) through (xi). Five of these categories are identified by Standard Industrial Classification (SIC) code and the other six categories provide narrative descriptions of the industrial activity. The complete definition is included in Section XIII of this document.

If any activity at a facility is covered by one of the five categories which provide narrative descriptions, storm water discharges from that activity of facility are subject to storm water permit application requirements. If the primary SIC code of the facility is identified in one of the remaining six categories, the facility is subject to the storm water permit application requirements. Note that only those facilities/activities described above having point source discharges of storm water to waters of the United States or to a municipal separate storm sewer system or other conveyance are required to submit a storm water permit application. The definition of "point source" is provided at 40 CFR 122.2. The definition is included in Section XIII of this document.

3. **What are SIC codes and how can a facility find out its proper SIC code?**

A. SIC codes are four-digit industry codes that were created by the Office of Management and Budget (OMB) for statistical purposes. Other

governmental organizations sometimes use these codes when classifying business establishments. To find the correct SIC code, an applicant might check his or her unemployment insurance forms or contact the appropriate State unemployment services department. In addition, applicants may consult the Standard Industrial Classification Manual (SIC Manual), published by OMB in 1987. This manual is available in the resource section of most public libraries. Questions regarding assignment of particular codes can be addressed to your State permitting authority. A list of telephone numbers and addresses for State storm water contacts is provided as an attachment to this document.

4. **What SIC code should a facility use when there are multiple activities occurring at the site?**

A. For the purposes of the storm water program, a facility must determine its primary SIC code based on the primary activity occurring at the site. To determine the primary industrial activity, the SIC Manual recommends using the value of receipts or revenues. If such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged. For case-specific determinations, contact the permitting authority for your State.

5. **How is a facility regulated when multiple activities conducted by different operators are occurring on the same site (airports, for example)?**

A. When multiple activities are conducted by different operators at a single location, each industrial activity is assigned its own SIC code. At an airport, for example, a passenger airline carrier will receive one SIC code, but an overnight courier located in the same hanger may receive another SIC code. Whereas the SIC codes may differ, if both are regulated industrial activities, EPA generally encourages these operators to become co-applicants (submit storm water permit application forms together) when they are located at the same site and when industrial areas/drainage basins are shared. When a permit is issued (or if the operators are filing for a general permit) the co-applicants will become co-permittees and share responsibility of permit compliance.

6. **If a facility's primary SIC code is not listed in the regulations, but an activity that occurs on site is described in one of the narrative categories of industrial activity, does that facility have to apply for a permit?**

A. If a facility conducts an activity on the site identified in the narrative descriptions of categories (i), (iv), (v), (vii), (ix) or (x), then the facility would be required to submit a storm water permit application for discharges from those portions of the facility where the activity occurs. Such narrative activities/facilities include: (i) activities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; (ix) sewage treatment works with a design flow of 1.0 mgd or more; and (x) construction activity disturbing five or more acres of land.

7. **Do storm water discharges from non-industrial areas at an industrial facility (employee parking lots, rental car operations at an airport) have to be addressed in an NPDES permit?**

A. No. Only storm water discharges from those areas that are associated with industrial activity, as defined at 40 CFR 122.26(b)(14) must be addressed in the permit. However, if storm water runoff from a non-industrial area commingles with runoff from a regulated industrial area, the combined discharge would require permit coverage.

8. **How are off site facilities (such as distribution centers, storage facilities, vehicle maintenance shops) regulated under the storm water program?**

A. To determine the regulatory status of off site facilities, first the operator of a facility must determine if that off site operation can be classified according to its own SIC code. If there is no SIC code which describes the off site facility independently, then it would assume the SIC code of the parent facility it supports. However, certain off site facilities that fall within the categories of auxiliary facilities described in Section XIV of this document (or which are specifically described in the SIC code description) would, in most cases, be classified according to the parent facility they support. Such supporting establishments include central administrative offices, research and development laboratories, maintenance garages, and local trucking terminals.

EPA has determined that off site vehicle maintenance facilities that service trucks used for local transportation of goods or for local services are generally considered supporting establishments which would not be assigned a transportation SIC code; rather, such facilities are classified

according to the SIC code of the facility they support. Please refer to Section II of this document for a discussion of off-site vehicle maintenance facilities.

9. **Can authorized NPDES States be more expansive in their use of the assignment of SIC codes? For example, can they make the rule applicable to secondary activities?**

A. Yes, State storm water regulations can be more expansive and cover more activities than the Federal regulations.

10. **Are all storm water discharges to sanitary sewers exempt from storm water permitting requirements? What about discharges to combined sewer systems?**

A. Any storm water discharge to a Publicly Owned Treatment Works (POTW) or to a sanitary sewer is exempt from storm water permit application requirements. However, it may be subject to EPA's pretreatment program under Section 307(b) of the CWA. Discharges to combined sewer systems are also exempt from NPDES permitting but may be subject to pretreatment requirements.

11. **Is a storm water permit application required for an industrial facility that has constructed a holding pond that usually does not discharge storm water, but could in the event of a large enough storm?**

A. All point source discharges of storm water associated with industrial activity that discharge to waters of the U.S. or through a municipal separate storm sewer system must be permitted. Therefore, if an industrial facility does not have a storm water discharge from its holding pond during typical storm events but has a storm water discharge in the event of a large storm, that discharge must be covered under an NPDES permit. In NPDES authorized States (a list is provided in Section XII of this document), facilities should consult their permitting authority for State-specific determinations on such "potential discharges."

12. **If a facility is <u>not</u> engaged in industrial activity as defined under 40 CFR 122.26(b)(14)(i)-(xi), but discharges contaminated flows comprised entirely of storm water into a nearby municipal separate storm sewer system, is the facility required to obtain a storm water permit?**

A. No, unless EPA or the State designates the discharge as contributing to a violation of a water quality standard or as significantly contributing pollutants to waters of the United States. However, industrial dischargers

should note that large and medium municipalities (population 100,000 or more) are currently designing storm water management programs that will control contaminated storm water discharges from entering their separate storm sewer systems. Additional storm water discharges may be regulated under Phase II of the storm water program. EPA is currently in the process of developing Phase II.

13. **Are activities associated with industrial activity that occur on agricultural lands exempted from storm water permitting requirements?**

A. No. If a storm water discharge is associated with industrial activity as defined at 40 CFR 122.26(b)(14), it is subject to permit application requirements regardless of the location of the industrial activity. For example, if a gravel extraction activity occurred on land leased from a farm, the activity would be classified as mining under SIC code 1442 or 1446 and therefore would be considered a storm water discharge associated with industrial activity and require a permit.

14. **Are NPDES permits transferable from one facility owner to the next?**

A. Individual NPDES permits may be transferred to a new owner or operator if the permit is modified. These procedures are described at 40 CFR 122.61. Under the general permits for storm water discharges, issued by EPA in the September 9, 1992 and September 25, 1992, Federal Register notices (57 FR 41176 and 57 FR 44412), the new operator can submit an NOI two days prior to the change of ownership but must include the facility's existing general permit number on the NOI form. Many NPDES authorized States have similar provisions in their general permits.

15. **How does storm water permitting differ in States with approved State NPDES programs compared to States without NPDES State permit programs?**

A. While Federal storm water regulations (i.e., the November 16, 1990, storm water permit application regulations) establish minimum requirements nationwide. State permitting authorities may impose more stringent requirements or decide to expand the scope of its program to meet State priorities. EPA Regional offices are the permitting authorities for 12 States and most Territories; the remaining 38 States and the Virgin Islands administer their own storm water programs and issue permits to regulate municipalities and industries in their States. Regulated facilities in these States should contact the appropriate State permitting authority for guidance, application forms, general permits and other materials. Please

note that some of the NPDES States do not issue permits for Federal facilities located in their States.

For regulated facilities in the 12 non-delegated States (MA, NH, ME, FL, TX, OK, LA, NM, SD, AZ, AK, ID), the Territories (all except the Virgin Islands), the District of Columbia, and for facilities located on Indian lands (in most, if not all, delegated States and in all non-delegated States), and for Federal facilities in the States of DE, CO, IA, KS, NH, NY, OH, SC, VT and WA, the storm water program is administered through EPA Regional offices. Such facilities may be eligible for coverage under the general permits issued by EPA in the September 9, 1992, and September 25, 1992, Federal Register notices (57 FR 41176 and 57 FR 44412).

II. Definition of Storm Water Discharge Associated With Industrial Activity

Category (i): Facilities subject to storm water effluent limitations guidelines, new source performance standards or toxic pollutant effluent standards under 40 CFR subchapter N.

16. **What are toxic pollutant effluent standards?**

A. 40 CFR 122.26(b)(14)(i) includes facilities that are subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards. The phrase "toxic pollutant effluent standards" refers to the standards established pursuant to CWA section 307(a)(2) and codified at 40 CFR Part 129. Part 129 applies only to manufacturers of six specific pesticide products which are defined as toxic pollutants. Please note that the phrase "facilities subject to toxic pollutant effluent standards" does not refer to those industries subject to effluent limitation guidelines for toxics under 40 CFR subchapter N.

Category (iii): Mining and oil and gas operations classified as SIC codes 10-14.

17. **What constitutes "contamination" at an oil and gas facility?**

A. Oil and gas facilities classified as SIC code 13 are required to apply for a storm water permit if the facility has had a release of a Reportable Quantity (RQ) in storm water for which notification has been required any time since November 16, 1987, or if the discharge contributes to a

violation of a water quality standard. RQs for which notification is required are defined at 40 CFR Parts 110, 117, and 302. An RQ for oil is defined at 40 CFR 110 as the amount of oil that violates applicable water quality standards or causes a film or sheen upon or a discoloration of the water surface or adjoining shorelines, or causes a sludge or emulsion to be deposited beneath the water surface or upon adjoining shorelines. For other substances, RQ levels are expressed in terms of pounds released over any 24 hour period and are listed at 40 CFR 117.3 and 40 CFR 302.4. A list of these RQ levels is available from the Storm Water Hotline at (703) 821-4823.

18. **Do EPA's industrial storm water general permits apply to discharges from mine sites that are subject to storm water effluent limitations guidelines, but which are not covered by an existing NPDES permit?**

A. No, storm water discharges from mine sites that are subject to storm water effluent limitation guidelines are not authorized by industrial storm water general permits issued by EPA in the September 9, 1992, and September 25, 1992, Federal Register notices (57 FR 41176 and 57 FR 44412). In States without NPDES permitting authority, the mine operators submit an individual application to address those storm water discharges, or could have participated in a group application prior to October 1, 1992 (note: any facility which did not submit an individual application prior to October 1, 1992 or participate in a timely group application missed EPA's regulatory deadline and may be subject to enforcement action). However, certain authorized States may issue general permits authorizing such storm water discharges from mine sites provided that those permits contain the applicable guideline requirements.

19. **Can point source discharges of contaminated ground water from mine adits and seeps at active or inactive mine sites be permitted under the storm water program?**

Point source discharges of non-storm water to waters of the United States must be authorized by an NPDES permit. Point source discharges of either contaminated ground water from a mine adit or seep that are not related to specific storm events would not be considered to be storm water. Discharges that are composed in whole or in part of non-storm water cannot be addressed solely by the permit applications for storm water (Forms 1 and 2F), and cannot be authorized by NPDES permits that only authorize discharges composed entirely of storm water. Rather, Forms 1 and 2C or 2D (and Form 2F if the discharge is mixed with storm water) must be used when applying for a NPDES permit for non-storm water.

Category (iv): Hazardous waste treatment, storage or disposal facilities.

20. **If the primary SIC code of a facility is not covered under the regulations, but there is a hazardous waste treatment, storage or disposal facility (TSDF) on site, is the TSDF subject to storm water permitting requirements?**

A. Yes. If the hazardous waste TSDF is or should be operating under interim status or a permit under Subtitle C of the Resource Conservation and Recovery Act (RCRA), regardless of the facility's primary activity, the storm water discharges from that portion of the site are subject to the narrative definition of storm water discharges associated with industrial activity under category (iv). Even if a facility's SIC code is not included in the regulations, any activity described by one of the narrative categories of "industrial activity" that is occurring on the site would be regulated under the storm water program.

Category (v): Landfills, land application sites and open dumps that receive industrial waste.

21. **At what point does an inactive, closed, or capped landfill cease being an industrial activity?**

A. An inactive, closed or capped landfill is no longer subject to storm water permit application requirements when the permitting authority determines the land use has been altered such that there is no exposure of significant materials to storm water at the site. For example, if an impervious surface (such as a parking lot or shopping center) now covers the closed landfill, the permitting authority could determine that storm water discharges from the area are no longer associated with the previous landfill activity. These determinations must be made by the permitting authority on a case-by-case basis.

22. **If construction of cells at a landfill disturbs greater than five acres of land, is coverage under EPA's construction general permits required?**

A. No. EPA considers construction of new cells to be routine landfill operations that are covered by the landfill's industrial storm water general permit. However, the storm water pollution prevention plan for the landfill must incorporate best management practices (BMPs) that address sediment and erosion control. Where a new landfill is being constructed

and five or more acres of land are being disturbed, such activity would need to be covered under EPA's construction general permit until the time that initial construction is completed and industrial waste is received. Please note that NPDES authorized States may address this situation differently.

Category (viii): Transportation facilities

23. **If all vehicle maintenance and equipment cleaning operations occur indoors at a transportation facility, as defined at 40 CFR 122.26(b)(14)(viii), is a permit application required for discharges from the roofs of these buildings?**

A. Yes. Storm water discharges from all areas that are "associated with industrial activity," described at 40 CFR 122.26(b)(14), are subject to the storm water permit application requirements. This would include discharges from roofs of buildings that are within areas associated with industrial activity. In addition, storage areas of materials used in vehicle maintenance or equipment cleaning operations and holding yards or parking lots used to store vehicles awaiting maintenance are also considered areas associated with industrial activity.

24. **For a facility classified as SIC code 5171 (bulk petroleum storage), is the transfer of petroleum product from the storage tanks to the distribution truck considered "fueling", and therefore an industrial activity as defined by the regulations?**

A. No. The transfer of petroleum product from the storage tanks to the tanker truck is not considered fueling and would not require a storm water permit. However, fueling of the tanker truck itself at the 5171 facility is considered to be part of routine vehicle maintenance, and storm water discharges from these areas must be covered under a storm water permit application.

25. **Is a retail fueling operation that occurs at an SIC code 5171 petroleum bulk storage facility regulated?**

A. No. The provisions of 40 CFR 122.26(b)(14)(viii) apply to fueling operations conducted at petroleum bulk storage facilities where the vehicles being fueled are involved with the petroleum bulk storage operation. Retail fueling of vehicles at such sites does not constitute "vehicle maintenance" (as defined in the November 16, 1990 Federal

Register page 48066), and a storm water permit is not required for the discharges from that area. Only those portions of the SIC code 5171 facility where vehicle maintenance operations (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) and equipment cleaning take place are required to be covered under a storm water permit application.

26. **Are off site vehicle maintenance areas required to submit permit applications for their storm water discharges?**

A. As discussed in Section I of this document, to determine the regulatory status of off site vehicle maintenance operations, the operator of a facility must first determine if that off site operation can be classified according to its own SIC code. If there is no SIC code which describes the off site facility independently, then it would assume the SIC code of the parent facility it supports. However, please note that off-site facilities that fall within the nine categories listed on page 17 of the SIC Manual (or which are specifically described in the SIC code description) would, in most cases, be classified according to the parent facility they support. See Section XIII of this document for the complete list. Such supporting establishments include central administrative offices, research and development laboratories, maintenance garages, and local trucking terminals. EPA has determined that off site vehicle maintenance facilities that primarily service trucks used for local transportation of goods or for local services are generally considered supporting establishments which do not assume a transportation SIC code; rather, such facilities are classified according to the SIC code of the facility they support. Long-distance trucking centers, on the other hand, are generally classified as SIC code 4213, and are subject to regulation under 40 CFR 122.26(b)(14)(viii)).

Category (x): Construction activity

27. **Who must apply for permit coverage for construction activities?**

A. Under the NPDES storm water program, the operator of a regulated activity or discharge must apply for a storm water permit. EPA clarified that the operator of a construction activity is the party or parties that either individually or taken together meet the following two criteria: (1) they have operational control over the site specifications (including the ability to make modifications in specifications); and (2) they have the day-to-day operational control of those activities at the site necessary to ensure compliance with plan requirements and permit conditions (9/9/92 Federal Register page 41190). If more than one party meets the above criteria,

then each party involved must become a co-permittee with any other operator(s). For example, if the site owner has operational control over site specifications and a general contractor has day-to-day operational control of site activities, then both parties will be co-permittees.

When two or more parties meet EPA's definition of operator, each operator must submit an NOI, and either include a photocopy of the other operators' NOI(s) or the general permit number that was assigned for that project. Under EPA's storm water construction general permits, the co-permittees are expected to join in implementing a common pollution prevention plan prior to submittal of the NOI, and in the retention of all plans and reports required by the permit for a period of at least three years from the date that the site is finally stabilized.

For individual storm water discharge permits, applications must be filed 90 days prior to the commencement of construction. If a contractor has not been selected at the time of application, the owner of the project site would initially file the application and the contractor should sign on when selected. Under an individual storm water permit for construction, multiple operators would have to sign onto the permit, instead of submitting a new application. Please note that authorized NPDES States may have varying NOI and/or permit requirements and should be contacted on this issue.

28. **What are the responsibilities of subcontractors at the construction site under EPA's storm water construction general permits?**

A. EPA storm water construction general permits require subcontractors to implement the measures stated in the pollution prevention plan and to certify that he/she understands the terms and conditions of the permit requirements. Under EPA's general permits, subcontractors are not required to submit NOIs.

29. **What is meant by a "larger common plan of development or sale?"**

A. A "larger common plan of development or sale" is a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan. For example, if a developer buys a 20-acre lot and builds roads, installs pipes, and runs electricity with the intention of constructing homes or other structures sometime in the future, this would be considered a common plan of development or sale. If the land is parceled off or sold, and construction occurs on plots that are less than five acres by separate, independent builders, this activity still would be subject to storm water permitting requirements if the smaller plots were included on the original site plan.

30. **Does construction activity encompass repaving of roads?**

A. Repaving is not regulated under the storm water program unless five or more acres of underlying and/or surrounding soil are cleared, graded or excavated as part of the repaving operation.

31. **Is clearing of lands specifically for agricultural purposes regulated construction activity (40 CFR 122.26(b)(14)(x)) under the storm water program?**

A. No. Although the clearing of land may be greater than five acres, any amount of clearing for agricultural purposes is not considered an industrial activity under the storm water regulations. Section 402(l)(1) of the 1987 Water Quality Act exempts agricultural storm water discharges from NPDES permitting requirements including storm water permitting. This exemption only applies, however, if the clearing of land is solely for agricultural purposes. (See Question 13).

32. **If a construction activity that disturbs five or more acres commences on a site covered by an existing industrial storm water permit, are the storm water discharges from the construction area covered by the existing permit or is a separate permit required?**

A. If the existing permit is an individual permit, then the operator must either request a modification of the existing permit to include the construction storm water discharges or apply for coverage under a separate permit that specifically addresses that construction activity. If the permittee decides to modify the existing individual permit, permit modifications must be approved prior to initiating any construction activity. If the existing permit is an EPA storm water industrial general permit, the operator should submit an NOI for coverage under EPA's storm water general permit for construction activities. States with NPDES permitting authority may have different requirements.

33. **If a construction activity that disturbs less than five acres occurs on site of a regulated industrial activity currently covered by EPA's industrial storm water general permit, does the regulated industry have to modify its pollution prevention plan to include controls for the area of construction?**

A. Yes. Regulated industrial activities covered by EPA's storm water industrial general permit must revise their pollution prevention plan to address all new sources of pollution and runoff including those from construction activities disturbing less than five acres, that occurred on the site of the regulated industry. However, if less than five acres, a separate

storm water permit for the construction activity is not required (see Question 32).

34. For projects such as a 100-mile highway construction project, what location should be provided on the NOI?

A. The midpoint of a linear construction project should be used as the site location on EPA's NOI form. For construction projects that span across more than one State, the project must meet the application requirements of each State.

35. Are long-term maintenance programs for flood control channels (such as vegetation removal) or similar roadside maintenance programs subject to permitting if five or more acres are disturbed?

A. If grading, clearing or excavation activities disturb five or more acres of land either for an individual project or as part of a long-term maintenance plan, then the activity is subject to storm water permit application requirements.

36. For a construction activity that uses off site "borrow pits" for excavation of fill material or sand and gravel, should the number of disturbed acres at the borrow pit be added to the number of acres at the construction site to determine the total number of disturbed acres?

A. No, off site borrow pits are not considered part of the on site construction activity. If a borrow pit is specifically used for the removal of materials such as sand, gravel, and clay, the pit is considered a mine and is classified under SIC code 14. Such sites would be regulated as industrial activity as defined at 40 CFR 122.26(b)(14)(iii). However, if the borrow pit is utilized for the removal of general fill material (e.g. dirt) and disturbs five or more acres of land, the pit would be considered a construction activity as defined at 40 CFR 122.26(b)(14)(x).

37. Would building demolition constitute a land disturbing activity and require a storm water construction permit application?

A. The definition of land disturbing activity includes but is not limited to clearing, grading and excavation. At a demolition site, disturbed areas might include the site where building materials, demolition equipment, or disturbed soil are situated, which may alter the surface of the land. Therefore, demolition activities that disturb five or more acres of land would be subject to storm water construction permit application requirements.

38. **What are the legal responsibilities and liabilities for construction activities disturbing less than five acres, pursuant to the Ninth Circuit U.S. Court of Appeals decision on June 4, 1992?**

A. In NRDC v. EPA, 966 F.2d 1292, the Ninth Circuit U.S. Court of Appeals remanded for further rulemaking, EPA's exemption of construction sites less than five acres which are not part of a larger common plan of development or sale. The Agency intends to undergo further rulemaking proceedings for construction sites less than five acres. Until further rulemaking is completed, permit applications for such activities need not be submitted to EPA. However, States with NPDES permitting authority may have more stringent requirements.

39. **Do storm water construction general permits authorize non-storm water discharges?**

A. Under EPA's storm water construction general permits, issued on September 9, 1992, and September 25, 1992, the following non-storm water discharges are conditionally authorized (57 FR 41219) and (57 FR 44419): discharges from fire fighting activities; fire hydrant flushings; waters used to wash vehicles or control dust; potable water sources including waterline flushings; irrigation drainage; routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents. These discharges, except for flows from fire fighting activities, must be identified in the pollution prevention plan and the plan must address the appropriate measures for controlling the identified non-storm water discharges. Other non-storm water discharges not listed above or not identified in the storm water pollution prevention plan, must be covered by a different NPDES permit.

Category (xi): Light manufacturing facilities :

40. **If oil drums or contained materials are exposed during loading or unloading at a category (xi) facility, are storm water discharges from this area subject to the storm water regulations?**

A. The storm water regulations require category (xi) facilities to apply for a storm water permit where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. If there is a

reasonable potential for leaks or spills from these drums which could be exposed to storm water, discharges from that area would be subject to storm water permitting requirements. Completely covering loading and unloading activities may eliminate exposure. Note that permitting authorities may have more stringent interpretations with respect to exposure on industrial sites and should be consulted for case-by-case determinations. For a discussion on the 9th Circuit Court of Appeals decision (June 1992) and future EPA rulemakings on category (xi) facilities, please refer to Section IX of this document.

41. **Does the storage of materials under a roof at a category (xi) facility constitute exposure?**

A. If materials or products at a light industrial facility are stored outside under a roof and there is no reasonable potential for wind blown rain, snow, or runoff coming into contact with the materials or product, then there may not be exposure at that area. However, if materials are stored under a structure without sides and storm water comes into contact with material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products or industrial machinery, the discharge from that area must be permitted. The permitting authority should be contacted for specific issues related to exposure.

III. Individual Permits

42. **Will individual permits include requirements for storm water pollution prevention plans and monitoring?**

A. EPA anticipates that many individual permits will include storm water pollution prevention plans as a means of satisfying Best Available Technology (BAT)/Best Conventional Technology (BCT) requirements established in the Clean Water Act (CWA). With regard to monitoring requirements under individual permits, such requirements will be determined by the permit writer on a case-by-case basis. At a minimum, all facilities with storm water discharges associated with industrial activity must conduct an annual site inspection as prescribed at 40 CFR 122.44(i)(4).

43. **Do permitting authorities have the option of subjecting facilities that have submitted individual storm water permit applications to general permits?**

A. Yes, permitting authorities may subject facilities that have submitted individual permit applications to general permits. Facilities that are covered

by a general permit may petition the permitting authority to be covered under an individual permit by submitting an individual permit application with reasons supporting the request to the permitting authority, pursuant to 40 CFR 122.28(b)(2)(iii).

44. **What are the benefits/drawbacks of pursuing an individual storm water permit over a general permit?**

A. An individual storm water permit may be advantageous, as it is designed to reflect a facility's site-specific conditions, whereas general permits are much broader in scope, particularly in terms of monitoring requirements. However, the individual permit application is generally more difficult to prepare than submitting EPA's notice of intent (NOI) to be covered under a general permit (in part because the individual permit application requires sampling and EPA's NOI does not). General permits may be advantageous because regulated facilities know, in advance of submitting their NOI, the requirements of the permit. In addition, coverage under a general permit may be automatic (depending on how the permit is written), whereas the individual permitting process takes longer.

45. **When does EPA anticipate that individual permits will be issued?**

A. Issuance of individual permits may vary on a State by State basis, as permitting priorities and resources allow. The December 18, 1992, Federal Register (57 FR 60447) established October 1, 1993, as the deadline by which individual permits are to be issued. Many authorized States are already issuing individual permits.

46. **Can a facility that has submitted an individual permit application obtain general permit coverage upon issuance of a general permit in its State?**

A. Yes, an eligible facility may opt for coverage under a general permit (by submitting an NOI) up until the time that the permitting authority issues such facility its individual permit. Authorized States may require a written request for withdrawal from the individual permit application process. EPA recommends submitting such requests to the appropriate Regional office.

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IV. EPA General Permits (issued on 9/9/92 and 9/25/92)

47. **What is the difference between EPA's construction and industrial general permits?**

A. Because the nature of construction activity varies considerably from other industrial activities, EPA developed two separate general permits: one covering storm water discharges from construction activity and one for other storm water industrial discharges. Whereas the pollution prevention plan for the construction permit focuses on sediment and erosion controls and storm water management, the pollution prevention plan for industry emphasizes general site management. Note that some authorized States have industrial general permits that authorize storm water discharges from construction activity.

EPA's general permits for storm water discharges associated with industrial activity, issued on 9/9/92 (57 FR 41236) and 9/25/92 (57 FR 44438), authorize storm water discharges from all new and existing point source discharges of storm water associated with industrial activity, as defined at 40 CFR 122.26(b)(14), to waters of the U.S., except for ineligible storm water discharges that are listed at I.B.3. (9/9/92 Federal Register page 41305) and (9/25/92 Federal Register page 44444) in EPA's general permits.

EPA's general permits for storm water discharges associated with construction activity, which were issued on 9/9/92 (57 FR 41176) and 9/25/92 (57 FR 44412), authorize storm water discharges associated with construction activity, as defined at 40 CFR 122.26(b)(14)(x), except for ineligible discharges that are listed at I.B.3 (9/9/92 Federal Register page 41217) and (9/25/92 Federal Register page 44418) in EPA's general permits.

48. **What is the procedure for applying for coverage under EPA's industrial or construction general permits?**

A. Dischargers of storm water associated with industrial activity located in non-NPDES States must submit a Notice of Intent (NOI) to be authorized to discharge under the general permit. The NOI form is a one-page document requesting basic information about the nature of the facility and the particular storm water discharge under consideration. Under EPA's general permits, monitoring is not required for submittal of the NOI. States with NPDES authority may have different requirements for their NOI and should be contacted directly.

49. **Will a facility automatically be covered by an EPA general permit upon submittal of an NOI or will it have to cease operations until the Agency provides notification of acceptance?**

A. Permit coverage begins two days after the postmark date on the NOI, provided the storm water discharges from the facility are eligible for coverage as established by the permit conditions (see 9/9/92 Federal Register page 41305 for limitations on coverage). The permitting authority can require the submittal of an individual application at any time. However, the facility may continue to discharge under the general permit until an individual permit is issued or denied.

50. **What are the deadlines for compliance with EPA's general permits?**

A. Individuals who intend to obtain coverage for a storm water discharge associated with industrial activity that commenced on or before October 1, 1992, were required to submit an NOI by October 1, 1992; however, EPA is accepting late NOIs. Regulated facilities wishing to obtain coverage under the general permit that have not yet submitted an NOI should do so immediately. EPA's storm water general permits require permittees to develop and implement a storm water pollution prevention plan. Deadlines for NOI submittal and development and implementation of plans are listed in the table below.

Facilities with salt storage or facilities that were not required to report under Emergency Planning Community Right to Know (EPCRA) Section 313 prior to July 1, 1992, (but must report after that date) must comply with the special requirements for section 313 facilities and salt storage (if applicable) within 3 years of the date on which the facility is required to first report under section 313. All other conditions in the permit must be met within the deadlines listed above. Plans do not have to be submitted to the Agency but must be kept on site and made available upon request.

Type of Discharge	NOI Deadline	Pollution Prevention Plan Development Deadline	Pollution Prevention Plan Implementation Deadline
Existing industrial activities (other than construction)	October 1, 1992	April 1, 1993	October 1, 1993

Type of Discharge	NOI Deadline	Pollution Prevention Plan Development Deadline	Pollution Prevention Plan Implementation Deadline
Industrial activities (other than construction) that begin between October 1, 1992 and January 1, 1993	2 days prior to the start of industrial activity	Within 60 days of commencement of operations	Within 60 days of commencement of operations
Industrial activities (other than construction) that begin on or after January 1, 1993	2 days prior to the start of industrial activity	Within 60 days of commencement of operations	Upon commencement of operations
Oil and gas facilities previously not required to be permitted that have an RQ after October 1, 1992	Within 14 days of first knowledge of the release	Within 60 days of first knowledge of the release	Within 60 days of first knowledge of the release
Municipally-owned or operated industrial activities that were rejected or denied from a group application	Within 180 days of the date of rejection or denial	Within 365 days of the date of rejection or denial	Within 545 days of the date of rejection or denial
Construction sites in operation on October 1, 1992	October 1, 1992	October 1, 1992	October 1, 1992
Construction sites that begin operation after October 1, 1992	2 days prior to the start of construction	Prior to the submittal of the NOI	With the initiation of construction activities

51. Is there a fee for NOI applications?

A. EPA's general permits do not require fees at this time. However, authorized NPDES States may levy fees and should be contacted directly.

52. Where should NOIs be submitted?

A. Facilities in States and Territories where EPA is the permitting authority submit NOIs to the central processing center at the following address:

Storm Water Notice of Intent
P.O. Box 1215
Newington, VA 22122.

All permittees in States with NPDES authority submit the NOI to their State permitting authority except those in New York, who submit to the processing center at the above address. Note that authorized NPDES States may develop NOI forms that are different from EPA's NOI form. Under EPA's general permits, the operator of any industrial activity that discharges storm water through a municipal separate storm sewer system in a medium or large municipality must also submit a copy of the NOI to that municipality. In addition, operators of construction activities must provide a copy of all applicable NOIs for a site to the local agency approving sediment and erosion plans or storm water management plans.

53. Is an operating regulated industrial facility required to submit a separate NOI for each outfall that discharges storm water associated with industrial activity at the site?

A. Under EPA's general permits, one NOI is generally sufficient for the entire site, provided there is one operator. In this case, the pollution prevention plan must address all discharges of storm water associated with industrial activity from the site. If there are multiple operators at the site, each operator must submit an NOI. In addition, if a facility that is covered under EPA's industrial storm water general permit undertakes a construction activity disturbing more than five acres of land, then the facility must submit an NOI for those construction-related storm water discharges for coverage under EPA's construction general permit (or submit an individual permit application).

54. **Will a facility receive any notification from EPA after submitting an NOI under EPA's general permit?**

A. Yes, EPA confirms the receipt of NOIs and will provide the applicant with a permit number and explains how to get a summary of the guidance on preparing storm water pollution prevention plans.

55. **Is an entire facility excluded from coverage under EPA's general permits if a single discharge at the site is excluded from coverage?**

A. No. Eligibility under EPA's general permits should be applied on a discharge-specific basis. Thus, a site with multiple discharges can be covered under two different permits: a general permit for some discharges and a separate NPDES permit for any discharges excluded from coverage under the general permit. NPDES States should be contacted for additional guidance on this issue.

56. **Does an industrial facility operating under an EPA industrial general permit have to apply for a separate permit for all on site construction activities that disturb more than five acres of land?**

A. Storm water discharges from construction activities that disturb five or more acres of land must be covered under a separate NPDES permit that specifically addresses storm water discharges from construction activity. EPA's industrial storm water general permits do not provide coverage for storm water discharges from regulated construction activities. Construction activities that disturb less than five acres of land do not require a storm water permit at this time. The pollution prevention plan for the industrial facility must be modified to address site changes due to that amount of construction activity.

57. **Can a facility submit one NOI for similar but separately located industrial facilities which are owned by the same corporation?**

A. No. One NOI must be submitted by the operator of each individual facility that intends to obtain coverage under a general permit, regardless of common ownership.

58. **Does an asphalt/concrete batch plant have to submit a new NOI each time it changes location?**

A. Under EPA's general permits, an NOI must be submitted each time the plant moves to a new site of operation. However, some authorized States may have different requirements with respect to asphalt/concrete batch

plants and, therefore, facilities in such States should contact their permitting authorities.

59. **Who is required to monitor under the conditions of EPA's storm water general permits?**

A. EPA established tiered monitoring requirements in its final industrial storm water general permits based on the potential to contribute pollutants to storm water (4/2/92 Federal Register page 11394). Six classes of facilities are required to monitor semiannually and report annually, ten classes of facilities are required to monitor annually and keep the data on site, and all other classes of facilities are not required to monitor. All facilities authorized by general permits (including those facilities not otherwise required to monitor) must still conduct an annual site inspection, except for inactive mining sites where this may be impractical due to remote location and inaccessibility of sites (inspection no less than once in three years). The sixteen classes of facilities that are required to monitor are specified in EPA's industrial general permits (9/9/92 Federal Register page 41248), which are available from the Storm Water Hotline. EPA's construction storm water general permits require periodic inspections in lieu of monitoring.

60. **If an industrial facility that is required to monitor under EPA's industrial storm water general permits does not have any exposure of materials or activities to storm water, does it still have to conduct sampling?**

A. Under EPA's industrial storm water general permits, industrial facilities can provide a certification in lieu of monitoring results for a given outfall, that materials and activities are not presently exposed to storm water and will not be exposed during the certification period (see 9/9/92 Federal Register page 41314 for a more detailed description). This determination should be applied on outfall-by-outfall basis (e.g., permittees may elect to monitor certain outfalls while providing certification for others). The certification must be updated on an annual basis and retained in the pollution prevention plan. The six classes of facilities that are required to report monitoring results annually must submit this certification to the permitting authority in lieu of the Discharge Monitoring Report (DMR).

61. **Within one drainage area leading to a single outfall, if a facility conducts two separate industrial activities that are subject to both semiannual and annual monitoring requirements, which set of monitoring requirements will apply?**

A. If the discharges cannot be segregated, the combined discharge would be subject to both sets of monitoring requirements. In effect, a combined

discharge could be subject to annual monitoring requirements for certain parameters and semi-annual monitoring for others. If a facility can segregate the discharges from the different activities, separate monitoring requirements would apply to each discharge.

62. **Is it possible to sample only one of several identical outfalls under the provisions of EPA's general permits?**

Yes. To reduce the monitoring burden on the facility, the permit allows an operator to sample one outfall where it is substantially identical to the other outfalls. Permittees that intend to use this provision must justify and document in writing why one outfall is substantially identical to the others. Criteria for making this determination are presented in the NPDES Storm Water Sampling Guidance Document. Facilities using this provision must include the written justification in their storm water pollution prevention plan. Facilities that are subject to semiannual monitoring requirements must submit the justification of why an outfall is substantially identical to the others with the Discharge Monitoring Report. Other facilities required to monitor under the permit are not required to submit the justification unless it is requested by the permitting authority.

63. **If a facility had to report under section 313 of the Emergency Planning and Community Right to Know Act (EPCRA) when its NOI was submitted but no longer uses the quantity of water priority chemicals that makes such reporting necessary, is that facility still subject to special requirements in EPA's industrial storm water general permits for facilities that handle EPCRA section 313 water priority chemicals?**

A. No. Such facilities are no longer subject to the special EPCRA requirements contained in EPA's industrial storm water general permit and should accordingly modify their pollution prevention plan to indicate the changes in industrial activity at the facility.

64. **Under EPA's general permits, when and where must Discharge Monitoring Reports (DMR) be submitted for semi-annual monitoring facilities?**

A. DMRs must be submitted to the permitting authority according to the following schedule: a) certain EPCRA section 313 facilities and wood treatment facilities monitor from January to June and July to December and report no later than January 28 following the second monitoring period; b) Primary metal facilities, facilities with coal pile runoff, and battery reclaimers monitor from March to August and September to February and report no later than April 28; and c) land disposal facilities monitor from October to March and from April to September and report no later than October 28. For facilities in non-NPDES States, DMRs must be

submitted to the EPA Regional office (Section XI of this document includes storm water list of contacts for addresses). In States with approved NPDES permit programs, DMRs must be sent to the location specified in the State's general permit. The general permits in such States may also have different schedules for submitting DMRs than the one specified above.

65. **Under the industrial general permit, coal-fired steam electric facilities have annual monitoring requirements for storm water discharges from coal handling sites (other than from coal pile runoff). Are access roads considered coal handling sites?**

A. Coal handling sites include those areas of the facility where coal is either loaded or unloaded. Therefore, those portions of access roads where loading/unloading operations do not occur are not considered to be coal handling sites and, therefore, are not subject to annual monitoring requirements under EPA's general permits.

66. **Are there specific numeric effluent limits in EPA's storm water general permits?**

A. EPA's general permits establish pollutant discharge limits for total suspended solids (TSS) and pH in coal pile runoff. In most other situations, EPA's industrial storm water general permits focus on storm water management and the implementation of facility-specific pollution prevention plans; however, EPA's industrial general permits also include State-specific conditions that may include additional numeric effluent limits.

67. **What is a storm water "best management practice" (BMP)?**

A. A BMP (defined at 9/9/92 Federal Register page 41319) is a technique, process, activity or structure used to reduce the pollutant content of a storm water discharge. BMPs include simple, nonstructural methods such as good housekeeping and preventive maintenance. Additionally, BMPs may include sophisticated, structural modifications such as the installation of sediment basins. The focus of EPA's general permits is on preventative BMPs which limit the release of pollutants into storm water discharges. EPA has published guidance materials to assist in the selection of appropriate BMPs in the preparation of storm water pollution prevention plans, including: *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices (PB-92-235969)* and *Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices (PB-*

92-235951). These Manuals are available from NTIS at (703) 487-1650 and the Office of Water Resource Center at (202)260-7786.

68. **What should a facility do when the nature of its activities changes?**

A. When the nature of a facility's activities changes, the facility must modify the pollution prevention plan accordingly. If the facility is subject to new monitoring requirements as a result of the changes, sampling must begin at the start of the next monitoring period.

69. **Is there a procedure for notifying EPA when a storm water discharge associated with industrial activity covered by EPA's general permit has been eliminated?**

A. Yes. EPA's general permits include procedures for filing a Notice of Termination (NOT) form when there is no longer a potential for storm water discharges associated with industrial activity to occur. Operators of construction activities can submit an NOT once they have finally stabilized all areas that were disturbed. For construction activity, final stabilization means that all soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover has been established or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed with a density of 70% of the previously existing/background cover for unpaved areas and areas not covered by permanent structures. A copy of the NOT can be found in Federal Register notices dated September 9, 1992 (57 FR 41232 and 41341), and September 25, 1992 (57 FR 44434 and 44469).

70. **If a NPDES authorized State has general permitting authority but has not yet finalized an applicable general permit, can a facility still submit an NOI and assume general permit coverage?**

A. No, a facility cannot submit an NOI to obtain coverage under a general permit until that permit has been finalized. Furthermore, a facility located in an NPDES State cannot seek coverage under one of EPA's general permits.

71. **Will State general permit requirements vary and to what extent?**

A. General permit requirements for authorized NPDES States may vary considerably because these States develop and issue permits independently from EPA. However, all NPDES permits must meet minimum technical and water quality-based requirements of the Clean Water Act. Permittees in NPDES authorized States should consult with their permitting authorities regarding particular State conditions. Under EPA's storm water general permits, State-specific requirements vary

because of different water quality concerns in different States. Each of the 12 non-authorized States and Territories provided certification that EPA's general permits comply with State water quality standards, and added permit requirements where necessary to achieve compliance with those standards in the final general permits.

72. **Can discharges from industrial areas at a construction site such as portable asphalt plants and/or concrete batch plants be covered under EPA's construction general permits?**

A. No. EPA's construction general permits only authorize discharges from the construction area; these permits do not authorize storm water discharges from industrial activities other than construction that are located on the construction site. Portable asphalt plants and/or concrete batch plants are considered to be "industrial activity," as defined 40 CFR 122.26(b)(14)(ii). Therefore, storm water discharges from such industrial activities must be in compliance with a general or individual storm water permit for industrial storm water discharges other than construction. At a construction site which disturbs less than 5 acres of land (and which is, therefore, not subject to storm water permit application requirements for the construction activity), the operator of the mobile asphalt or concrete plant still would be required to obtain storm water permit coverage for discharges from the plant. Please note that States with approved NPDES permit programs may allow portable asphalt plants and/or cement batch plants to be covered under the State's construction general permit.

V. Group Applications

73. **How will group applicants be permitted?**

A. EPA is currently developing a model permit using information from Part I and Part II group applications, and other sources. This model permit will have sections which address a particular type of industrial activity. When the model permit is completed, the permitting authority (EPA or NPDES States) then has the option to propose and issue final permits to cover group members within their state based upon the model permit.

VI. Sampling

74. **For what parameters does a facility have to sample under the individual or group application?**

A. Applicants are required to obtain quantitative data from samples collected during storm events from all outfalls that discharge storm water associated with industrial activity for the following parameters: (1) any pollutant limited in an effluent guideline to which the facility is subject; (2) Any pollutant listed in the facility's permit for its process wastewater [if the facility is operating under an existing NPDES permit]; (3) Oil and grease, pH, BOD5, COD, TSS, total phosphorous, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen; (4) certain toxic pollutants listed in Tables II and III of the Appendix D to 40 CFR Part 122 (also listed as Tables 2F-2 and 2F-3 in the instructions for Form 2F) that are expected to be present in the storm water.

75. For an individual or group application, how many aliquots (portions) of storm water are needed to obtain a flow-weighted composite?

A. A flow-weighted composite may be taken as a combination of a minimum of 3 sample aliquots taken in each hour of discharge for the entire event or for the first three hours of the event, with each aliquot collection being separated by a minimum of 15 minutes. If the storm event lasts less than three hours, aliquots should be collected for as long as there is sufficient flow. Large and medium municipalities may use a different protocol with respect to time duration between collection of aliquots with approval of the permitting authority. EPA's *NPDES Storm Water Sampling Guidance Document* discusses several ways to estimate flows. [This manual is available from the Storm Water Hotline (703) 821-4823) and the Office of Water Resource Center (202)260-7786].

76. How does a facility measure flow if there are numerous small outfalls?

A. Applicants may provide either measurements or estimates of storm water flows. One possible method for estimating flow is to create a conveyance that would combine flows from many of the outfalls. Alternatively, where flows are similar, the flow at one outfall may be measured to calculate flows at the other outfalls, provided that the method of measurement is indicated to the permitting authority. EPA's *NPDES Storm Water Sampling Guidance Document* discusses several ways to estimate flows. [This manual is available from the Storm Water Hotline (703) 821-4823) and the Office of Water Resource Center (202)260-7786.]

77. For what parameters is only a grab sample appropriate?

A. When collecting storm water samples, grab samples are required for the following parameters: pH, temperature, cyanide, total phenols, residual

chlorine, oil and grease, fecal coliform and fecal streptococcus. Both grab and composite samples are required for all other pollutants.

78. **Do both a grab and a composite sample have to be taken from a 24-hour holding pond?**

A. No. Only a minimum of one grab sample is required to be taken for effluent from holding ponds or other impoundments with a retention period of greater than 24 hours for the representative event.

79. **Can composite and grab samples be taken from separate events?**

A. Grab and composite samples for a given outfall should be taken from the same storm event to provide a basis for comparing the data. If this is impossible, information describing each storm event used for sample collection should be recorded and submitted with sampling results. However, applicants are advised that the permitting authority may request data to be collected from only one storm event.

80. **Is a facility required to sample all of its outfalls during a single storm event?**

A. No. Unless otherwise specified by the permitting authority, a facility may sample outfalls during different events provided that the storms meet the criteria established in the application regulations or in the applicable permit language. Information describing each storm event used for sample collection should be recorded and submitted with sampling results.

81. **If a facility has two conveyances that join and leave the site as one combined discharge, where should a sample be collected?**

A. If the discharge is composed entirely of storm water, the sampling point should be at the outfall as it leaves the property. If the discharge is a combination of process wastewater and storm water, the storm water component of the discharge should be sampled before it commingles with the process waste water discharges. If sampling at an outfall at the property boundaries is impossible because of safety reasons, inaccessibility, or a poor conveyance, sampling may be done closer to the discharge source.

82. **How long of a 'dry' period does a facility need before sampling?**

A. A 'dry' period needs to be at least 72 hours. More specifically, all samples must be collected from the discharge resulting from a storm event that

occurs at least 72 hours from the previously measurable (greater than 0.1 inches) storm event.

83. **If two or more outfalls at a facility have identical discharges, does each outfall have to be sampled?**

A. Where a facility has outfalls that discharge "substantially identical effluent," the permitting authority may allow the applicant to test only one outfall and report that the quantitative data are representative of the substantially identical outfalls. EPA's *NPDES Storm Water Sampling Guidance Document* (available from the Storm Water Hotline (703-821-4823)) provides information on how to prepare this petition, or the applicant should contact their permitting authority to determine what information is required.

84. **Do analyses for storm water need to be done by a certified lab?**

A. There is no Federal requirement to use a certified lab. However, certain States may require that a certified lab be used. Please note, analyses must comply with the analytical procedures set out in 40 CFR Part 136, as discussed below.

85. **What analytical methods must be used for the pollutants for which sampling is required?**

A. EPA-approved methods must be used where a method for a pollutant has been promulgated. 40 CFR Part 136 discusses required methods. If there is no approved method, the applicant may use any suitable method, but must provide a description of the method in its application. Additional information on general sampling issues can be obtained through the EPA's *NPDES Storm Water Sampling Guidance Document*. The manual is available from the Storm Water Hotline (703-821-4823).

VII. Municipal Permit Applications

86. **Once a municipal separate storm sewer system (MS4) has submitted Part 2 of its storm water permit application, when does the term of the permit actually begin?**

A. The term of the permit begins when a permit is issued by the permitting authority. Pursuant to 40 CFR 122.26(e)(7), storm water permits for discharges from MS4s are to be issued with in one year after submission of a complete application. Since applications for medium and large

municipal separate storm sewer systems were due on May 17, 1993 and November 16, 1992, respectively, this results in permit issuance by November 16, 1993 for large municipalities and by May 17, 1994 for medium municipalities.

87. **How is EPA incorporating 1990 census data into the storm water program?**

A. Most of the municipalities that meet the definition of either a large or medium MS4 based on the results of the 1990 Census have already begun to seek an NPDES permit. Headquarters is working with the Regions and States to determine the best way to incorporate the remaining municipal entities into the program.

88. **How does EPA envision the relationship between large and medium MS4 operators and NPDES permitting authorities in terms of addressing industrial storm water discharges to MS4s?**

A. EPA envisions a partnership between NPDES permitting authorities and operators of large and medium municipal separate storm sewer systems in controlling pollutants in storm water discharges associated with industrial activity through MS4s. In addition, NPDES storm water permits provide a basis for enforcement actions directly against the owner or operator of the storm water discharge associated with industrial activity.

A second NPDES permit will be issued to the operator of the large and medium MS4. This permit will establish the responsibilities of the municipal operators in controlling pollutants from storm water associated with industrial activity which discharges through their municipal system. Under this approach, municipal operators will be able to:

- Assist EPA in identifying priority storm water discharges associated with industrial activity through their system;
- Assist EPA in reviewing and evaluating storm water pollution prevention plans that industrial facilities are required to develop; and
- Assist EPA in compliance efforts regarding storm water discharges associated with industrial activity to their municipal system.

A more complete description of this policy is provided in the August 16, 1991 Federal Register (56 FR 40973).

VIII. The Intermodal Surface Transportation Efficiency Act of 1991 (Transportation Act)

89. **How did the Transportation Act affect permitting requirements for municipalities under 100,000?**

A. Storm water discharges from certain industrial activities owned or operated by municipalities with a population of less than 100,000 people were granted a moratorium from the October 1, 1992 deadline for storm water permit applications. Exceptions to this moratorium include discharges from powerplants, airports and uncontrolled sanitary landfills.

90. **How does the Transportation Act impact privately owned or operated industrial activities located in municipalities under 100,000?**

A. The provisions of the Transportation Act specifically address publicly owned or operated industrial activities. Privately owned facilities that have storm water discharges associated with industrial activity, as defined at 40 CFR 122.26(b)(14), must submit a permit application regardless of the size of the population of the municipality in which they are located.

91. **What is an "uncontrolled sanitary landfill?"**

A. An uncontrolled sanitary landfill (discussed in the 4/2/92 Federal Register, page 11410) is a landfill or open dump, whether in operation or closed, that does not satisfy the runon/runoff requirements established pursuant to subtitle D of the Solid Waste Disposal Act. However, landfills closed prior to October 9, 1991 are not subject to RCRA runon/runoff requirements, and therefore need not submit storm water permit applications if they are located in municipalities of less than 100,000 population. Landfills closed after October 9, 1991 and others that meet the above definition would be subject to the storm water permit application requirements.

92. **If a municipally-owned sewage treatment plant is located in a municipality with a population of less than 100,000 people, but the service population is greater than 100,000 people, is the facility subject to the permitting requirements?**

A. Yes, because service populations are used in determining population for publicly-owned treatment works [POTWs] (April 2, 1992 Federal Register page 11394). Additionally, where one sewer district operates a number of POTWs, the entire service population of the district will be used to determine the applicable population classification of all the POTWs operated by the district. For example, if a district with a cumulative

service population of 160,000 operates two sewage treatment plants, one of which serves 120,000 and the other which serves 40,000, both plants will be considered to be owned or operated by a municipality with a population of 100,000 or more.

93. **If a construction operation disturbing five or more acres is owned by a small municipality (a population of less than 100,000 people)but operated by a private contractor, is the activity regulated?**

A. No. If the construction activity is either owned or operated by a municipality with a population of less than 100,000 it would not be required to obtain a storm water permit during Phase I of the storm water program. Some States, however, may require that an application be submitted.

IX. 9th Circuit U.S. Court of Appeals Decision

94. **What is the current status of light manufacturing facilities without exposure and construction activities under five acres, pursuant to the 9th Circuit Court decision?**

A. The 9th Circuit Court decision remanded two "exemptions" provided in the NPDES storm water permit application regulations for light manufacturing facilities without exposure and construction activities under five acres (11/16/90 Federal Register page 48066). Both exemptions were remanded for further proceedings. In response to these two remands, the Agency intends to conduct further rulemakings on both the light manufacturing and construction activities under five acres. In the December 18, 1992, Federal Register, the Agency stated that it is not requiring permit applications from construction activity under five acres or light industry without exposure until this further rulemaking is completed.

X. Phase II of the Storm Water Program

95. **What is the difference between Phase I and Phase II of the NPDES storm water program?**

A. In the Water Quality Act of 1987, Congress mandated that EPA establish storm water control programs in two phases. While the first Phase I was defined on November 16, 1990, Phase II regulations were to be promulgated by October 1, 1992. However, the Water Resources Development Act (WRDA) of 1992 extended deadlines for Phase II of the

storm water program as follows: 1) EPA must issue Phase II regulations by October 1, 1993; and 2) permits for Phase II sources may not be required by EPA or the State prior to October 1, 1994. EPA is currently developing regulations that will implement Phase II of the storm water program. (See Question #1 for more information on Phase I).

96. **Will all storm water discharges that are not regulated under Phase I be regulated under Phase II of the storm water program (e.g., service stations, retail and wholesale businesses, parking lots, municipalities with populations of less than 100,000)?**

A. Not necessarily. Statutory provisions require that EPA, in consultation with State and local officials, issue regulations that designate additional Phase II sources for regulation to protect water quality. EPA is currently developing approaches to identify and control high risk Phase II sources. EPA requested initial public comments on a variety of Phase II issues on September 9, 1992 (57 FR 41344). As part of this process, EPA is considering all sources of storm water not regulated under Phase I for potential coverage under Phase II.

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STATE NPDES PROGRAM STATUS 10/27/92

	Approved State NPDES Permit Program	Approved to Regulate Federal Facilities	Approved State Pretreatment Program	Approved General Permits Program
Alabama	10/19/79	10/19/79	10/19/79	06/26/91
Arkansas	11/01/86	11/01/86	11/01/86	11/01/86
California	05/14/73	05/05/78	09/22/89	09/22/89
Colorado	03/27/75	–	–	03/04/83
Connecticut	09/26/73	01/09/89	06/03/81	03/10/92
Delaware	04/01/74	–	–	10/23/92
Georgia	06/28/74	12/08/80	03/12/81	01/28/91
Hawaii	11/28/74	06/01/79	08/12/83	09/30/91
Illinois	10/23/77	09/20/79	–	01/04/84
Indiana	01/01/75	12/09/78	–	04/02/91
Iowa	08/10/78	08/10/78	06/03/81	08/12/92
Kansas	06/28/74	08/28/85	–	–
Kentucky	09/30/83	09/30/83	09/30/83	09/30/83
Maryland	09/05/74	11/10/87	09/30/85	09/30/91
Michigan	10/17/73	12/09/78	06/07/83	–
Minnesota	06/30/74	12/09/78	07/16/79	12/15/97
Mississippi	05/01/74	01/28/83	05/13/82	09/27/91
Missouri	10/30/74	06/26/79	06/03/81	12/12/85
Montana	06/10/74	06/23/81	–	04/29/83
Nebraska	06/12/74	11/02/79	09/07/84	07/20/89
Nevada	09/19/75	08/31/78	–	07/27/92
New Jersey	04/13/82	04/13/82	04/13/82	04/13/82
New York	10/28/75	06/13/80	–	10/15/92
North Carolina	10/19/75	09/28/84	06/14/82	09/06/91
North Dakota	06/13/75	01/22/90	–	01/22/90
Ohio	03/11/74	01/28/83	07/27/83	08/17/92
Oregon	09/26/73	03/02/79	03/12/81	02/23/82
Pennsylvania	06/30/78	06/30/78	–	08/02/91
Rhode Island	09/17/84	09/17/84	09/17/84	09/17/84
South Carolina	06/10/75	09/26/80	04/09/82	09/03/92
Tennessee	12/28/77	09/30/86	08/10/83	04/18/91
Utah	07/07/87	07/07/87	07/07/87	07/07/87
Vermont	03/11/74	–	03/16/82	–
Virgin Islands	06/30/76	–	–	–
Virginia	03/31/75	02/09/82	04/14/89	05/20/91
Washington	11/14/73	–	09/30/86	09/26/89
West Virginia	05/10/82	05/10/82	05/10/82	05/10/82
Wisconsin	02/04/74	11/26/79	12/24/80	12/19/86
Wyoming	01/30/75	05/18/81	–	09/24/91
Totals	39	34	27	35

Number of Fully Authorized Programs (Federal Facilities, Pretreatment, General Permits) = 24

Regulatory Definitions

Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. (See §122.3).

Storm Water Associated with Industrial Activity means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the categories of industries identified in paragraphs (i) through (x) of this definition, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph (xi) of this definition, the term includes only storm water discharges from all areas (except access roads and rail lines) listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State or municipally owned or operated that meet the description of the facilities listed in this paragraph (i)-(xi) of this definition) include those facilities designated under 122.26(a)(1)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) of this definition);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or

transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator;

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45 and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (i)-(vii) or (ix)-(xi) of this subsection are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR 503;

(x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and which are not otherwise included within categories (i)-(x))[1].

[1] On June 4, 1992, the United States Court of Appeals for the Ninth Circuit remanded the exclusion for manufacturing facilities in category (xi) which do not have materials or activities exposed to storm water to the EPA for further rulemaking. (Nos. 90-70671 and 91-70200).

Industrial Subclassification of Auxiliary Establishment

[From Standard Industrial Classification Manual 1987, Office of Management and Budget, p. 17]

Central Administrative Offices

Auxiliary establishments primarily engaged in performing management and other general administrative functions centrally for other establishments of the same enterprise.

Accounting offices	Financial offices
Advertising offices	Head offices
Buying offices	Legal offices
Central offices	Lobbying offices
Computer operations facilities	
	Marketing research offices
Corporate offices	Public relations offices
Data processing facilities	Purchasing offices
District administrative offices	
	Recordkeeping offices
Executive offices	Regional administrative offices

Research, Development, and Testing Laboratories

Auxiliary establishments primarily engaged in performing laboratory or other physical or biological research, development, and testing for other establishments of the same enterprise.

Biological research facilities	Industrial laboratories
Chemical laboratories	Laboratories, testing of products
Engineering laboratories	Research laboratories
Food research/testing facilities	
	Testing facilities

Warehouses

Auxiliary establishments primarily engaged in storing raw materials, finished goods, and other products to be used or sold by other establishments of the same enterprise.

Storage yards	Warehouses

Auxiliaries, Not Elsewhere Classified

Auxiliary establishments primarily engaged in providing support services, not elsewhere classified, for other establishments of the same enterprise.

Advertising sales offices
Computer maintenance facilities
Garages: maintenance, repair, motor pools
Milk receiving stations
Recreation centers
Repair shops
Security offices
Showrooms, without sales
Stamp redemption centers
Trading stamp stores
Trucking terminals

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

December, 1993

In Reply
Refer to: W-5-1

MEMORANDUM

SUBJECT: Role of Municipalities in the Implementation of State General NPDES Permits for Storm Water Associated with Industrial Activity

FROM: Eugene Bromley EB
EPA, Region 9 (W-5-1)

TO: Maryann Jones, Storm Water Section
California State Water Resources Control Board

This is in response to your request at the last Urban Runoff Task Force meeting for a justification for asking municipalities to assist the State and EPA in the implementation of the storm water program for industrial sources. You had requested this review pursuant to the development of the State storm water compliance strategy which describes the roles of the various parties involved in the storm water program. You had noted that some municipalities have been reluctant to assist the State in activities such as inspections, monitoring and review of SWPPPs for industrial facilities.

EPA's final permit application regulations of November 19, 1990 (55 Fed. Reg. 47990) set forth the permit application requirements for industries and municipalities and also discuss the implementation of the program over the longer term. These regulations envision a cooperative effort on the part of the NPDES permitting authority and permitted municipalities in the implementation of the industrial storm water program (55 Fed. Reg. 47997). The storm water permit application regulations at 40 CFR 122.26(d)(2)(iv)(C) also specifically require that municipalities develop and implement controls on industrial sources which discharge into the municipal separate storm sewer system (MS4). The permit application must include:

> "description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial

facilities that the municipal permit application determines are contributing a substantial pollutant loading to the municipal storm sewer system."

The regulations are 40 CFR 122.26(d)(2)(iv)(C)(1) also require that the municipality:

"identify priorities and procedures for inspections and establishing and implementing control measures for such discharges"

and include

a monitoring program for storm water discharges associated with industrial activity identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit . . .

(40 CFR 122.26(d)(2)(iv)(C)(2)).

EPA's Part 2 permit application guidance manual (EPA 833-B-92-002, which has already been provided to the State Board) suggests four specific activities to be undertaken by a municipality to assist NPDES permitting authorities with the implementation of the industrial storm water program. These recommendations are found on page 6-17 in Attachment 1 (excerpted from the EPA guidance manual). These recommendations are similar to the activities which will be implemented in accordance with agreements between the San Francisco Bay Regional Board and Santa Clara and Alameda Counties. The guidance manual also notes that municipalities are ultimately responsible for the discharges from their MS4s and thus it is in the best interests of a municipality to assist in the control of pollutants in storm water from industrial sources which is discharged into the MS4.

The State/municipal partnership is also discussed in the preamble to EPA's recent multi-sector general permit (58 Fed. Reg. 61157, Attachment 2). This discussion generally reiterates and supports the above discussion regarding the role of municipalities in assisting the State with the industrial storm water permit.

For the above reasons, we would recommend that the State compliance strategy ask that municipalities provide some assistance to the State with the implementation of the industrial storm water program. However, the strategy should provide flexibility with regards to the extent and timing of the municipal involvement. Factors such as municipal resources, the

number and nature of industrial facilities in a given area, and the presence or absence of water quality impairments would be factors to consider in setting the requirements at the local level.

For the most part, the draft State compliance strategy (version of October 19, 1993) is already consistent with the above recommendations. Page 5 indicates that municipalities must address industrial storm water discharges, including those subject to the State's general permit. In addition, while the strategy (page 10) indicates that municipalities will "focus" on compliance with local ordinances, this would not exclude activities in support of the State. We suggest that the strategy indicate that municipalities should indeed focus on compliance with local requirements but also engage, as resources allow, in the types of activities discussed in the attachments in support of the State. The strategy should also indicate that while the State would focus on compliance with the general permit, the State would also bring to the attention of a municipality any observed non-compliance with local ordinances which may include special requirements beyond those of the general permit.

These above suggested additional activities by the State and municipalities should not constitute an excessive burden for either since pollution prevention is the basic intent of both the local ordinances and the State general permit. Review by a municipality of an industrial facility for compliance with the State's general permit is simultaneously a useful means for a municipality to evaluate the facility from the perspective of the local program and ensure that appropriate controls are implemented for significant sources of pollutants. Awareness of special local requirements by State inspectors would also enhance the effectiveness of the overall program.

Attachments

Characterization data should also be evaluated. Applicants should analyze quantitative data from representative outfalls to establish a monitoring and control program.

An integral part of this requirement is the adequacy of the applicant's legal authority. If a municipality believes that a discharge of storm water associated with industrial activity violates the industrial facility's NPDES permit limits, but the municipality does not have authority over the discharge, the municipality should contact the NPDES permitting authority for appropriate action. Examples of possible actions by the NPDES permitting authority are:

- For a facility that already has a NPDES individual permit, the permit may be reopened and further controls imposed;
- For a facility covered by a NPDES general permit, an individual site-specific permit application may be required; or
- For a facility not covered by a NPDES storm water permit, a permit may be required.

The municipality is ultimately responsible for discharges from their MS4. Consequently, the proposed storm water management program should describe how the municipality will help EPA and authorized NPDES States:

- Identify priority industries discharging to their systems;
- Review and evaluate storm water pollution prevention plans and other procedures that industrial facilities must develop under general or individual permits;
- Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them); and
- Inspect and monitor industrial facilities to verify that the industries discharging storm water to the municipal systems are in compliance with their NPDES storm water permit, if required.

6.3.3.1 Identifying Priorities

Proposed management programs must clearly identify priority industrial facilities.

> §122.26(d)(2)(iv)(C)(1). [The applicant must] identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.

This section discusses how applicants might identify priority facilities. Section 6.3.3.2 discusses how municipalities might develop procedures for inspections and implementation of control measures.

At a minimum, priority facilities include:

- Operating and closed municipal landfills;
- Hazardous waste treatment, disposal or recovery facilities; and
- Facilities subject to SARA Title III.

Municipalities must identify these and other priority industrial facilities and describe the criteria used to identify them. For example, information from the Toxics Release Inventory is one source a municipality could use to identify industrial facilities subject to SARA Title III. Other sources may include CWA Section 205 or 208 use-attainability studies, other studies that indicate a site-specific beneficial use impairment immediately downstream of a storm water outfall, or records of industrial pretreatment programs or other permit programs that identify facilities that may be the source of a use impairment or

TABLE 4.—ADVANCED BMP ALTERNATIVES

Prevention	Containment	Mitigation		Waste disposal
		Cleanup	Treatment	
Monitoring	Secondary containment	Physical	Liquid-solids separation.	Landfill.
Nondestructive	Flow diversion to secondary containment.	Mechanical	Volatilization	Land treatment.
Labeling	Vapor control	Chemical	Coagulation/precipitation.	Reclamation.
Covering	Dust control		Neutralization	Discharge to surface water.
Pneumatic and vacuum conveying	Sealing		Ion exchange	Deep well injection.
Vehicle positioning			Chemical oxidation	Discharge to POTW.
Dry cleanup			Biological treatment	Offsite disposal.
			Thermal oxidation	

3. Traditional Storm Water Management Practices

In some situations, traditional storm water management practices such as grass swales, catch basin design and maintenance, infiltration devices, unlined retention or detention basins, water reuse, and oil and grit separators can be applied to an industrial setting. However, care must be taken to evaluate the potential of many of these traditional devices for ground water contamination. In some cases, it is appropriate to limit traditional storm water management practices to those areas of the drainage system that generate storm water discharges with relatively low levels of pollutants (e.g., many rooftops, parking lots, etc.). At facilities located in northern areas of the country, snow removal activities may play an important role in a storm water management program. In addition, other types of controls such as spill prevention measures can be considered to prevent catastrophic events that can lead to surface or ground water contamination.

4. Diversion of Discharge to Sewage Treatment Plant

Where storm water discharges contain significant amounts of pollutants that can be removed by a sewage treatment plant, the storm water discharge can be discharged to the sanitary sewage system. Such diversions must be coordinated with the operators of the sewage treatment plant and the collection system to avoid worsening problems with either combined sewer overflows (CSOs), basement flooding or wet weather operation of the treatment plant. Where CSO discharges, flooding or plant operation problems can result, onsite storage followed by a controlled release during dry weather conditions may be considered.

5. End-of-Pipe Treatment

End-of-pipe treatment requirements are typically imposed through numeric effluent limitations, which provide the discharger with flexibility to design the most cost effective type of treatment for the given facility.

At many types of industrial facilities, it may be appropriate to collect and treat the runoff from targeted areas of the facility. This approach was taken with 10 industrial categories with national effluent guideline limitations for storm water discharges. There are several basic similarities among the national effluent guideline limitations for storm water discharges:

- To meet the numeric effluent limitation, most, if not all, facilities must collect and temporarily store onsite runoff from targeted areas of the plant.
- The effluent guideline limitations do not apply to discharges whenever rainfall events, either chronic or catastrophic, cause an overflow of storage devices designed, constructed, and operated to contain a design storm. The 10-year, 24-hour storm, or the 25-year, 24-hour storm commonly are used as the design storm in the effluent guideline limitations.
- Most technology-based treatment standards are based on relatively simple technologies such as settling of solids, neutralization, and drum filtration. Potential ground water impacts should also be considered by operators when designing storage devices.

V. The Federal/Municipal Partnership: The Role of Municipal Operators of Large and Medium Municipal Separate Storm Sewer Systems

A key issue in developing a workable regulatory program for controlling pollutants in storm water discharges associated with industrial activity is the proper use and coordination of limited regulatory resources. This is especially important when addressing the appropriate role of municipal operators of large and medium municipal separate storm sewer systems in the control of pollutants in storm water associated with industrial activity which discharge through municipal separate storm sewer systems.

Several key policy factors arise when considering the appropriate strategy for regulating storm water discharges associated with industrial activity through municipal separate storm sewer systems. These factors include the following:

- The role and responsibilities of municipalities to control pollutants from nonmunicipal facilities which are discharged through a storm sewer owned or operated by the municipality.
- The large number of storm water discharges through municipal systems (the Agency anticipates that the majority of storm water discharges associated with industrial activity from many industrial classes discharge through municipal separate storm sewer systems).
- The ability of municipalities to recognize and represent local concerns and considerations.
- The ability of municipal operators to assist EPA and authorized NPDES States in identifying local priorities for controlling storm water discharges associated with industrial activity through specific municipal systems.
- The ability of municipal operators to assist EPA and authorized NPDES States to oversee effectively the development of appropriate site-specific controls for storm water discharges associated with industrial activity through municipal systems and to effectively require compliance with such controls.
- The authorities provided by the CWA (including those provided to the public) to review information developed

under the NPDES program and to enforce NPDES permits.

• The requirements of the CWA to develop and implement the NPDES permit program.

On November 16, 1990 (55 FR 47990), EPA promulgated a permitting scheme where controls for storm water discharges associated with industrial activity through large and medium municipal separate storm sewer systems may be addressed by two permits issued in a coordinated manner. This complementary permit approach envisions cooperative efforts by the permit issuing agency and municipal operators of large and medium municipal separate storm sewer systems to develop programs that will result in controls on pollutants in storm water discharges associated with industrial activity which discharge through municipal systems.

Under the complementary permit approach, storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems are required to obtain permit coverage. Permits for these discharges will establish requirements (such as controls or monitoring) for industrial operators of the discharge into the municipal system. In addition, these permits provide a basis for enforcement actions directly against the owner or operator of storm water discharges associated with industrial activity.

A second permit, issued to the operator of the large or medium municipal separate storm sewer, establishes the responsibilities of the municipal operators in controlling pollutants from storm water associated with industrial activity which discharges through their system. The framework for permits for discharges from large and medium municipal separate storm sewer systems has been developed to establish the responsibilities of the municipal operator to control pollutants discharged through these municipal systems. At the heart of the permit program for discharges from municipal separate storm sewer systems serving a population of 100,000 or more are requirements that municipal applicants develop and implement municipal storm water management programs. The municipal storm water management programs that will be incorporated into NPDES permits for discharges from municipal separate storm sewer systems will generally address (in addition to other possible requirements) the following three major components:

• Reducing pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage and disposal facilities; facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), section 313; and other priority industrial facilities through municipal separate storm sewers.

• Reducing pollutants in construction site runoff through municipal separate storm sewers.

• Identifying and controlling non-storm water discharges to municipal separate storm sewer systems.

These components of a municipal program can initiate the role of the municipality in assisting EPA and authorized NPDES States in implementing controls to reduce pollutants in storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems. Municipal programs to reduce pollutants in industrial site runoff and construction site runoff through municipal separate storm sewer systems specifically will address municipal responsibilities in controlling pollutants from industrial facilities. In addition, programs to identify and control non-storm water discharges to municipal separate storm sewer systems will in many cases focus on industrial areas because these areas often have a high potential for illicit connections, spills or improper dumping.

Consistent with the final permit application regulations published on November 16, 1990, (55 FR 47990), the proposed general permit accompanying this fact sheet have been developed to assist in establishing a cooperative approach between EPA and municipal operators of large and medium municipal separate storm sewer systems for controlling pollutants from storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems. These requirements will be coordinated with requirements in permits for discharges from large and medium municipal separate storm sewer systems. Major features of the proposed general permit that establish the framework for this cooperative approach include:

• Operators of storm water discharges associated with industrial activity which discharge through a large or medium municipal separate storm sewer system may be required to submit a copy of the notice of intent to the municipal operators of large or medium municipal system receiving the discharge.

• Requirements to monitor and reduce pollutants in discharges will be established for storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems (as well as other storm water discharges associated with industrial activity). Any records, reports, or information obtained by the Director as part of the permit implementation process, including site-specific storm water pollution prevention programs that are developed pursuant to the proposed general permit, are available to municipalities under section 308(b) of the CWA. This will assist municipalities in reviewing the adequacy of such requirements and developing priorities among industrial storm water sources.

• Industrial permittees with discharges through large and medium municipal systems may be required to submit discharge monitoring reports to municipal operators of these systems (as well as to the permitting issuing agency) or other monitoring results as required by the operator of the municipal separate storm sewer to assist the municipal operator in identifying priorities.

These permit conditions, along with appropriate conditions in permits for discharges from large and medium municipal separate storm sewer systems, will allow municipal operators of these systems to assist EPA in:

• Identifying priority storm water discharges associated with industrial activity to their system

• Reviewing and evaluating storm water pollution prevention plans

• Compliance efforts regarding storm water discharges associated with industrial activity to their municipal systems.

VI. Summary of Common Permit Conditions

The following section describes the permit conditions common to discharges from all the industrial activities covered by today's permit. These conditions reflect the baseline permit requirements established for most regulated industries in EPA's General Permits for Storm Water Discharges Associated with Industrial Activity (57 FR 41344–41358 September 9, 1992, and 57 FR 44438–44470 September 25, 1992). Permit requirements which vary from industry to industry are discussed in part VIII of this fact sheet.

A. Notification Requirement

General permits for storm water discharges associated with industrial

VOL 23

FAX TRANSMISSION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

DATE: 3/12 **PAGES (including cover sheet):** 7

TO:
Name: Carlos Urrunaga
Organization:
Office/Mail Code: Storm Water
Fax Number: 213-261-7626
Verification Number:

FROM:
Name: Eugene Bromley
Mailcode: W-5-1
Phone Number: (415) 744-1904
Fax Number: (415) 744-

NOTE:

0816

State of California

Memorandum

To : Regional Water Board
Executive Officers

Date : MAR 3 1994

for Jesse M. Diaz, Chief
Division of Water Quality

From : STATE WATER RESOURCES CONTROL BOARD
901 P Street Sacramento, CA 95814
Mail Code G-8

Subject: TRANSMITTAL OF THE FINAL STORM WATER COMPLIANCE STRATEGY

By way of this memorandum, I am transmitting to you the attached final Storm Water Compliance Strategy (Strategy). This final Strategy incorporates many comments submitted by your staff and the regulated community. As a result, this document is a much stronger and cohesive document than the one which was previously transmitted to you on November 5, 1993. The Strategy is viewed as a dynamic document which will change during the coming years as the Storm Water Program matures.

The program priorities and goals laid out in the Strategy are consistent with those of the Urban Runoff Task Force, the U.S. Environmental Protection Agency, and the workplans which have been developed for the Storm Water Program.

Should you have any questions or comments regarding the Strategy or the Storm Water Program in general, please call me at (916) 657-0756 (CALNET 437-0756). You may also contact Bruce Fujimoto, Chief of the Storm Water Unit at (916) 657-0908 (CALNET 437-0908).

Attachment

cc: Urban Runoff Task Force Members

VOL 23

0817

CALIFORNIA STORM WATER COMPLIANCE AND ENFORCEMENT STRATEGY (Strategy)

Introduction

This document provides an overview of the State, federal and urban storm water programs and defines the relationship between each of these programs. It outlines the authority, roles, and responsibility of each organization in implementing and enforcing the elements of the storm water program. It also provides guidance to the agencies and to the regulated community regarding each organization's role in compliance and enforcement activities. The goal of the State storm water program is to proactively promote an effective storm water program that maximizes coverage of industrial facilities. The Strategy encourages minimum interference with business activities by coordinating the various agencies activities and by encouraging interagency cooperation to avoid duplication of effort. As with the federal storm water program, the long term goal of this program is full participation and compliance by the entire regulated community.

Background

Storm water runoff has been shown to significantly affect water quality. Rainfall picks up a multitude of pollutants as it falls on and drains off streets and parking lots; construction and industrial sites; and mining, logging, and agricultural areas. The pollutants are carried off by the runoff as it drains from these surfaces. Through natural processes or manmade-systems, the runoff flows through a wide variety of drainage features, scouring accumulated pollutants out of gutters, catch basins, storm sewers, and drainage channels. The runoff, carrying the

pollutants, eventually ends up in surface water bodies such as creeks, rivers, bays and oceans.

To provide a general assessment of the water quality of waters of the United States, the federal Water Pollution Control Act [Clean Water Act (CWA)] requires states to submit biennial reports to the Administrator of U.S. Environmental Protection Agency (USEPA) describing the quality of their waters. These reports list nonpoint sources as significant sources of water quality degradation. One of the sources of pollution shown to significantly affect water quality is urban and industrial storm water runoff. Runoff from urban and industrial areas may exceed water quality criteria and exhibit acute and chronic toxicity. Studies show that the mass loading of specific substances in municipal storm water, such as heavy metals, often exceeds the mass loading of these substances discharged from municipal treatment plants.

In 1972, the CWA was amended to provide that the discharge of pollutants to waters of the United States from point sources, such as a storm water conveyance systems, is effectively prohibited, unless the discharge is permitted through a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 Amendments to the CWA required USEPA to establish final regulations for storm water discharge under the NPDES program using a phased approach. It established phased permit application requirements, permit issuance deadlines, and permit compliance conditions for various categories of storm water discharges associated with municipal and industrial activity.

In 1990 USEPA issued the regulations for permitting of municipal and industrial storm water discharges. California, as a delegated NPDES permit state, issues permits for storm water

through State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Board).

Strategy for Compliance

The goal of the storm water program is full compliance by all regulated entities. State and Regional Boards have developed priorities to achieve this goal.

Municipal--The priorities in the municipal program are to:

- Issue permits to all entities requiring municipal permits;
- Work with municipal permittees to develop adequate program elements;
- Evaluate effectiveness of the municipal permittees program elements; and
- Provide outreach and technical support to municipal permittees.

Industrial--The priorities in the industrial program:

- Identify industrial facilities including construction projects that require a permit;
- Issue permits to all industrial facilities and construction projects that require a permit;
- Disseminate information about industrial storm water program compliance;
- Develop forms and procedures to improve the transfer of information; and

- Perform industrial compliance evaluation and inspections as time permits.

Agency Roles and Responsibilities

USEPA--The federal storm water program is under the jurisdiction of USEPA. In states that do not have primacy for NPDES permitting, USEPA is the permitting agency and directly oversees both the municipal and industrial programs. In California, State Water Board administers the storm water program; however, USEPA, through its Region 9 office in San Francisco, retains its authority to ensure compliance with the federal storm water regulations. USEPA participates cooperatively with the Regional Water Board in evaluating the effectiveness of storm water programs and determining whether permittees are in compliance with the storm water regulations. USEPA can initiate enforcement actions and has done so in California in support of the Regional Water Board actions.

USEPA Headquarters in Washington, D.C., has indicated that they believe that urban storm water programs are the heart of the national program. USEPA Headquarters also has indicated that by the expiration date of the first permits in 1995, they will announce plans to independently evaluate the compliance of urban permittees with their permits. USEPA may take enforcement action against urban permittees who are not in compliance with their storm water NPDES permit. This enforcement action may be either administrative or civil and may include corrective action and/or the assessment of penalties up to $25,000 per day.

State Water Board--State and Regional Water Boards are the primary agencies in charge of storm water permitting and compliance in California. State Water Board administers the

program and develops statewide policies and procedures. State Water Board also hears appeals of Regional Water Board actions or inaction.

State Water Board adopted two general storm water permits, one for industrial activities and one for construction activity. State Water Board has the primary administrative responsibility for the two permits. State Water Board processes all Notice of Intents (NOIs) to comply with the permit, issues the permit to facilities, handles permit billing, searches for non-filers, and provides assistance and guidance to Regional Water Boards.

Regional Water Boards--Regional Water Boards directly implement the regulations and enforce the permits. Regional Water Boards adopt urban permits for the municipalities designated by the federal regulations. In addition, they determine if there are other cities or urbanized areas that require permits based on either discharge or receiving water criteria and designate those areas for permit compliance.

Regional Water Boards directly administer the general industrial and construction permits issued by State Water Board and assist State Water Board in the search for nonfilers. They also have the option to develop their own general permits for industry or to issue individual permits for a specific industry. They may require a facility to have an individual permit or incorporate storm water permit requirements into existing NPDES permits as they are renewed.

Regional Water Boards develop their own regional priorities and procedures, as well as coordinating with State Water Board and other Regional Water Boards in the development of statewide policies and procedures. If a permittee is out of compliance

with its permit, Regional Water Board is the first line of enforcement.

State and Regional Water Boards and USEPA coordinate their storm water programs through the Urban Runoff Task Force. This task force provides a forum for discussion of storm water issues and for development of statewide policies and procedures.

Urban Permittees--Urban permittees are responsible for implementation of their municipal permit elements. One of these program elements is the control of industrial storm water discharges to urban storm drain systems. USEPA's final permit application regulations of November 19, 1990 (55 Federal Register 47990) set forth the permit application requirements for industries and municipalities and discuss the implementation of the program over the longer term. These regulations envision a cooperative effort on the part of the NPDES permitting authority and urban permittees in the implementation of the industrial storm water program (55 Federal Register 47997). The storm water permit application regulations at 40 Code of Federal Regulations (CFR) 122.26(d)(2)(iv)(C) also specifically require that municipalities develop and implement controls on industrial sources which discharge into the municipal separate storm sewer system (MS4). The Permit application must include:

> "...description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit application

determines are contributing a substantial pollutant loading to the municipal storm sewer system."

The regulations 40 CFR 122.26(d)(2)iv)(C)(1) also require that the municipality:

> "...identify priorities and procedures for inspections and establishing and implementing control measures for such discharges"

and include:

> "...a monitoring program for storm water discharges associated with industrial activity identified in paragraph (d)(2)(iv)(C)."

In addition, the USEPA Part 2 Permit Application Guidance Manual (EPA 833-B-92-002) suggests four specific activities to be undertaken by a municipality to assist NPDES permitting authorities with the implementation of the industrial storm water program. These activities are to:

- Identify priority industries discharging to their systems;
- Review and evaluate storm water pollution prevention plans (SWPPP) and other procedures that industrial facilities must develop under general or individual permits;
- Establish and implement Best Management Practices (BMPs) to reduce pollutants from these industrial facilities (or require industry to implement them); and
- Inspect and monitor industrial facilities to verify that the industries discharging storm water to the

municipal systems are in compliance with their NPDES storm water permit, if required.

Urban permittees are also required to have a program to address pollutants from industrial and commercial facilities that do not fall under the State's General Industrial Permit. They are also required to address storm water pollution from residential areas and roads.

Individuals/Special Interest Groups--An important feature of the CWA is Section 505 which allows a concerned individual or a special interest group to enforce compliance with the storm water program through the courts by means of citizens suits. Although they play no role in the State's enforcement of the storm water program, State and Regional Water Boards will cooperate with these groups or individuals when requests are made. All records, information, and data collected by the State, USEPA, and local agencies as part of the storm water program are available to the public.

American Public Works Association, California Storm Water Quality Task Force (Task Force)--The Task Force was formed at the beginning of the storm water program in California by municipal agency representatives through the American Public Works Association. The Task Force was designed to give municipal officials with responsibility for storm water programs a forum for discussion of permit compliance. A major goal of the Task Force, in addition to municipal program compliance, has been to inform industry about the requirements of the storm water program and to promote a proactive approach to compliance with the federal regulations. Task Force meetings have been held monthly beginning in January 1990. Task Force members intend to continue working together in this manner to promote a uniform and

consistent approach to carrying out the State's storm water program. In addition, the Task Force members are available to participate in locally sponsored seminars and workshops and to meet with industrial groups or other interested parties as requested.

The Task Force has conducted many informational workshops and with the State has funded preparation of three BMP manuals for municipal, industrial, and construction activities. Each manual contains suggested procedures, forms, tables, material lists, and descriptions of BMPs to assist permit holders to understand and comply with the storm water general permits. In addition, the industrial and construction BMP manuals explain how to prepare a SWPPP. It is the intention of the State agencies and the Task Force to periodically review and update the manuals to make them more useful.

Municipal Storm Water Permits

Requirement for Municipal Permits--Any municipality owning or operating a MS4 is required to obtain an NPDES permit if the population within the geographic boundaries of the municipality fits the criteria for either a large or medium system. A large MS4 serves a population greater than 250,000. The urbanized population may be in either an incorporated area or an unincorporated area. A medium MS4 serves a population between 100,000 and 250,000. In addition, Regional Water Board can designate other urban areas as requiring a storm water permit. A municipality can be designated because its system is interconnected with other municipal systems, or because of the location of its discharge in relation to the discharges of another municipal system, or because of the quantity and nature of the pollutants being discharged causes or threatens to cause a

violation of water quality standards. In addition, Regional Water Board can also designate a municipality because of the nature of the receiving waters or because of other relevant factors.

The original designation of municipalities as large or medium was based on the 1980 census. Other municipalities, including two in California, were added to the list of cities requiring permits based on the 1990 census. However, the time frame for obtaining those permits has not been established.

The Permitting Process

The Regional Water Board adopts the permit for the municipalities in its region. Urban permittees that serve areas that are in more than one region are required to have a permit from each Regional Water Board that they fall under. Urban areas that require a permit will usually have multiple government agencies that require the permit. In addition to the governing board of the city and the agency which has responsibility for the MS4, any agency that maintains a road system in the permitted area is required to have a permit. This often brings the county and the California Department of Transportation into the permitting process.

The Regional Water Board may also designate cities or counties that have MS4s that discharge into the MS4 that is required to have a permit or that discharge near or into a water body that the MS4 discharges into. Often times, some or all of the government agencies in an area will cooperate and obtain a single areawide permit. The co-permittees are then expected to work cooperatively to develop a coordinated program. One of the permittees, usually either the county or the agency with

responsibility for the MS4, acts as the lead permittee. The other co-permittees submit their reports to the lead permittee who then provides the Regional Water Board with a single report and other materials required to demonstrate compliance with the terms of the NPDES storm water permit.

Early Permits--Recognizing the importance of the impact of storm water discharges on the water quality of receiving waters, many Regional Water Boards began regulating storm water discharges and conducting urban/storm water runoff studies in the 1980s. Anticipating the USEPA regulations for municipal storm water permits, the Regional Water Boards brought the large urban areas in California into the storm water program by adopting NPDES permits in 1990. These so-called "early permits" were issued under the existing NPDES regulations, but they were intended to address all the requirements of the proposed USEPA storm water regulations. In general, because they were issued before the regulations were published, the time frame for compliance with each of the permit elements was longer. The standard for compliance, however, is the federal storm water regulations. If the permit requirements are not as stringent as the federal requirements, the permits must be amended, or the deficiencies must be addressed when the permit is renewed.

Permits under Federal Regulations--USEPA instituted a two part application process. Part I applications from large urban areas were due November 1991; applications from medium urban areas were due May 1992. The Part I application requires information on existing programs and requires the permit applicants to show that they have the legal authority to conduct a storm water program. It also requires the applicants to submit results from field screening of major outfalls to detect illicit connections. Part II applications from large urban areas were due

November 1992; those from medium areas were due May 1993. The Part II application requires a demonstration of adequate legal authority, an additional information on pollutant sources and outfalls, a limited amount of representative quantitative sampling data, a proposed monitoring program, a proposed storm water management program, an estimate of the effectiveness of storm water controls, and a fiscal analysis. The Regional Water Board is required to adopt a permit based on the data submitted in the Part I and Part II applications within 12 months of the submittal of the Part II application.

Medium MS4s under the 1990 Census--USEPA has not given these municipalities dates for compliance. However, both of the affected urban systems in California are preparing permit applications consistent with the federal regulations.

Urban Permit Requirements

The intent of the storm water permitting program is to allow the permittees flexibility to develop and implement a storm water program that is tailored to the needs of the community. The permit requires that the urban permittee implement a program to reduce the pollutants in its storm water to the maximum extent practicable (MEP). MEP is not specifically defined in the CWA or by USEPA in the NPDES regulations. However, in order to achieve compliance with MEP, five program elements must be addressed:

- *Funding* of the program;
- *Legal authority* to carry out the program;
- *Industrial program*, including an illegal discharge and illicit connection program;
- Implementation of a *BMP* program; and
- Implementation of a *monitoring* program.

Funding--Urban permittees must demonstrate that they have a stable source of funding that will allow them to fund the various program activities including a public information program. Regardless of the availability of State or federal funds, urban permittee permittees must fund program activities required by the permits and identified in their annual submittal to the Regional Water Boards. Funding storm water management programs is a major hurdle for local agencies. Failure to adequately fund a local program is a program deficiency subject to enforcement action by the State and Regional Water Boards.

Legal Authority--Urban permittees are required to obtain legal authority including:

- Authority to regulate discharges from industrial sites, including elimination of illicit discharges, controlling discharges form spills, dumping or disposal, pollutant transfer from one area to another, and discharges from construction sites;
- The ability to require compliance with the ordinance; and
- The ability to carry out inspections.

Industrial Program--Urban permittees have a unique role in the storm water program. They must develop a storm water program to reduce the discharge of pollutants from all of their urban areas. This requires them to institute a management plan for residential areas, commercial facilities, roads and parking lots, construction and industrial facilities that are not required to have a NPDES permit, as well as construction projects and industrial facilities that fall under the NPDES storm water permitting requirements. The regulations require that urban permittees take an active role in assuring that regulated

industrial facilities comply with their general permits. The urban permittee must implement a BMP program or require the discharger to implement a BMP program that will control these discharges.

Permittees must also have a program for detection of illegal discharges and illicit connections to the MS4.

BMPs--The BMP program selected by the urban permittee should address the particular needs of their community. The BMP program must include a public education component, as well as measures to control pollution from construction sites, industrial facilities, roads, and parking lots. It must also address pollution from municipal facilities such as corporation yards, maintenance facilities, and municipal parking lots.

However, while the State and Regional Water Boards have not set a standard for BMPs, experience in the municipal programs established under the early permits has led to a selection of BMPs that are reasonable in price and are also effective. The Task Force also put out a manual of information on various BMPs that are suitable for a municipal program.

In selecting BMPs, it is important to remember that municipalities are responsible for reducing the discharge of pollutants in storm water to the MEP. This means choosing effective BMPs. Applicable BMPs should only be rejected when other effective BMPs will serve the same purpose. The BMPs are not to be technically feasible or the cost prohibitive. The following factors may be useful to consider:

- Effectiveness: Will the BMP address a pollutant of concern?

- Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
- Public Acceptance: Does the BMP have public support?
- Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?

- Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc.?

Monitoring--Finally, permittees are required to conduct a monitoring program to determine whether the storm water discharge meets water quality standards and to evaluate the effectiveness of their industrial and BMP programs.

All urban permittees must submit annual reports to the Regional Water Boards describing and evaluating their storm water management programs and their plans for improving the programs. These reports must demonstrate to the Regional Water Board that the permittees are in compliance with their permits by showing that the permittees' storm water management program is reducing pollutants to MEP through adequate implementation of the five required program elements. If any of the five elements are missing or inadequate, then the permittee has not achieved MEP. The Regional Water Boards will rely on information in the annual submittal from the urban permittees to provide convincing evidence that a permittee is implementing a storm water management program which results in the reduction of the discharge of pollutants to MEP.

Industrial Storm Water Permits

Requirement for industrial permits--USEPA regulations require 11 categories of industrial facilities to obtain permits for the discharge of storm water associated with industrial activity. Industrial activities include the transfer or storage of raw materials, the industrial or manufacturing process, the transfer or storage of the final product, and any transfer, storage or disposal of waste materials. Construction activity that involves five or more acres of land disturbance is one of the 11 industrial categories that must obtain a permit.

A General Industrial Activity Storm Water Permit was adopted on November 19, 1991 and amended on September 17, 1992. This permit is for use by all categories of industry subject to the storm water permit regulations except for construction activities. A second permit, the General Construction Activity Storm Water Permit, was adopted on August 20, 1992. In addition, Regional Water Boards can issue their own general permits or individual permits.

The San Francisco Bay Regional Water Board has developed a General Industrial Permit for the Santa Clara Valley. Industries in Santa Clara County are required to use that permit rather than the State Water Board Permit. Industries can also request an individual permit from the Regional Water Board. The process is time consuming and costly, however, and the Regional Water Board can refuse. Some industrial facilities in California have NPDES permits that are unrelated to storm water discharge. As these permits are reissued, the Regional Water Boards are incorporating the storm water requirements into these existing NPDES permits.

Compliance with the storm water regulations has been required since October 1, 1992. The permits regulate discharges of storm water from industrial activities to MS4, as well as direct discharges to waters of the nation. The State Water Board has adopted two general permits for industrial storm water discharges. To obtain coverage under the State's general permits, an industrial facility submits a NOI to the State Water Board. The NOI notifies the State that the industrial facility intends to comply with the federal regulations by complying with one of the State's general permits. All industrial facilities must do three things: (1) eliminate illicit discharges and illegal connections to the MS4, (2) prepare a SWPPP, and (3) conduct a monitoring program. An annual report, including monitoring program results, must be submitted to the appropriate Regional Water Board each year on July 1. The requirements for construction activities are similar except that sampling, analysis, and annual reports are not required unless directed by a Regional Water Board.

The State Water Board and Regional Water Boards have undertaken activities to make industries aware of the program. This has included mailings to industrial facilities that may need permits, contact with trade organizations, and displays at conferences such as HAZMACON. State and Regional Board staffs have also given talks at meetings and conferences and have set up informational seminars on compliance with the permit. Other Regional Water Board activities include storm water compliance newsletters or other mailings and computer bulletin boards that facilities can access for information. In addition, State and Regional Water Board staffs field phone calls from the public.

The State Water Board is in the process of setting up an electronic storm water bulletin board. The bulletin board will

give information on proposed program revisions, dates for meetings, sources of information and assistance, and generally make it easier to obtain information about the program. The bulletin board is expected to be operational in early 1994. When the bulletin board is operational, the State will notify all permittees, and other interested persons.

A statewide industrial database is being developed by the State Water Board. An early use of the database will be to identify industries that should be covered under the storm water permit and to provide State agencies and other parties with a mailing list to distribute materials regarding the storm water program. After the database becomes available, the information will be shared with the public agencies involved in the program and other interested parties.

Noncomplying Industries

It is important that all industrial facilities that are required by federal regulations to obtain storm water permits do so. Therefore, particular attention will be given to notifying industries of the need to comply and the method for obtaining coverage under the State's general permits. Considerable effort has already been put into conducting outreach activities to inform industry about the storm water program and how best to obtain a permit. At this time, a more aggressive search for industries that have not obtained a permit (nonfilers) has been initiated. The municipalities and USEPA will assist the State and Regional Water Boards in identifying suspected nonfilers through whatever means are available to them.

As the permitting agency, the State Water Board has the primary responsibility for ensuring that all facilities that require a

permit obtain one. The State Water Board maintains a database of industries that have submitted NOIs. A comprehensive statewide industrial database is also being prepared by the State Water Board. Until the statewide database is available, the State will attempt to acquire other databases containing information on industry and compare them to the NOI database to identify nonfilers. The Regional Water Boards will be given the opportunity to verify that the industries identified by this process are subject to regulation under the State's general permits. USEPA and the Regional Water Boards are also independently conducting activities, as time and funding permit, to identify nonfilers.

In addition to the State's efforts to identify nonfilers, the urban permittees are required under the regulations to identify industrial dischargers to their MS4. They can either contact the discharger directly with parallel notification to the Regional Water Board, or they can give the information to the State or Regional Water Board.

Either the State Water Board or the Regional Water Board will then contact the facilities that have not complied and give the facility a time schedule to submit a NOI, prepare a SWPPP, and prepare a monitoring plan. Industries that have not complied with the storm water regulations are subject to enforcement action. Enforcement is usually taken by the Regional Water Boards, but it can also come from the State Water Board or USEPA.

Industrial Compliance Activities

Under the General Permit, a facility is required to develop a SWPPP and a monitoring and reporting program (M&RP). The SWPPP is a plan that the facility will implement to reduce the

discharge of pollutants to its storm water runoff to meet Best Available Technology/Best Conventional Technology (BAT/BCT) standards. The current acceptable technology to achieve the standards is the use of BMPs.

The General Permit prohibits nonstorm water discharges. Nonstorm water discharges can be in the form of illicit connections and/or illegal dumping. Industries regulated by the General Permit are responsible for the inspection and certification of their facilities to ensure the elimination of illicit connections and the prevention of illegal dumping as part of their SWPPP.

Regional Water Boards individually, or cooperatively with local agencies, evaluate an industrial discharger's compliance with the General Permit. Compliance activities include the following activities: review of the SWPPP, M&RP, and annual report; conduct a site inspection; and review other documents pertaining to a facility's storm water program. Regional Water Boards and urban permittees will inspect industrial facilities to review SWPPPs and monitoring programs, to determine whether the SWPPPs and monitoring programs are being implemented, and to evaluate the potential effectiveness of the BMPs that are being used at the site to prevent pollution of storm water.

The State and Regional Water Boards, in cooperation with the Task Force, will develop model SWPPP evaluation checklists and compliance inspection reports to achieve consistent program implementation. Facilities that have filed a NOI but have not prepared a SWPPP and monitoring program are subject to enforcement action.

After an inspection is complete, industries will be provided a copy of the inspection report which will notify them of BMPs

found to be inadequate or areas of industrial activity in which exposure has not been adequately addressed. The discharger will be provided an opportunity to demonstrate or justify the adequacy of its BMPs or SWPPP. If the discharger cannot adequately demonstrate or justify its actions or inaction the discharger will be requested to take action necessary to bring its facility into compliance. If an industry fails to comply, Regional Water Board staff may pursue enforcement action.

Urban Permittees--The federal regulations require that the urban permittees take an active role in the industrial compliance program, including identification of dischargers to their systems, review of SWPPPs, implementation of BMPs, and inspection and monitoring of facilities. Urban permittees and Regional Water Boards should develop a coordinated compliance inspection program strategy which considers known water quality problems, categories of industries, response to incidents, etc. Municipal compliance inspection programs will focus on compliance with local ordinances. The ordinances should be written so that they complement the State's requirements and so that compliance with the ordinance will require compliance with the State's General Permit. Inspections should be conducted as part of, or in coordination with, other regulatory programs including pretreatment, HAZMAT, etc. Violations of the State General Permit will be referred to the Regional Water Board for enforcement. Regional Water Board industrial inspection programs will focus on compliance with the industrial general permit provisions and will be coordinated as closely as possible with municipal inspections. Violations of the Municipal Ordinance will be referred to the municipality for enforcement. In some regions, Regional Water Board staff will focus primarily on those areas outside the jurisdictional boundaries of the municipal permittees.

Failure of regulated industries to eliminate pollutants in their storm water discharges could make it very difficult for urban permittees to comply with their urban system permits because the urban permittees are legally responsible for the discharges along with the industrial facility. Permittees are required to meet all water quality standards.

Enforcement

The enforcement options for the Storm Water Program are the same for both the municipal and the industrial storm water programs. Each of the regulatory agencies has authority to initiate enforcement action at any time there is a violation or threatened violation to a permit, regulation, or statute. Determination that there has been a violation or that there is a threatened violation would be made through the compliance activities discussed in the previous sections.

USEPA authority for enforcement comes from the CWA. The State and Regional Water Boards enforce the Porter-Cologne Water Quality Control Act (Water Code), as well as the NPDES permit, regulations, and statutes. The authority provided in the CWA and Water Code includes the issuance of Administrative Civil Liability (ACL) Orders and provides for injunctive relief. Urban permittees enforce local ordinances.

The first line of enforcement in California is the Regional Water Board. The Regional Water Board can choose from a variety of enforcement options, all of which are also available to the State Water Board. The enforcement options available to the State and Regional Water Boards include: Notice of Violation (NOV), Cease and Desist Order (CDO), Cleanup and Abatement Order (CAO), ACL Orders, and referral to the Attorney General.

Initially, noncompliance will be dealt with by Regional Water Board staff working with the industry to try to obtain compliance or with a NOV. If working cooperatively to achieve compliance fails, the Regional Water Board can pursue other enforcement options including issuing an ACL Order. A Regional Board Executive Officer may issue an ACL complaint. A public hearing with the Regional Water Board will then be scheduled for 60 days after a complaint is issued. The person issued the complaint can waive the right to a hearing (meaning they agree to pay the complaint).

ACL Orders do not included time schedules. If Board staff finds a schedule is necessary, this is typically done through the issuance of an enforcement order which is typically adopted by the Board concurrently with either the payment of the complaint, or the issuance of an ACL Order.

Another enforcement option is the issuance of a CDO. CDOs can be issued to a person or persons that have been issued waste discharge requirements (a permit). CDOs require action and almost always include time schedules for the dischargers to achieve compliance.

In the absence of waste discharge requirements, a CAO may be issued. This would be applicable for enforcement action against an industrial facility or construction site that has not obtained coverage under the storm water general permits.

Cases can be referred to the Attorney General at any point in the enforcement process for resolution in the courts. This may involve enforcement of a CDO or ACL Orders or the issuance of injunctive relief or penalties by the court.

The most immediate enforcement actions that will be taken will be against nonfilers. The State general industrial permit requires industries to submit NOIs by April 1, 1992. Industries that were in existence before April 1, 1992 and that have not filed NOIs may be required to pay a penalty. Because compliance with the Storm Water Industrial Permit has costs associated with it, industries that are currently in compliance are at an economic disadvantage. Some currently permitted industries have requested that fines be imposed on noncomplying industries. Penalties will be based on factors required by statute, including the costs that the facility avoided by not complying. These costs include: the NOI fee, the cost of SWPPP development, the cost of BMPs implementation, and the cost of monitoring. Penalties will be in addition to the requirement of submitting the NOI along with the first year's annual permit fee. Penalties may be assessed by either the State Water Board or the Regional Water Boards.

Urban permittee enforcement authority must be included in local ordinances. Local agencies cannot enforce permits or other orders issued by the State or Regional Water Boards. Local agencies enforce violations of the local urban program. The local ordinance should contain language that is as stringent as the State's requirements. Compliance with the ordinance should lead to compliance with the State's General Permit. If the urban permittee determines that violations of the State's General Permits have occurred, it will refer the violation to the Regional Water Board for action. Violations of local ordinances will be dealt with by local agencies. Local agencies and the Regional Water Boards will coordinate their enforcement efforts so as to avoid more than one agency enforcing against an industrial facility. When local agencies find it necessary to refer permit violations to the Regional Water Board, USEPA will be notified concurrently.

USEPA has the authority to enforce any aspect of the program that derives from the CWA or the federal storm water regulations. This authority will be used by USEPA to implement national enforcement directives issued by USEPA, Washington D.C., and to assist State and local agencies to ensure program compliance.

USEPA can decide to pursue its own enforcement initiative against an industrial facility in the absence of or regardless of any enforcement action being taken by a urban permittee or the Regional Water Board. However, whenever possible, USEPA will work cooperatively with a Regional Water Board or urban permittee when initiating enforcement against an industrial facility.

The sequence of enforcement actions that USEPA uses are:

1. NOV--Includes a Finding of Violation under the CWA, such as failure to comply with NPDES permit provisions. (Examples of violations are: not achieving dates in time schedules to implement a storm water program for an urban permittee or failure to develop or implement a SWPPP for an industry.) The NOV is sent to the municipality or industrial facility in violation with a copy to the Regional Water Board. The Regional Water Board is notified at this time that they have 30 days to take appropriate enforcement action against the discharger receiving the NOV, or USEPA will take action.

2. Administrative Order (AO)--The AO directs the violating facility to come into compliance, usually by setting a time schedule. No penalties are assessed.

3. Administrative Penalty Order (APO)--Class 1 (up to $25,000) and Class 2 (up to $125,000) penalties can be

assessed for past violations or can include a consent order for any action needed to bring the facility into compliance with a permit or the CWA.

4. Civil referral to the U.S. Department of Justice for penalties (up to $25,000 per day per violation of a permit or the CWA) includes a negotiated consent decree for corrective action or a federal court order if the case proceeds to a judicial conclusion.

5. Criminal referral to the US Department of Justice for willful or negligent violations.

An important feature of the federal CWA is the ability of a concerned individual or special interest group to take action independently in the courts to require compliance with the law. Information in State and federal files and databases is available to anyone for use in determining the compliance status of permitted dischargers. If the court rules in favor of the individuals or special interest groups, they may recover the costs they incurred in taking the action.

Future Activities

This document is intended to be an organic document that will evolve as the program develops. While the thrust of the program in the beginning will be to develop the municipal programs and to bring all appropriate industries into the permitting process, this emphasis will change as the program grows. Other topics that may be included in the future are funding of the program and the development of training programs.

GLOSSARY OF TERMS

ACL--ADMINISTRATIVE CIVIL LIABILITY

AO--ADMINISTRATIVE ORDER

BAT/BCT--BEST AVAILABLE TECHNOLOGY/BEST CONVENTIONAL TECHNOLOGY

BMP--BEST MANAGEMENT PRACTICES

CAO--CLEAN UP AND ABATEMENT ORDER

CDO--CEASE AND DESIST ORDER

CFR--CODE OF FEDERAL REGULATIONS

CWA--CLEAN WATER ACT

MEP--MAXIMUM EXTENT PRACTICABLE

M&RP--MONITORING AND REPORTING PROGRAM

MS4--MUNICIPAL SEPARATE STORM SEWER SYSTEM

NOI--NOTICE OF INTENT

NOV--NOTICE OF VIOLATION

NPDES--NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

REGIONAL WATER BOARD--REGIONAL WATER QUALITY CONTROL BOARD

SARA--SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986

SWPPP--STORM WATER POLLUTION PREVENTION PLAN

STATE WATER BOARD--STATE WATER RESOURCES CONTROL BOARD

TASK FORCE--AMERICAN PUBLIC WORKS ASSOCIATION CALIFORNIA STORM WATER QUALITY TASK FORCE

USEPA--U.S. ENVIRONMENTAL PROTECTION AGENCY

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460

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MEMORANDUM

SUBJECT: Storm Water Enforcement Strategy

FROM: Michael B. Cook, Director
Office of Wastewater Enforcement and Compliance

Frederick F. Stiehl
Enforcement Counsel for Water

TO: Water Management Division Directors
Regions I-X

Regional Counsels
Regions I-X

Attached is the Storm Water Enforcement Strategy for FY 1994-1995. This strategy incorporates comments received from Regions and States on two draft versions as well as input by an EPA/State Storm Water Workgroup. The Workgroup meeting in February included representatives from Headquarters, three Regions, and two States.

The strategy focuses on getting regulated entities "into the system" by identifying and taking action against Municipal Separate Storm Sewer System (MS4) entities and facilities that have not filed a permit application. While the approach to dealing with the MS4 universe is relatively straightforward, the large remaining number of regulated facilities requires that we utilize different approaches than we have in the past to deal with noncompliance. Some approaches utilize "sweeps" which concentrate activity in a watershed or geographic location. Such activities may be mailings, telephone canvassing or inspections and then publication of these activities in order to give visibility to the program. Regions will also want to review any active judicial cases to determine whether a facility is subject to the storm water regulations, coordinate with municipalities regarding facilities within its jurisdiction, and inquire as to the status of a facility's permit application during routine NPDES inspections. Citizen complaints and contact with local sediment/erosion control programs will also be an important source of information for construction sites.

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Three points from the strategy are worth highlighting: 1) Section 308 letters may be used to request the submittal of a NOI/permit application from more than nine addressees nationwide; 2) a storm water discharge need not be observed in order to determine inclusion in the program (but evidence of a conveyance for a discharge must exist), and; 3) failure to apply for a permit is a violation of Section 308, as this section requires reports or other information to carry out Section 402.

Although this strategy was developed for use by EPA Regions, States may want to adopt a similar approach to enforcement. Several Regions have begun compliance/enforcement activities and we need to share information about Regional as well as State activities. The National Storm Water Coordinators' Meeting, scheduled for February 2-4, 1994 in Washington, DC, will be an excellent opportunity to exchange ideas and experiences about the compliance/enforcement issues of the program.

Finally, we want to thank Gerry Levy of Region I for his participation as leader of the Storm Water Workgroup. If you have any questions regarding the strategy, contact David Lyons at (202)-260-8310 or John Lyon at (202)-260-8177.

Attachment

cc: Compliance Branch Chiefs, Regions I-X
Permits Branch Chiefs, Region I-X
Water Branch Chiefs, ORC, Regions I-X
Storm Water Coordinators, Regions I-X

STORM WATER ENFORCEMENT STRATEGY
FY 1994-1995

Summary

The goal of this enforcement strategy is: Equitable and consistent enforcement against non-complying priority storm water dischargers used in combination with incentive measures to achieve compliance. Full participation and compliance by the entire regulated community is the long term goal of this strategy, as it is for all the Agency's enforcement strategies. Although this strategy was developed for use by EPA Regions, approved NPDES States may want to adopt a similar approach when developing their enforcement strategy.

Outreach has been the primary mechanism used thus far to achieve compliance. To provide for a nationally coordinated effort, starting in FY 1994, we will increase the use of compliance monitoring and enforcement to obtain compliance. The compliance/enforcement priorities for the program in FY 1994-1995 are identification of and action against: 1) municipal separate storm sewer systems (MS4s) entities that have failed to submit a timely and complete permit application; 2) regulated facilities which failed to apply for a permit and are outside the jurisdiction of a regulated MS4; and 3) regulated facilities which failed to apply for a permit and are within jurisdiction of a regulated MS4.

The way the Agency intends to manage its storm water program is based on three principles: 1) integration of storm water compliance/enforcement activities into NPDES and other media inspection activities; 2) use of publicity to maximize the impact of any enforcement actions; and 3) expediting the Administrative Penalty Order/Administrative Order issuance process. The size of the regulated universe far exceeds that of the traditional NPDES program. Therefore, Regions and States are encouraged to make use of new approaches to enforcement and share information with each other about what works and what doesn't.

This strategy discusses the compliance/enforcement activities to identify non-filers, use of local/State sediment/erosion control programs to manage regulated construction sites, and ways to expedite the issuance of the Administrative Penalty Order and Administrative Order.

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STORM WATER ENFORCEMENT STRATEGY
FY 1994-1995

I. Storm Water Program Background

A. General

Pollutants in storm water discharges from many sources are largely uncontrolled. The National Water Quality Inventory: 1990 Report to Congress provides a general assessment of water quality based on biennial reports submitted by States as required by Section 305(b) of the Clean Water Act (CWA). The report indicates that approximately 30% of identified cases of water quality impairment are attributable to storm water discharges. States identified a number of major sources of storm water runoff that cause water quality impacts, including separate storm sewer systems, and construction, waste disposal, and resource extraction sites.

The Federal Water Pollution Control Act of 1972 prohibits the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Efforts to improve water quality under the NPDES program traditionally have focused on reducing pollutants in discharges of industrial process wastewater and from municipal sewage treatment plants. Efforts to address storm water discharges under the NPDES program have generally been limited to certain industrial categories with effluent limits for storm water.

In response to the need for comprehensive NPDES requirements for discharges of storm water, Congress amended the CWA in 1987 to require EPA to establish a two-phased NPDES permitting approach to address storm water discharges. To implement these requirements, on November 16, 1990 EPA published initial permit application requirements for certain categories of storm water discharges associated with industrial activity and discharges from municipal separate storm sewer systems (MS4s) located in municipalities with a population of 100,000 or more. Storm water discharge permits will provide a mechanism for monitoring the discharge of pollutants to waters of the United States and for establishing source controls where needed.

The following storm water discharges are covered under Phase I of the program:

1) A discharge which has been permitted prior to February 4, 1987[1];

2) Storm water discharges associated with industrial activity from 11 industrial categories identified narratively and by Standard Industrial Classification (SIC) codes;

3) Discharges from large MS4s (systems serving a population of 250,000 or more) and

[1] EPA has established effluent guideline limitations for storm water discharges for ten subcategories of industrial dischargers: cement manufacturing, mineral mining and processing, feedlots, fertilizer manufacturing, petroleum refining, phosphate manufacturing, steam electric, coal mining, ore mining and dressing, and asphalt. Most of the existing facilities in these subcategories already have a permit which addresses storm water discharges.

medium MS4s (systems serving a population of 100,000 or more but less than 250,000);

4) Discharges which are designated by the permitting authority because the discharge contributes to a violation of a water quality standard or is a significant polluter of waters of the United States.

All other storm water discharges fall under Phase II of the program. A September 1992 Federal Register Notice was issued requesting comments on what Phase II sources should be selected as priorities, how to control sources, and when the Phase II program should be implemented.

B. Permits for Municipal Separate Storm Sewer Systems (MS4)

A municipal separate storm sewer system (MS4) is defined as any conveyance or system of conveyances that is owned or operated by a State or local government entity designed for collecting and conveying storm water which is not part of a Publically Owned Treatment Works (POTW). As of November 1993, approximately 790 MS4 entities have been identified as having to apply for a permit. Nationwide, there will be approximately 265 permits to address the MS4 universe since some permits will cover more than one permittee. The regulations do not apply to discharges from combined sewer systems or small MS4s[2] (serving a population under 100,000).

Part 2 permit applications for large MS4s were to be submitted by November 16, 1992 and by May 17, 1993 for medium MS4s. Permits are to be issued one year from the Part 2 permit application date. In non-approved NPDES States, Regions process the applications. The statute stipulates that the permits must: 1) effectively prohibit non-storm water discharges into storm sewers; and 2) require controls to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP), including compliance with water quality standards.

MS4 permittees will also have responsibility for establishing and administering storm water management programs to control discharges (including discharges associated with industrial activity from regulated facilities), prohibiting illicit discharges, requiring compliance, and carrying out inspections, surveillance, and monitoring. EPA promulgated regulations on November 16, 1990 requiring MS4 permittees to submit an annual status report by the anniversary of the date of the issuance of the permit to reflect the development of their storm water management program. The reports will be used by the permitting authority to aid in evaluating compliance with permit conditions and where necessary, to modify the permit to address changed conditions. The annual report will contain at least the following information: the status of implementing the components of the program that are established as permit conditions; proposed changes to the program; revisions to the assessment of controls and fiscal analysis; summary of data, including monitoring data, accumulated throughout the year; annual expenditures and budget for the upcoming year; a summary describing the number and nature of enforcement actions, inspections, and public education programs; and identification of water quality improvements or degradation.

[2] Some small MS4 entities have been designated as storm water permittees either individually or as co-permittees.

C. Facility Permits for Storm Water Discharges Associated with Industrial Activity

The term 'storm water discharge associated with industrial activity' is defined as the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Eleven categories of facilities that have a point source storm water discharge associated with industrial activity discharging to waters of the US must apply for coverage. (Attachment A) The application deadline for most permit applications was October 1, 1992. Facilities that discharge into a small, medium, or large MS4 are considered direct dischargers and are also required to submit signed copies of the permit application to the operator of the MS4. Discharges of storm water to a combined sewer system or POTW are excluded.

The NPDES regulatory scheme provided three potential routes for facilities to apply for permit coverage for storm water discharges associated with industrial activity:

1) Individual Permit- applications for these permits are processed in the Regions for non-approved NPDES States;

2) Group Application- provided an alternative mechanism for groups with a sufficiently similar discharge to apply for permit coverage; to date, 750 group applications have been submitted to Headquarters representing 40,000 facilities in 31 industrial sectors; a separate general permit to cover facilities in the non-approved NPDES States will be issued by EPA.

3) General Permit- intended to initially cover the majority of storm water discharges associated with industrial activity in non-approved NPDES States; approximately 60,000 facilities have submitted a Notice Of Intent (NOI) to be covered under general permits issued by NPDES States and approximately 25,000 facilities have submitted NOIs to be covered in the non-approved NPDES States; facilities submit an NOI to an EPA contractor for processing to obtain coverage under the federal general permit.

General permits, at a minimum, require development of a storm water pollution prevention plan (SWPPP) to reduce pollutant loadings at a facility's site and an annual compliance evaluation of the SWPPP. Facilities were required to prepare their SWPPP by April 1, 1993 and implement it by October 1, 1993. Certain facilities are required to monitor storm water discharges semi-annually and report annually while others are required to monitor annually but not submit a discharge monitoring report (DMR). It is estimated that 3,800 facilities in the 12 non-approved NPDES States and 12,000 facilities in approved NPDES States are required to monitor.

D. Facility Permits for Storm Water Discharges From Construction Sites

A subset of regulated facilities is construction sites for which a separate general permit has been issued. The NOI requires certification that a SWPPP has been prepared for the site, and such plan complies with approved State and/or local sediment and erosion plans or permits and/or storm water management plans or permits.

Owner/Operators of regulated construction sites (disturbances over 5 acres) were required to obtain coverage under an individual or general permit by October 1, 1992 where disturbances

commenced before October 1, 1992. For disturbances commencing after October 1, 1992, an owner/operator is required to apply for general permit coverage at least 48 hours prior to the start of construction activities or 90 days prior to the start of construction activities for coverage under an individual permit.

II. Compliance Activities and Program Priorities

A. General

Fundamental to the storm water program is the filing of a permit application, as failure to do so allows a facility or MS4 entity to escape regulatory scrutiny. Therefore, the compliance/ enforcement priorities in the early stages of the storm water program--through FY 1994-1995--are the identification of:

1) MS4s that have failed to submit a timely or complete Part 2 permit application (or Part 1 application for MS4s that are designated at a future date);

2) regulated facilities that have failed to apply for a permit and are outside of the jurisdiction of a regulated MS4, and;

3) regulated facilities that have failed to apply for a permit and are within the jurisdiction of a regulated MS4.

Review of DMRs, SWPPPs, and other permit requirements for every facility is not a high priority activity for FY 1994 and 1995. However, there may be circumstances under which Regions and States will want to closely monitor a facility's compliance with the storm water permit and to take action for failure to comply with that permit. Usually, this would be a case where non-compliance is contributing to an environmental problem.

Given the level of funding available for storm water enforcement, we will need to be efficient and innovative in our monitoring and enforcement approaches. To that end, every effort should be made to integrate storm water compliance activities into existing programs within and outside of the NPDES program.

The goal for FY 1994 and again in 1995 is that each Region undertake at least one "sweep" in each year to identify and enforce against regulated facilities that have failed to apply for a permit. The goal of this effort is to persuade other non-filers to voluntarily submit permit applications as well as to solve environmental problems. The Regional approach should be described in a Storm Water Work Plan. This Storm Water Work Plan can be incorporated in the Strategic Plan to be submitted by each Region for FY 1994.

The Regional sweep might target high priority watersheds, geographic locations, or a category of facilities to identify non-filers. The decision of which specific areas to target and the type and scope of activity is left to the Regions, although some preference should be given to addressing storm water problems in high priority watersheds. Where all the States in a Region have approved NPDES programs, the Region should work with at least one State to conduct a storm water effort in that Region.

As with other new programs, it is important to look for and widely publicize signature enforcement cases in the early stages of the program. The use of a "sweep"--whether one particular activity or combination of suggested activities--offers an excellent opportunity for publicizing the Agency's and States' enforcement efforts in the area of storm water.

This strategy does not address the issue of data collection and maintenance. However, a long term goal of the enforcement program will be development of an inventory of entities regulated by the program. The Compliance Information and Evaluation Branch has completed a Draft Feasibility Study which will be sent to the Regions for review. The proposed system solution is continued use of PCS to track the storm water inventory.

One final component of the strategy is to provide positive incentives for compliance to compliment the enforcement program. There already exists a National Storm Water Awards Program to recognize MS4 entities and facilities with industrial activity that are responsibly addressing their storm water obligations. The Regions and States might consider adopting such programs at their levels as well. In addition, Regions and States should continue to take every opportunity to explain the requirements of the storm water program to the regulated community.

B. Municipal Storm Sewer Systems

Part 2 applications for large MS4s were required to be submitted by November 16, 1992 and for medium MS4s by May 17, 1993. Regions should be monitoring the MS4s for compliance with the appropriate deadline. Where the entity responsible for submission of an MS4 application has not complied with a deadline, the Region should address this noncompliance as a top enforcement priority in the storm water program. Regions may begin with an informal action but should escalate to formal action if compliance is not achieved within 90 days.

To date, no MS4 permits in non-approved NPDES States have been issued. It is anticipated that compliance monitoring of these permits will be more difficult than traditional NPDES permits due to the newness of the storm water program in general, uniqueness of each MS4 permittee's approach to storm water management and lack of easily evaluated quantitative requirements of the permit. Because of these difficult implementation issues, Regional compliance/enforcement staff are encouraged to work with the permit staff to ensure the enforceability of the MS4 permits.

Annual reports submitted by MS4s should provide the permitting authority information on successes, failures and extent of enforcement activities. It is recognized that some MS4s are in the process--and may be for some time--of developing the legal authority to implement a local enforcement program for storm water discharges from facilities. Assessing compliance with MS4 permits will be left for FY 1995 and beyond. However, it is suggested that where deficiencies are identified in the annual report that will take over one year to correct, a timetable for correction be embodied in an enforceable schedule. Discretion is left to the Regions as to whether to address these problems in FY 1994-1995.

C. Facilities with Storm Water Discharges Associated with Industrial Activity

Outreach activities by the Headquarters Permits Division and Regions have been the primary method of encouraging facilities to comply with the permit application process and permit requirements in the non-approved NPDES States. Examples of ongoing outreach activities, in Regions and States include: Storm Water Workshops conducted in coordination with or conducted

via trade organizations; Mailings of Fact Sheets, General Permit, and/or Guidance Documents followed up with phone calls or visits to the site; and the EPA National Storm Water HOTLINE.

After the first quarter of FY 1994, compliance and enforcement staff should increase their focus on locating regulated facilities that have failed to file a permit application/NOI and that are outside of the jurisdiction of a regulated MS4. To the extent possible, the Regions should integrate these efforts with other NPDES compliance activities and multi-media program operations.

There are several information sources that can be used to develop a list of facilities that are potentially subject to the regulations. Some sources are:

Toxics Release Inventory to identify SARA Title III facilities;
State Department of Labor databases;
State industrial records;
Lists of NPDES or other environmental regulatory program permittees;
Telephone books;
Municipal pretreatment records;
Trade Association membership lists;
Job Service/Employment Service listings; and
Local authorities which issue buildings permits.

EPA Headquarters provides a list of NOI submittals for non-approved NPDES States on a monthly basis to the Regions and has an inclusive list of facilities that participated in the group application process. The group application list identifies both current participants (40,000 facilities), as well as facilities that are no longer using the group application mechanism (25,000 facilities). The group application list will be available when the general permit becomes final. Data from the NOI list and group application list can be compared to that of a compiled list of facilities that potentially are subject to the regulations from the above mentioned information sources.

The Regions should consider for FY 1994 and 1995, the activities below to identify facilities that have failed to comply with the permit application process and should publicize compliance and enforcement actions after they have been concluded to give visibility to the storm water enforcement program.

Mailings: If EPA has reason to believe that a regulated facility has failed to apply for a permit, (for example, a regulated industry's name does not appear on any permit application list) a Section 308 letter can be sent to the facility along with a Fact Sheet and NOI/permit application. The letter should state that the permit application be filled out by a date certain if the regulations apply.[3] If a facility responds indicating that there is no point source discharge and therefore not

[3] A Section 308 letter requesting that more than nine addressees nationwide fill out anything other than a NOI/permit application form may require approval from OMB per requirements of the Paperwork Reduction Act (PRA). For example, EPA cannot request a 'certification of non-applicability' from more that nine addressees nationwide. These

subject to the regulations, that information should be confirmed at a later date in a site inspection.

Judicial Case Review: Municipal[4] and non-municipal judicial cases that are active or are being developed for non-storm water NPDES violations should be reviewed to determine whether or not the facility needs a NPDES permit for storm water discharges and if so, whether or not a permit application has been submitted. If it is determined that the facility failed to file an application then the complaint can be amended to include 'failure to apply for a permit' or 'discharge without a permit'. The decision to amend the existing complaint or issue a separate AO requiring compliance or APO should be made on a case-by-case basis. However, considering these facilities are familiar with EPA regulatory programs, amending an existing complaint may be appropriate action.

Telephone Canvassing: Phone calls to facilities potentially subject to the regulations explaining the storm water program with questions to determine inclusion in the program or as a follow-up to a mailing strategy can be made[5]. Information request letters can then be sent based on the facility's response.

Field Inspections: For purposes of identifying facilities that have failed to apply for a storm water permit, Regions may choose to focus their inspection activity within watersheds, or in areas with water quality-related problems due in part to storm water sources. If a facility has applied for a permit, the inspector should request to see the SWPPP to verify its existence and implementation.

NPDES compliance inspections/Multi-media inspections: To the extent possible, NPDES inspectors or inspectors from other media should complete a storm water screening checklist while in the field to verify whether the facility is covered by storm water requirements. The storm water

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restrictions do not apply if the PRA enforcement exception applies. Also, the OMB control number for NPDES permit applications is 2040-0086 (expiration date August 31, 1995) and should be displayed on Section 308 letters requesting submittal of a storm water permit application.

[4] Category (ix) of facilities which must submit applications for storm water permits: Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including lands dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1 MGD or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with Section 405 of the CWA.

[5] Telephone surveys are subject to the same OMB/PRA approval as Section 308 letters. Questions requiring more than nine surveyees nationwide provide more information than what is necessary to fill out an NOI/permit application may require approval.

checklist in the multi-media screening inspections can be used for this purpose. NPDES program staff may conduct an in-depth storm water evaluation while they are at the facility for other purposes.

Routine Enforcement Contact: When meeting with a facility for other enforcement issues, Compliance Officers can inquire as to the status of the facility's compliance with the storm water regulations. A field inspector can make inquiries without going through a detailed checklist of the need for a permit or compliance with the permit. If it is determined that a facility should obtain storm water coverage or is not complying with a permit (for example, the facility has not developed a SWPPP) enforcement should proceed on a case-by-case basis.

Municipal Coordination: The Part 1 permit application required an MS4 entity to provide the location and NPDES permit number of any known discharge to the storm sewer system (40 CFR 122.26.d.1.iii.B.(4)). Also, the Part 2 permit application required an MS4 entity to provide an inventory, organized by watershed, of the name, address and description (such as SIC code) of the principal products or services provided by each facility which may discharge storm water associated with industrial activity to the system (40 CFR 122.26.d.2.ii).

All facilities with discharges of storm water associated with industrial activity through an MS4 will be subject to local ordinances implementing management programs, as well as to the terms of a federal permit. The list of facilities discharging into an MS4 can be matched with a list of NOIs/permit applications received to verify compliance with the application process. Although the MS4 entity does not have authority to enforce the federal permit application requirements or a federal permit, compliance and enforcement activities of the local program will be done by the MS4 entity. However, it should be noted that the MS4 entity may not be able to enforce its own program for some time because it presently lacks necessary local legal authority or--in the case of medium size municipalities--the permit will not be effective until May 17, 1994.

An MS4 entity can refer a case of a facility that has failed to apply for a federal permit or suspected non-compliance with a federal permit to EPA. Although compliance and enforcement efforts for this group of facilities is not top priority, the Region may want to include them for targeted activities but, should coordinate activities with the municipality to avoid duplication of efforts.

D. Construction Sites

The construction industry in general is regulated at the State and local level. A May 1990 Survey by the Maryland Department of Environmental Resources (Attachment B) indicates that thirteen States have mandatory sediment/erosion control programs or storm water management programs, two States have programs for portions of the State, and an additional nine States have developed guidance for local government use. Most large municipalities, which will eventually include all medium and large MS4s, have some type of sediment/erosion and storm water control program. The general approach, then, for construction sites will be to defer to local or State agencies where there are effective and equivalent programs in place.

Generally, construction sites are highly visible, capital intensive operations that have a high potential for environmental degradation. Because of their high visibility, citizen complaints can be expected more than with other types of industrial activities and are useful as a source for

identifying potential violators. Regions should either refer complaints to local programs or follow up directly. Where State or effective local programs do not exist, Regions should prioritize unpermitted construction sites the same way as other regulated facilities. Again, failure to comply with permit requirements should be addressed at the Regions' discretion during FY 1994-1995.

III. Enforcement Approach

A. Establishment of a Violation

Two criteria must be met for a facility to be subject to the storm water regulations: 1) the industrial activity at a facility must be described (usually by SIC code) in 40 CFR 122.26 of the regulations; and 2) the facility must have a point source discharge to waters of the United States either directly or through a separate storm sewer system. The question of whether a storm water discharge must be observed by an inspector to determine inclusion in the program has been raised. The Office of Enforcement has advised that a facility's inclusion in the program is not dependant on whether a discharge from a point source has been observed. Section 502 of the CWA defines any point source to be 'any discernable, confined, and discrete conveyance . . . . . from which pollutants are or may be discharged'. Therefore, an actual discharge need not be observed but there must be evidence of some conveyance for pollutants when a storm event occurs.

A second question frequently raised is: How to cite 'failure to apply for a permit' as a violation? Section 308 of the CWA requires an owner/operator of a point source to 'make such reports or provide such information' the administrator requires to carry out Section 402 or any requirement established under Section 402. The permit application regulations were promulgated pursuant to both Sections 308 and 402 and thus the permit application is considered information required to implement Section 402 of the Clean Water Act. Since the permit application regulations have been published in the November 16, 1990 Federal Register, any regulated facility that failed to submit a permit application is automatically in violation of Section 308. Wording of any notice of violation, AO, or APO should therefore cite 'failure to apply for a permit' as a violation of Section 308.

As an alternative to a violation of Section 308, a facility can be in violation of Section 301 for 'discharge without a permit' providing there is evidence of a conveyance for pollutants from the industrial activity areas of the facility and an actual discharge (i.e., a precipitation event causing a discharge) has occurred.

B. Overall Strategy

As indicated earlier in this strategy, the enforcement priorities for the storm water program for FY 1994 and 1995 are to address MS4s that have not applied for a storm water permit on a timely basis, and to identify and enforce, as necessary, where facilities with industrial activity have failed to apply for a permit--with priority given to facilities outside the jurisdiction of a regulated MS4. The level of activity with regard to the assessment of compliance with existing permits will be left to the discretion of the Region.

As a strategy for addressing industrial facilities which have failed to apply for a permit as required, each Region is asked to undertake some activity annually in 1994 and again in 1995.

The purpose of any activity is twofold--to address environmental problems and to serve as a vehicle for publicizing EPA's commitment to enforcing storm water requirements, thus creating a deterrent to noncompliance. The design and scope of activities is left to the discretion of the Region. It could be organized on a watershed basis or it might address a category of facilities which is of concern. Whatever the design, it should be significant enough to serve as a vehicle for publicizing Regional activity in the storm water area through such means as a press release, press briefing, trade press publications or other means the Region may choose.

As a general rule, the Enforcement Management System establishes the principle of escalation of enforcement response for continuing, uncorrected noncompliance. This storm water strategy, in fact, recommends beginning with informal enforcement and escalating the severity of the response when an MS4 entity fails to submit complete permit applications on a timely basis. However, because of the limited resources available to address regulated facilities, one of the principles on which this strategy is built is that the maximum possible deterrent effect be achieved with any single enforcement action. For that reason, this strategy recommends, but does not require, the use of penalties as a sanction when a facility has failed to apply for a permit. Of course, any enforcement action that is initiated should take into account the circumstances surrounding the violation, for equitable treatment of violators. During this initial phase of the storm water enforcement program, when any facility submits a permit application voluntarily, without having EPA invest resources to find the facility, the Regions may choose to forego or reduce penalties on a case-by-case basis, thereby providing an incentive to other facilities to comply with permit application requirements.

C. Expedited APOs

Field citations[6] are currently being utilized by other environmental programs on the Federal, State, and local levels and are useful in addressing many prevalent, clear-cut violations that are relatively easy to correct. While the Water Program does not currently have field citation authority, the basic administrative compliance and penalty order authorities can be used in more efficient ways.

There are several ways to make the APO more efficient--to expedite the APO: 1) issue APOs for facilities with the same violation at approximately the same time so that a single 30-day public notice can be used[7]; 2) issue a complaint and a proposed consent order at the same time; and 3) standardize penalty amounts to be assessed, based on the economic benefit for 'failure to submit a permit application', to avoid recalculation for each facility[8]. Existing

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[6] 'Field citation' as used in this strategy is an APO issued in the field unencumbered by a 30-day public notice period. For this strategy, the term 'Expedited APO' will be used. Reauthorization of the CWA may include Field Citation authority.

[7] When the administrative penalty complaint is first issued, an administrative record should be simultaneously opened at the Regional Office pursuant to proposed 40 CFR Section 28.16.

[8] Headquarters may develop a matrix which could be used to determine the economic benefit and gravity component of the penalty using a small, medium, and large facility. In the interim, no

delegations of authority limit the issuance of APOs to the Branch Chief level. As a result, inspectors cannot be authorized to issue APOs until that delegation is changed. There are, however, other ways to speed up the APO and AO issuance process. These might include: faxing of violation paperwork to the office by the inspector for required signatures or phoning-in of violations by inspectors for immediate penalty issuance from the office. A combination of one or more of the above approaches should result in a less resource intensive, more efficient penalty issuance process.

Attached for your information is a copy of a public notice used by one Region to cover multiple violating facilities, as well as the simultaneous issuance of a complaint and a proposed consent decree. (Attachment C) A letter to the complainant would specify that the consent order will become final after signature by both parties without further agency action, if no public comments are received. The letter would explain the administrative process, the requirement to publish the proposed order for public comment, and the respondent's right within 30 days to either return the signed consent order with payment or request a hearing.

If the respondent agrees to pay the penalty and submits a check before the consent order can be signed by EPA, EPA can hold the respondent's penalty payment check. Where not prohibited by state law, the check should be postdated to 45 days after the date of issuance of the complaint to allow time for publication of the public notice requesting comments within 30 days. If no public comments are received, the proposed order would become final after agency signature and EPA would process the penalty payment. If comments are received, the Regional Administrator or designee would follow established Agency procedures for resolving public comments. If the respondent chooses to contest the initial complaint, EPA would adjudicate the matter under the hearing procedures.

IV. Allocation of Responsibilities

The list below provides a summary of ongoing and future activities to implement this strategy.

Headquarters Permits Division
Continue Storm Water HOTLINE
Continue monthly update of NOI submissions to the Regions (ongoing)
Provide Regions a list of group applicants, current as well as original participants (upon final approval of the general permit)

Headquarters Enforcement Support Branch
Update the storm water component of NPDES inspector guidance and training (ongoing)
Develop guidance on storm water data elements and reporting requirements for Regions and States (mid FY 1994)

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settlement should normally be less than $500 for failure to submit an application and the proposed assessment should routinely be $1000 or more, taking into account economic benefit and gravity.

Act as a clearinghouse for success/failure of approaches to enforcement/compliance issues of the storm water program (ongoing)
Pursue streamlining efforts of the APO process such as delegation of authority below DD level

Headquarters Compliance Information Branch
Finalize the Storm Water Feasibility Study Mission Needs Analysis to develop a storm water tracking system (mid FY 1994)

Regions
Continue outreach efforts
Review MS4 Permits for enforceability
Follow-up on late or incomplete MS4 permit applications
Investigate local programs that manage storm water discharges from construction sites
Undertake one sweep in FY 1994 and again in FY 1995 to identify regulated facilities that have failed to apply for a permit

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Industrial Facilities That Must Submit Applications for Storm Water Permits (Phase I)

40 CFR 122.26(b)(14) Subpart	Description
(i)	Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutants effluent standards under 40 CFR, Subchapter N (except facilities which are exempt under category (xi)).
(ii)	Facilities classified as: SIC 24 (except 2434) . . . . . Lumber and Wood Products SIC 26 (except 265 and 267) . Paper and Allied Products SIC 28 (except 283 and 285) . Chemicals and Allied Products SIC 29 . . . . . Petroleum and Coal Products SIC 311 . . . . . Leather Tanning and Finishing SIC 32 (except 323) . . . . . Stone, Clay and Glass Products SIC 33 . . . . . Primary Metal Industries SIC 3441 . . . . . Fabricated Structural Metal SIC 373 . . . . . Ship and Boat Building and Repairing
(iii)	Facilities classified as SIC 10 through 14, including active or inactive mining operations and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with, or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts, or waste products located on the site of such operations. SIC 10 . . . . . Metal Mining SIC 11 . . . . . Anthracite Mining SIC 12 . . . . . Coal Mining SIC 13 . . . . . Oil and Gas Extraction SIC 14 . . . . . Nonmetallic Minerals, except Fuels
(iv)	Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of the Resource Conservation and Recovery Act (RCRA).
(v)	Landfills, land application sites, and open dumps that receive or have received any industrial wastes including those that are subject to regulation under subtitle D or RCRA.
(vi)	Facilities involved in the recycling of material, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but not limited to those classified as: SIC 5015 . . . . . Motor Vehicle Parts, Used SIC 5093 . . . . . Scrap and Waste Materials
(vii)	Steam electric power generating facilities, including coal handling sites.
(viii)	Transportation facilities which have vehicle maintenance shops, equipment cleaning operations, or airport de-icing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport de-icing operations, or which are otherwise listed in another category, are included. SIC 40 . . . . . Railroad Transportation SIC 41 . . . . . Local and Suburban Transit SIC 42 (except 4221-25) . . . . Motor Freight and Warehousing SIC 43 . . . . . U.S. Postal Service SIC 44 . . . . . Water Transportation SIC 45 . . . . . Transportation by Air SIC 5171 . . . . . Petroleum Bulk Stations and Terminals

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Industrial Facilities That Must Submit Applications for Storm Water Permits (Phase I) (continued)

40 CFR 122.26(b)(14) Subpart	Description
(ix)	Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including lands dedicated to the disposal of the sewage sludge that are located within the confines of the facility, with a design flow of 1.0 million gallons per day or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with Section 405 of the CWA
(x)	Construction activity including clearing, grading, and excavation activities except operations that result in the disturbance of less than 5 acres of total land area and those that are not part of a larger common plan of development or sale
(xi)	Facilities under the following SICs (which are not otherwise included in categories (ii)-(x)), including only storm water discharges where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts, or industrial machinery are exposed to storm water. SIC 20 ..... Food and Kindred Products SIC 21 ..... Tobacco Products SIC 22 ..... Textile Mill Products SIC 23 ..... Apparel and Other Textile Products SIC 2434 ..... Wood Kitchen Cabinets SIC 25 ..... Furniture and Fixtures SIC 265 ..... Paperboard Containers and Boxes SIC 267 ..... Converted Paper and Paper Board Products (except containers and boxes) SIC 27 ..... Printing and Publishing SIC 283 ..... Drugs SIC 285 ..... Paints, Varnishes, Lacquer, Enamels SIC 30 ..... Rubber and Misc. Plastics Products SIC 31 (except 311) ..... Leather and Leather Products SIC 323 ..... Products of Purchased Glass SIC 34 (except 3441) ..... Fabricated Metal Products SIC 35 ..... Industrial Machinery and Equipment, except Electrical SIC 36 ..... Electronic and Other Electric Equipment SIC 37 (except 373) ..... Transportation Equipment SIC 38 ..... Instruments and Related Products SIC 39 ..... Miscellaneous Manufacturing Industries SIC 4221 ..... Farm Product Warehousing and Storage SIC 4222 ..... Refrigerated Warehousing and Storage SIC 4225 ..... General Warehousing and Storage

Source: Federal Register, Vol. 55, No. 222, p. 48065, November 16, 1990.

Note: On June 4, 1992, the U.S. Court of Appeals for the Ninth Circuit remanded the exemption for construction sites of less than five acres and for manufacturing facilities in category (xi) which do not have materials or activities exposed to storm water to the EPA for further rulemaking. (Nos. 90-70671 & 91-70200). In response to the remands, the Agency intends to conduct further rulemakings on both the light manufacturing and the construction activities. In the December 18, 1992 Federal Register, EPA stated that it is not requiring permit applications from construction activity under five acres or light industry without exposure until this further rulemaking is completed.

ATTACHMENT B

1990 Survey of State Stormwater (SW) Management and Sediment Control (SC) Programs[1]

State	State Program?	Comments
Alabama	No	Issues handled by local governments.
Alaska	No	2 cities awaiting EPA regulations revisions.
Arizona	No	Issues handled by local governments.
Arkansas	No	May consider after EPA regulations revision.
California	No	Issues handled by local governments.
Colorado	No	Has an optional SW model for local governments.
Connecticut	Yes, SC No, SW	Has statewide SC program, through Soil Water Conservation Council. Has no SW program.
Delaware	Yes, SC No, SW	Has statewide SC program, through SC districts. Also has proposed legislation to adopt state SW program.
District of Columbia	Yes, SC Yes, SW	Has district wide SW/SC programs, implemented by the Department of Consumer and Regulatory Affairs.
Florida	No, SC Yes, SW	Has statewide SW program, implemented by the Department of Environmental Regulation.
Georgia	Yes, SC No, SW	Has statewide SC program implemented by the Department of Natural Resources.
Hawaii	No	No state SW/SC programs.
Idaho	No	No state SW/SC programs, but has statutes on protecting outstanding resource waters.
Illinois	No	Issues handled by local governments.
Indiana	No	Issues handled by local governments.
Iowa	No	No state SW/SC programs.
Kansas	No	State advises local governments when requested.
Kentucky	No	Some counties have SC programs under Soil Conservation Districts. Awaiting EPA regulations revision to strengthen SW program.
Louisiana	No	Some local governments have SW programs. Large scale projects can be funded via Flood Control Program.
Maine	No	Legislation for SC efforts is expected in January 1991. A State SW municipal policy is also being drafted.

[1] Adapted from a May 1990 survey conducted by the Comprehensive Unit of the Maryland Office of Planning. State Stormwater/Sediment Control (SW/SC) programs have been narrowly defined to mean statewide mandatory programs.

State	State Program?	Comments
Maryland	Yes, SC Yes, SW	Has statewide SW/SC programs, implemented by the Department of Environment.
Massachusetts	No	Some local governments have SW programs.
Michigan	Yes, SC No, SW	Has state SC program, implemented by Department of Natural Resources. Awaiting EPA regulations revision to strengthen SW regulations.
Minnesota	No	Has strong SW program for Minneapolis-St. Paul area and some counties. Has optional SC program.
Mississippi	No	No state SW/SC program.
Missouri	No	State encourages local governments to adopt SC ordinances. State is waiting new EPA regulations revision for SW regulations.
Montana	No	Some local governments have SW programs. SC activities are under the State Nonpoint Source Pollution Abatement program.
Nebraska	Yes, SC No, SW	Has statewide SC program implemented by several state agencies. Program essentially applies to agriculture activities but local government adopted program must be in conformance with state.
Nevada	No	No state SW/SC program.
New Hampshire	Yes, SC Yes, SW	Single state program combines both SW/SC. However, law only subject to developments over 100,000 sq. ft.
New Jersey	Yes, SC Yes, SW	Statewide SW program is connected to funding availability. State sets standards for SC programs.
New Mexico	No	No state SW/SC programs.
New York	No	Has a SW/SC Policy Statement. Intervention is triggered only when certain permits (sewerage, industrial plants, etc) are required.
North Carolina	Yes, SC Yes, SW	Has statewide SC program. Has a phased-in SW program which is mandatory for coastal regions and watersheds with water quality standards for water supply. Bill pending for statewide program.
North Dakota	No	No state SW/SC program.
Ohio	No	Has optional state SC program. A state SW program is anticipated after EPA regulations revision.
Oklahoma	No	No state SW/SC program.
Oregon	No	Has a combined state SW/SC program but it only covers a portion of the state.
Pennsylvania	Yes, SW Yes, SC	Has statewide SW/SC programs implemented by the Department of Environmental Resources.

ATTACHMENT B

State	State Program?	Comments
Rhode Island	No	Has optional state SC program. Has no state SW program, but has issued SW manual for guidance.
South Carolina	No	Has optional state SC program. Has no state SW program.
South Dakota	No	No state SW/SC programs.
Tennessee	No	Some local governments have SC programs. State awaiting EPA regulation revision to strengthen SW program.
Texas	No	State provides legislation to form Conservation Districts to handle SC concerns.
Utah	No	No state SW/SC programs.
Vermont	No	Has optional state SW/SC programs.
Virginia	No, SW Yes, SC	Has statewide SC program, implemented by Department of Conservation and Recreation. The state SW program is optional for local governments but mandatory for state projects.
Washington	No	Has state SW/SC program for the Puget Sound area. Aiming for statewide SW/SC legislation after 1991.
West Virginia	No	Has optional state SC program. Some local governments have own SW program. State is seeking mandatory SC legislation.
Wisconsin	No	Has optional state SW/SC programs.
Wyoming	No	No state SW/SC programs.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY ATTACHMENT C

DATE OF NOTICE: [_____]

PUBLIC NOTICE NUMBER: [_____]

COMMENT PERIOD OPEN UNTIL: [_____]

ACTION: NOTICE OF PROPOSED ASSESSMENT OF CLEAN WATER ACT SECTION 309(G) CLASS I ADMINISTRATIVE PENALTY AND OPPORTUNITY TO COMMENT

EPA IS AUTHORIZED UNDER SECTION 309(G) OF THE CLEAN WATER ACT, 33 U.S.C. §1319(G), TO ASSESS A CIVIL PENALTY AFTER PROVIDING THE PERSON SUBJECT TO THE PENALTY NOTICE OF THE PROPOSED PENALTY AND THE OPPORTUNITY FOR A HEARING, AND AFTER PROVIDING INTERESTED PERSONS PUBLIC NOTICE OF THE PROPOSED PENALTY AND A REASONABLE OPPORTUNITY TO COMMENT ON ITS ISSUANCE. UNDER SECTION 309(G), ANY PERSON WHO WITHOUT AUTHORIZATION DISCHARGES A POLLUTANT TO A NAVIGABLE WATER, AS THOSE TERMS ARE DEFINED IN SECTION 502 OF THE ACT, 33 U.S.C. §1362, MAY BE ADMINISTRATIVELY ASSESSED A CIVIL PENALTY OF UP TO $25,000 BY EPA. CLASS I PROCEEDINGS FOR SECTION 309(G) OF THE CLEAN WATER ACT ARE CONDUCTED IN ACCORDANCE WITH THE "CONSOLIDATED RULES OF PRACTICE GOVERNING THE ADMINISTRATIVE ASSESSMENT OF CLASS I CIVIL PENALTIES UNDER THE CLEAN WATER ACT" ("PART 28"), WHICH HAS BEEN PUBLISHED IN THE FEDERAL REGISTER, AT 56 FED. REG. 29,996 (JULY 1, 1991). THE FEDERAL REGISTER IS AVAILABLE AT MOST LIBRARIES.

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THE PROCEDURES BY WHICH THE PUBLIC MAY SUBMIT WRITTEN COMMENTS ON A PROPOSED CLASS I PENALTY ORDER OR PARTICIPATE IN A CLASS I PENALTY PROCEEDING ARE SET FORTH IN PART 28 AT §28.2(G) AND §28.28(C), AND REQUIRE THE COMMENTER TO (1) DECLARE HIMSELF TO BE A COMMENTER; (2) SUBMIT COMMENTS OR INDICATE THE SUBJECTS UPON WHICH HE WILL COMMENT; AND, (3) PROVIDE EPA WITH A RETURN ADDRESS. THE DEADLINES FOR SUBMITTING PUBLIC COMMENT ON A PROPOSED CLASS I ORDER IS THIRTY (30) DAYS AFTER ISSUANCE OF PUBLIC NOTICE.

IF THE RESPONDENT FAILS TO FILE A TIMELY RESPONSE TO THE AGENCY'S ADMINISTRATIVE COMPLAINT PURSUANT TO §§28.2(U) AND 28.20, THE REGIONAL ADMINISTRATOR MAY ISSUE A DEFAULT ORDER AGAINST THE RESPONDENT.

PURSUANT TO SECTION 309(G)(4) OF THE CLEAN WATER ACT, 33 U.S.C. §1319(G)(4), EPA IS PROVIDING PUBLIC NOTICE OF THE FOLLOWING PROPOSED CLASS I ADMINISTRATIVE PENALTY ASSESSMENTS: NAME AND ADDRESS OF RESPONDENTS:

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LOCATIONS OF ALLEGED VIOLATIONS:

BUSINESS OR ACTIVITY OF RESPONDENTS: WASTEWATER TREATMENT

RESPONDENTS' PERMIT NUMBERS:

NATURE OF ALLEGED VIOLATIONS: FAILURE TO SUBMIT A COMPLETE DISCHARGE MONITORING REPORT-QUALITY ASSURANCE REPORT TO EPA

PROPOSED PENALTY: 10,000

DOCKET NUMBERS: EPA-CWA-II-93-109, 116, 118, 125, 126, 127, 132, 134

DATE FILED WITH REGIONAL HEARING CLERK: [_____]

NAME, MAILING ADDRESS, AND TELEPHONE NUMBER OF REGIONAL HEARING CLERK:

FOR FURTHER INFORMATION: PERSONS WISHING TO RECEIVE A COPY OF PART 28, REVIEW THE COMPLAINT OR OTHER DOCUMENTS FILED BY THE PARTIES IN THIS PROCEEDING, COMMENT UPON THE PROPOSED PENALTY ASSESSMENT, OR PARTICIPATE IN ANY HEARING THAT MAY BE HELD, SHOULD CONTACT THE REGIONAL HEARING CLERK IDENTIFIED ABOVE.

UNLESS OTHERWISE NOTED, THE PUBLIC RECORD FOR THE PROCEEDING IS LOCATED IN THE EPA REGIONAL OFFICE SPECIFIED ABOVE, AND FILE WILL BE OPEN FOR PUBLIC INSPECTION DURING BUSINESS HOURS.

EPA HAS PROVIDED EACH RESPONDENT WITH A SETTLEMENT OFFER OF $1,000 IN AN EFFORT TO PROMPTLY SETTLE THIS MATTER. IN ORDER TO PROVIDE OPPORTUNITY FOR PUBLIC COMMENT, EPA WILL NOT TAKE FINAL ACTION IN THIS PROCEEDING PRIOR TO THIRTY (30) DAYS AFTER ISSUANCE OF THIS NOTICE.

DATE:

State of California

Memorandum

CU

To : Urban Runoff Task Force Date : 4/7/95

Bruce O Fujimoto

Bruce A. Fujimoto
Division of Water Quality
STATE WATER RESOURCES CONTROL BOARD
901 P Street Sacramento, CA 95814
Mail Code G-8

From :

Subject: NON-STORM WATER DISCHARGES -- MUNICIPAL PERMITS

Municipal permit language addressing non-storm water discharges is a subject that has come to the forefront of recent discussions. Many of the municipal permittees had anticipated that the State Board's "Limited Threat General NPDES permit" would address many of the non-storm water discharges to a MS4. This is not the case.

Non-storm water discharges to a MS4 may be allowed if the discharge is in accordance with a NPDES permit or the municipality makes a finding that discharge is not a significant source of pollutants if properly managed. In this respect, the municipalities under permit have a real opportunity to exert some control over how best to deal with discharges to their systems.

In drafting the second round of municipal storm water permits, the language used may become an issue. Attached to this memorandum are examples of "non-storm water" language taken from municipal permits adopted or in draft form from both in State and out of state.

Also attached is a copy of a memorandum from Betsy Jennings regarding this issue.

If you have any questions, please call me at (916) 657-0908 (Calnet 437-0908)

Attachments

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R0066850

A. DISCHARGE PROHIBITIONS

1. The Discharger shall effectively prohibit discharge of non-stormwater through its system into waters of the United States. NPDES permitted non-stormwater discharges are exempt from this prohibition. The following non-stormwater discharges need not be prohibited provided such sources are identified and appropriate control measures to minimize the impacts of such sources, are developed under the plan. However, dischargers of such non-stormwater discharges may need to obtain NPDES permits.

   a. water line flushing;
   b. landscape irrigation;
   c. diverted stream flows;
   d. rising ground waters;
   e. uncontaminated groundwater infiltration [as defined at 40 CFR 35.2005(20)] to separate storm sewers;
   f. uncontaminated pumped groundwater;
   g. discharges from potable water sources;
   h. foundation drains;
   i. air conditioning condensate;
   j. irrigation water;
   k. springs;
   l. water from crawl space pumps;
   m. footing drains;
   n. lawn watering;
   o. individual residential car washing;
   p. flows from riparian habitats and wetlands;
   q. dechlorinated swimming pool discharges; and
   r. discharges or flows from emergency fire fighting activities.

2. The discharge of storm water containing pollutants which have not been reduced, through measures identified in the Plan, to the maximum extent practicable is prohibited.

B. RECEIVING WATER LIMITATIONS

1. The discharge of storm water shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the State:

TULSA OKLAHOMA PERMIT

6. Illicit Discharges and Improper Disposal: Non-storm water discharges to the municipal separate storm sewer system shall be effectively prohibited.

   a. In accordance with 40 CFR 122.26(d)(2)(iv)(B)(1), certain non-storm water discharges to the municipal separate storm sewer system need not be addressed as illicit discharges or improper disposal. The Storm Water Management Program shall identify any non-storm water discharges that the permittee(s) does not prohibit, along with any conditions placed on such non-storm water discharges to the municipal separate storm sewer system. The permittee(s) shall prohibit, on a case-by-case basis, any individual non-storm water discharge (or class of non-storm water discharges) otherwise allowed under this paragraph that is determined to be contributing significant amounts of pollutants to the municipal separate storm sewer system.

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CITY OF BALTIMORE

The permittee shall effectively prohibit non-stormwater discharges through its municipal separate storm sewer system. NPDES permitted non-stormwater discharges are exempt from this prohibition. Discharges from the following will not be considered a source of pollutants when properly managed: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration to separate storm sewers; uncontaminated pumped ground water; discharges from potable water sources; foundation drains; air conditioning condensation; irrigation waters; springs; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash water; and fire fighting activities. The discharge of stormwater containing pollutants which have not been reduced to the maximum extent practicable is prohibited.

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(3) The permit authorizes the point source discharge of stormwater runoff from the municipal storm sewer system. In addition, discharges of non-stormwater are also authorized through the municipal storm sewer of the City of Charlotte if such discharges are:

(a) Permitted by, and in compliance with, an independent NPDES discharge permit including discharges of process and non-process wastewater, and stormwater associated with industrial activity; or

(b) Determined to be incidental non-stormwater flows that do not significantly impact water quality and may include:

water line flushing;
landscape irrigation;
diverted stream flows;
rising groundwaters;
uncontaminated groundwater infiltration;
uncontaminated pumped groundwater;
discharges from potable water sources;
foundation drains;
air conditioning condensate (commercial/residential);
irrigation waters;
springs;
water from crawl space pumps;
footing drains;
lawn watering;
residential car washing;
flows from riparian habitats and wetlands;
dechlorinated swimming pool discharges;
street wash water;
flows from emergency fire fighting.

The Division may require that non-stormwater flows of this type be controlled by the city's Stormwater Program.

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State of California

Memorandum

To : Bruce A. Fujimoto
Division of Water Quality

Date: April 6, 1995

Elizabeth M. Jennings

Elizabeth Miller Jennings
Senior Staff Counsel
From : OFFICE OF THE CHIEF COUNSEL
STATE WATER RESOURCES CONTROL BOARD
901 P Street, Sacramento, CA 95814
Mail Code G-8

Subject: NON-STORM WATER DISCHARGES TO A MUNICIPAL SEPARATE STORM SEWER SYSTEM

You have asked for legal advice concerning the regulation of non-storm water discharges in permits for municipal separate storm sewer systems (MS4s), and for comments on the "model language" used in several MS4 permits.

The Clean Water Act provides that permits for discharges from municipal storm sewers "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers." Clean Water Act Section 402(p)(3)(B)(ii). The Environmental Protection Agency (EPA) interprets "storm water" to mean "storm water runoff, snow melt runoff, and surface runoff and drainage". 40 CFR Section 122.26(b)(13). Thus, permits for MS4s must "effectively prohibit" all discharges into storm drains which are not comprised of "storm water runoff, snow melt runoff, and surface runoff and drainage".

In the Preamble to EPA's regulations, EPA discusses the requirement to "effectively prohibit non-stormwater discharges". EPA makes clear that while MS4s must develop programs which are effective in prohibiting non-storm water discharges to the sewer system, they are not responsible for completely prohibiting all non-storm water discharges. The Preamble lists specified classes of non-storm water discharges which MS4s generally will not be required to prohibit. 55 Federal Register 47990, at 47996 (Nov. 16, 1990). MS4s also need not prohibit discharges of non-storm water which are subject to a separate NPDES permit. 55 Fed. Reg. at 47995.

In general, the requirement to "effectively prohibit" non-storm water discharges requires either prohibiting the flows from the MS4's system or ensuring that operators of such non-storm water discharges obtain NPDES permits. *Id.* This requirement is effected by requiring MS4s to have a program to detect and remove, or to require the discharger to the system to obtain a

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separate NPDES permit for, illicit discharges and improper disposal into the storm sewer. 40 CFR Section 122.26(d)(2)(iv)(B). The following classes of discharges must be included in the MS4's program only where the discharges are identified by the MS4 as sources of pollutants of surface waters: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration to separate storm sewers, uncontaminated pumped ground water discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water. 40 CFR Section 122.26 (d)(2)(iv)(B)(1). In addition, programs to control discharges or flows from fire fighting are required only where such discharges or flows are identified as *significant* sources of pollutants to surface waters. *Id.*

In summary, CWA Section 402(p)(3)(B)(ii) requires that permits for MS4's must "include a requirement to effectively prohibit non-stormwater discharges into the storm sewers". The implementing regulations adopted by EPA provide that permits for MS4s must require a program to prohibit flows of non-storm water into their systems, or to ensure that dischargers of such flows are subject to a separate NPDES permit. However, the program need not address the classes of discharges listed above, unless the MS4 determines that the discharge are sources of pollutants in surface water (or, in the cases of flows from fire fighting, that the discharge is a significant source of pollutants).[1]

I have reviewed the language concerning non-storm water discharges from permits you sent me. The permits were for Tulsa, Baltimore, Charlotte, and Fairfield-Suisun Sewer District. These provisions are all generally consistent with the statute and regulations. The language from the permits for Baltimore and Fairfield-Suisun are similar, and both are clearly written. The only language which does not appear fully consistent with the statute and regulations is for Charlotte. Rather than simply stating that the city is not responsible for prohibiting discharges of the listed class of non-storm water

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[1] *You have stated that many MS4s are reluctant to make a determination regarding the impact of the non-storm water discharges on surface waters. However, the regulations are written to leave this determination to the MS4s. It should be noted that the regulation is written so that unless the MS4 makes the determination that the discharges are sources of pollutant to surface water, then it need not include the discharges in its program to eliminate non-storm water discharges.*

discharges, this permit language states that the class of discharges is specifically authorized by the permit. That language is not fully consistent with EPA's regulations, and I would recommend against using it, unless EPA Region IX states that it would approve such language. If you wish to distribute any of these as "model language", please ensure that it is clearly stated that there is no requirement to use the model language, and that the dischargers and others must be given full opportunity to suggest changes.

If you have any questions regarding this matter, please call me at 657-2421.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

COMPARATIVE COST OF THE LA COUNTY STORM WATER MANAGEMENT PROGRAM

The SMBRP recently conducted a preliminary comparative cost analysis of the proposed Los Angeles County NPDES Storm Water program. SMBRP staff first examined the projected average cost to municipalities in Los Angeles County for implementing the municipal storm water NPDES program, and how the projected cost compare to the amounts that other communities in the state have invested in similar or more advanced programs. The staff examination used a cost survey conducted by the San Gabriel Valley Council of Govemments (SGVCOG) as basis, which was completed by extrapolating cost estimate data from six member cities according to requirements contained in the 12/18/95 permit draft. The examination showed that the program in the San Gabriel Valley area would, on the average, cost a single family parcel $1.68 to $2.25 monthly. When compared with the level of dedicated storm water program funding established by 13 municipalities throughout the State, the local estimate is at the lower range. (Average of the 13 municipalities is $3.34, ranging from $1.51 to $10.46.) See attached tables.

SMBRP staff then examined possible cost reduction associated with permit revisions - between 12/18/95 draft and 5/23/96 tentative. A preliminary comparison indicates that the changes in requirements could result in cost reduction in three program areas:

- Illicit connection: elimination of standardized surveillance, inspection, and monitoring requirements;
- Industrial/commercial Inspection: changed into educational site visits; and,
- Watershed critical source monitoring: deleted.

With regard to the industrial/commercial site program, it indicates that modifications from on-site inspections to educational site visits could reduce cost to municipalities up to fifty-percent for the program area. On the watershed critical source monitoring, cost reduction would be about $700,000 county-wide over the next five years since they are no longer required to conduct critical source/BMP monitoring for each watershed management area.

7/9/96

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Table 1
Cost Estimates Provided by the SGVCOG Survey

Category*	San Gabriel Valley cities	Total Cost of Program	Avg $ Person/year	Monthly Avg. $ Rate/SF**
1	Pasadena, Pomona, West Covina	$3,370,939	$8.98	$2.25
2	Alhambra, Arcadia, Baldwin Park, Diamond Bar, El Monte, Glendora Monterey Park, Rosemead, Walnut	$4,183,483	$7.31	$1.79
3	Azusa, Claremont, Covina, Industry, La Verne, Monrovia, San Dimas, San Gabriel	$1,788,133	$6.73	$1.70
4	Bradbury, Duarte, Irwindale, San Marino, Sierra Madre, South Pasadena	$479,317	$6.73	$1.68

*Member cities were categorized based on population size and extent of industrial/commercial activities. In general from category 1 to 4, the cities have smaller populations and fewer industrial/commercial facilities.
**Assume an average of 3.0 persons/single family residence.

6/18/96

Table 2
Levels of Dedicated Storm Water Program Funding

City	Avg. Monthly Rate*
Sacramento	$10.46
Palo Alto	$4.05
Berkeley	$4.17
San Jose	$3.75
Modesto	$3.40
Santa Monica	$3.02
Hayward	$2.40
Santa Clarita	$2.00
Los Angeles	$1.92
Monterey	$1.74
Manhattan Beach	$1.67
Santa Cruz	$1.51
Average	$3.34

*Average Monthly Rate for a Single Family Parcel Established by 13 Cities in the State
**cities in Los Angeles are in bold

Fig. 1 Levels of Storm Water Program Funding

R0066861

State of California

Memorandum

To: Storm Water Permit Program Coordinators

Date: September 8, 1994

From: Thomas Mumley
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500, Oakland, 94612

Subject: MUNICIPAL STORM WATER MANAGEMENT PLAN COMPONENTS

The attached draft Municipal Storm Water Management Plan Components is intended to provide a starting point for establishing a consistent framework for such plans for all municipal programs in the State. I have proposed the categorical program action areas based on experiences with existing programs and existing plans in the San Francisco Bay Region. As proposed, the categorical areas and sub-areas would be essential components of a Municipal Storm Water Management Plan. It would be the responsibility of a municipality to demonstrate that a specific area does not apply to their program or to propose equivalent alternatives with justification.

The categorical areas represent elements integral to the establishment of a storm water management program, as well as specific sources, specific areas of activities, or specific activities that need to managed. The actual management action, such as the type of control measures that would be implemented, or level of implementation of the control measure, would be determined mostly at the discretion of the municipal program. We should also recognize that at this time the appropriate action, in a specific area for a specific municipal program, may be to propose the steps that they will take to scope alternative control measures, prepare for implementation, implement on a reduced or pilot scale, and ultimately select and implement a control measure on a full scale. In such cases the plan would identify milestones and evaluation techniques that will be met and used in the process of progressing through the proposed steps.

Over time we would identify specific control measures that apply in each area and categorize the measure as mandatory, optional, or mandatory under specific conditions. (Mandatory would be interpreted to allow for implementation of equivalently effective alternative measures.) Over time we would also develop information of the effectiveness of specific control measures and develop performance standards for their design, operation, and maintenance. These performance standards would be developed through monitoring programs and serve as the building blocks for defining maximum extent practicable.

By establishing a consistent framework of action areas, we also provide a basis for coordination and collaboration of all municipal programs, and consistent reporting and evaluation standards.

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i. preparation/cleaning of containers
b. preservation procedures
i. were composite samples preserved/stabilized during sampling?
c. maximum holding times
d. use of approved analysis method
7. Laboratory
8. Analyses to be performed
9. Monitoring report format
a. date, exact place, time of sampling
b. individual performing sampling
c. dates analysis performed
i. were analyses performed within specified holding times?
d. individual performing analysis
e. analytical techniques/methods used
i. were approved methods used?
f. results of analysis
g. quality assurance/quality control
i. sampling
ii. analytical
iii. field QC samples
(a) QC for field analyses
(b) QC for samples for laboratory
iv. laboratory QC samples
v. analysis of accuracy
(a) average accuracy
(b) standard deviation
vi. aalysis of precision
(a) average precision for each measurement parameter
(b) standard deviation
vii. detection limits
(a) do detection limits exceed target detection limits?
viii. data outside QC target limits
(a) listing
(b) explanation
h. chain of custody
i. authorized signature
j. composite/grab sample
k. method for making composite sample
i. pollutant concentration/total mass based on flow-weighted samples

F. DATA MANAGEMENT
1. Data analyses
2. Database system
3. Accessibility
4. Reports
5. Modeling - Use and applicability

c. Describe what the authority of the committee will be and its procedures for decision making.

2. Subcommittees - We expect that programs will have the need to establish focused subcommittees specific to program action areas. List the subcommittees to be formed (or that already exist), tell the focus of the group, the participants, the tasks to be accomplished, the products to come out of the group, and the time frame to be followed. These committees should develop guidelines for program implementation for each of the program areas and a methodology for determining the adequacy of each permittee's program. All of the permittees should participate on at least one of the committees.
   a. Roles/responsibilities - Develop methodology for compliance with the permit elements, and set levels of expected effort. Review the submittals of each permittee for adequacy according to the criteria established for each program element- submit the reviews as part of the annual report.

B. INSTITUTIONAL ARRANGEMENTS - Management of the storm water program will require the cooperation of all of the governmental entities named on the permit. No one agency within a city or county has the authority to assume the responsibility of all activities within the municipality. Consequently, the permit is issued to a city or county, and not to a specific agency within the municipality. (Although, certain agencies, such as flood control agencies, may be cited as a permittee.) It is expected that all of the organizations within each municipality who have programs that have an impact on storm water quality will be educated about the storm water program and actively participate in implementation of it. There must be formal arrangements whereby all municipalities can participate in the same permit program, share costs and work jointly. The agencies within a municipality must also be able to communicate with each other and work jointly.

122.26(d)(2)(i)(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

122.26(d)(2)(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

1. Program Participant Arrangements - Describe the relationship and formal arrangements among all permittees.
   a. City-City-County - Identify all of the governmental authorities involved, and who the lead agency will be within each of those authorities for the storm water program. Identify the lead agency for coordination of the permit. The lead agency provides no more than coordination, they do not assume responsibility for the adequacy of any city's program. Identify the responsibilities of each agency, how decisions will be made, and what communication protocols will be used. Identify what method will be used to develop a responsible management committee, or similar mechanism, and vest it with decision making powers.
   b. Format - What institutional arrangements have been used to formalize the agreement between the government entities, what arrangements have been made to allow cost sharing.
      i. Joint Powers Authority
      ii. Memorandum of Agreement/Understanding
2. Area-wide Interagency - Describe the function of each agency as it relates to the storm water program. Tell how each agency will be made aware of their responsibilities under the storm water program, and what they will do to comply with the regulations. Describe any responsibility or activity that impacts or overlaps the storm water program. Describe each activity/responsibility, how it impacts or overlaps the storm water program, how the agency will coordinate their activity with the storm water program, and how pertinent information will be exchanged. Describe the formal institutional arrangements or mechanisms that will be used to oversee or coordinate with each agency.
   a. County Hazmat - Waste regulations, Household hazardous waste program, Industrial Inspections
   b. County Health - Inspections of Restaurants and other food handling establishments.
   c. Flood Control - Operation and maintenance of the storm system
   d. Local Transportation/Congestion Management
   e. County (Regional) Parks
   f. Mosquito Abatement
   g. Fruit Fly Abatement
   h. Water Districts
   i. County Agricultural Agencies

MUNICIPAL STORM WATER MANAGEMENT PLAN COMPONENTS

The Municipal Storm Water Early Permit renewal process requires the submittal of a Storm Water Management Plan for the permitted area covering the entire five year period of the permit. A single plan is expected for each permit, with each of the permittees contributing to the plan. The plan should address all of the following components, including a discussion of how each of the components fit into a single unified program. Every element of the plan must contain compliance schedules with firm dates that will be met. The permittees should suggest schedules for submittals that are realistic for their particular fiscal year. The management plans should emphasize pollution prevention rather than relying solely on pollution control.

This document has been prepared by the staff of the State Water Resources Control Board and the Regional Water Control Boards, in an effort to assist permittees who hold municipal separate storm sewer permitsto comply with those permits. This document has not been adopted by either of the Boards. Its provisions, with the exception of the federal regulations, in italics, are not mandatory, and are provided solely as an aid to permittees.

122.26(d)(1)(i) General information. The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

122.26(d)(1)(v) Management programs. (A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

122.26(d)(2)(iv) Proposed management program. A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls.

I. PROGRAM MANAGEMENT - Area wide permits are permits that are issued to a group of municipal governments. The governments are given a single permit and pay a single fee. It is anticipated that although each governmental entity will have their own program, they will function as a unified entity in their permit responses. The area wide permits require cooperation by a number of government entities including cities, counties, agencies such as flood control districts or water districts, and state agencies such as CALTRANS. Each governmental entity will have, in addition, a variety of agencies that have responsibilities either directly, or indirectly for storm water related activities. The plan must include a discussion of who is involved in the program, how they will function together, what kind of interagency funding arrangements are made. For each permittee, the plan must also outline the funding and funding mechanism to be used, and the legal authority that will be used to enforce the program.

A. PROGRAM STRUCTURE - Each permit will require a structure for the participatory agencies to work together under a unified plan. While each permittee will have an individual program to address the particular needs of their city or agency, a framework must be developed to allow cooperation between them. In addition, cities will have common problems that will be more efficiently addressed as a whole rather than individually. For most area-wide permits, a city or county acts as the lead agency or coordinator for day to day business, setting meetings and preparing submittals. They assume no responsibility for any other city's program, and are not viewed as the responsible agency for the permit. Each area-wide permit will require a mechanism to make decisions for the permittees, develop program guidlines for each of the permit areas, assess the adequacy and consistency of each permittees submittals in each of the program areas, address the inadequate program areas with each of the permitteees, and prepare unified submittals for the Regional Boards. The mechanism can either be a single government entity such as a county, or it can be a Management Committee made up of representatives of the permittees.

1. Management Committee - An overall decision making body that is representative of all of the permittees.
   a. Describe the purpose of the committee, and how its responsibilities fit into the overall program framework.
   b. Descri. the makeup of the committee, how the committee will communicate, and how it will coordinate its activities.

established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:
(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;
(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;
(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;
(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;
(E) Require compliance with conditions in ordinances, permits, contracts or orders; and
(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

1. List of essential authoritics - Describe how the authority already existing in your municipality fills the requirements in the regulations. The ordinances must be adequate and they must be enforced.
2. Ordinance
   a. Exists
   b. Planned
3. Implementation procedures
4. Responsible parties

II. ILLICIT DISCHARGES - The regulations require every permittee to have a plan for fiding and preventing illegal discharges, and a mechanism for enforcing against illegal dischargers.

122.26(d)(1)(iii) Source identification. (A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

122.26(d)(2)(v)(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

122.26(d)(1)(iv)(D) Field screening. Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application.

122.26(d)(2)(iv)(B) A description of a program, including a schedule to detect and remove (or require the discharger ... to obtain a ... NPDES permit for) illicit discharges and improper disposal into the storm sewer.

A. ILLICIT CONNECTIONS - The storm drain system should have been surveyed during the first permit period to ensure that all of the connections made to the system are both legal and appropriate. If the system has not yet been surveyed the plan should contain a proposed plan for doing it. The plan should contain a proposal for how the system will be surveyed, who will do the survey and a time table for completion. It should also specify what will be done with the illicit connections that are found. In addition, there should be a plan for ongoing system inspections.
   1. System survey
   2. Ongoing system inspections - The extent of this program would vary widely based on the needs of an individual city.
   3. Reporting

B. ILLEGAL DUMPING - It is important to stop illegal dumping. Unfortunately, it is difficult to detect, because it is usually done both irregularly and covertly. The best method for stopping illegal dumping is educating the public, both to raise the awareness of what is illegal dumping so that people are not doing it, and to encourage the public to contact the authorities if they witness illegal dumping. All city inspectors and police and fire personnel should be trained to recognize and respond to illegal dumping. There should be a clear response mechanism, such as a hotline that anyone can use to report incidence of illegal dumping. In addition there should be ongoing system surveillance. If illegal dumping or spills are reported and responded to, there should be some follow up mechanism.
   1. Outreach

j. Others

3. City-specific Interagency Arrangements - This should reflect the structure in each city.
   a. Public works
      i. Engineering
      ii. Operations & Maintenance
      iii. Streets/roads - by law, these are part of the storm water conveyance system
      iv. Others
   b. Planning - New Construction and Redevelopment, coordination with CEQA and local permitting. Retrofit of existing structures.
   c. Parks and Recreation
   d. POTWs
   e. Others

C. FISCAL RESOURCES - Every permittee must have a mechanism for funding their storm water program. The plan should show what the funding is, the source of the funding, and how it will be distributed. The regulations require a budget for every year of the five year permit period. While it may not be possible for a city to commit to a set budget for future years, it is possible to make estimates about the cost of the program that is proposed. This should include an estimate of the cost of each of the elements, the personnel or contracts that will be required to implement the program, the anticipated funding source, and process and time schedule for establishing detailed annual budgets. Include a detailed budget for the first year.

122.26(d)(1)(vi) Fiscal resources. (A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

122.26(d)(2)(vi) Fiscal analysis. For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2) (iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

1. Area-wide
   a. Funding source(s)
   b. Staff resources
   c. Contract services
   d. Cost share (funds associated with existing activities/related programs) - if management practices currently in place under another program are to be included as part of the storm water program, the costs associated with those practices should be included as part of the budget. The program should also have a demonstrable water quality perspective.
2. City-specific
   a. Funding source(s)
   b. Staff resources
   c. Contract services
   d. Cost share (funds associated with existing activities/related programs) - if management practices currently in place under another program are to be included as part of the storm water program, the costs associated with those practices should be included as part of the budget. The program should also have a demonstrable water quality perspective.

D. LEGAL AUTHORITY - The regulations require permittees to demonstrate adequate legal authority to carry out the storm water program, including controls on industry and construction. You must cite your legal authority, or where it does not yet exist, give a plan and timetable for developing it.

122.26(d)(1)(ii) Legal authority. A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(ii) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

122.26(d)(2)(ii) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority

A. IDENTIFICATION OF SOURCES - Indicate what sources were identified during the first permit period. Tell what measures will be taken to identify other sources, what agency will do the source identification, what methods of source identification will be used, and the time table for completing this investigation. This source identification should allow cities to prioritize industrial and commercial sources and to determine the schedule for inspection. At the minimum all potential sources should be inspected at least once during the permit period. Some facilities will require more frequent inspections.
   1. Categorical list
   2. Ranking
   3. Update procedure

B. CONTROL MEASURES (identification) - For each pollutant source, either by industrial or commercial category or specific activity, determine what measures are applicable for control of the source; which, of these measures, are technically and financially feasible, and which measures will be used. Indicate who will implement the measures, how they will be implemented and the time table for implementation. The plan should include a tiered approach. Describe what measures either have been implemented already, or can be immediately implemented, other measures that can be implemented over the short term and measures that are more costly or difficult that can be used if necessary in the long term. Describe any studies or pilot projects that are contemplated to study these measures.
   1. Pollution prevention measures - Education on source minimization and pollution prevention is an important control measure.
      a. Site design options
      b. Housekeeping/maintenance practices
   2. Structural (treatment) measures
      a. Applicability
      b. Effectiveness
      c. Retrofit opportunities

C. OUTREACH - Indicate the purpose of the outreach, the target audience, the intended messages, who will be responsible for the outreach, how the outreach will be done, and the time table for implementation.
   1. General guidance - All potential industrial and commercial dischargers should be informed of their obligations under the storm water program. Dischargers should also be informed of ways of complying with the storm water program, including general outreach on pollution prevention measures.
   2. Industrial category guidance - Specific outreach should be developed for industrial or commercial categories that permittee identify as high priority industries.
   3. Industrial activity guidance - Specific outreach should be developed for high priority activities such as loading docks or vehicle washing and maintenance.

D. INSPECTIONS - Most municipalities already have programs in which they inspect businesses, these include HAZMAT, Health and Pretreatment Programs among others. Inspections for the storm water program can either be incorporated into these other inspection programs, or they can be done as a stand alone program with separate inspectors. Indicate the purpose of the inspections, the priority for inspections, how the facilities were chosen for inspection, what the inspection will consist of, how the inspection will be carried out, who will be responsible for the inspections, how the inspectors will be trained, when the inspection program will be implemented and a schedule for completion of the inspections. Indicate also how the results will be reported and to whom. If an immediate problem is found how will it be handled? To whom will it be reported? How will follow up to these inspections be handled? Will there be a mechanism for a revisit inspection?
   1. Checklist
   2. Schedule
   3. Reports
   4. Follow-up procedures

E. LOCAL PERMITS / INCENTIVE PROGRAM - While not required by the Regulations, a municipality should consider controlling industrial and commercial sources through the use of local storm water permits, or clean business incentive programs.

F. TRAINING - Implementation of an industrial storm water program will require an informed and aware staff. All

2. System surveillance
3. Spill response - When a spill is identified, it must be cleaned up. The city must have the legal authority to act against the discharger, and the ability to handle the clean up or require the discharger to clean it up. The Regional Water Board and other State agencies can be brought in if a spill occurs that is beyond the ability of the city to the clean up.
4. Complaint response - When a complaint is made, it must be responded to. The city must have the legal authority to act against the discharger, and the ability to handle the clean up or require the discharger to clean it up. The Regional Water Board and other State agencies can be brought in if a spill occurs that is beyond the ability of the city to the clean up.
5. Coordination of alternative disposal - Household hazardous waste recycling programs are mandated for many of the items that are routinely illegally dumped, such as used oil. Describe these programs and any other alternative disposal programs that are available.
6. Reporting - Incidents of illegal dumping and spills should be reported to the Regional Board on a regular basis in writing. All complaint response should be tracked in writing and submitted to the Regional Board.

C. ENFORCEMENT PROCEDURES - Cite your local legal authority and describe your mechanism for enforcing against dischargers who are illegally dumping or who have illicit connections.

D. COORDINATION WITH STATE NON-STORM WATER PERMITS - All other state laws and programs that overlap with or are in conflict with the storm water program must be addressed. Non-storm water discharges are prohibited unless authorized by NPDES permit. Even if the Regional Board issues a permit for a discharge, the city can refuse to accept the discharge into their system. The regulations exclude certain non-storm water discharges from the prohibition unless a municipality identifies them as sources of pollutants. Permittees must identify the discharges they will allow, and the management measures that they will require on these discharges. However, all discharges that are prohibited by a Regional Board must also be prohibited by a municipality. A municipality cannot be less stringent than the state.
1. Identification of permissible/permitable discharges
2. Appropriate management practices
3. Reporting

III. INDUSTRIAL/COMMERCIAL SOURCES - Municipalities are responsible for all discharges from commercial facilities as well as industries and construction sites within their jurisdiction regardless of coverage under the statewide general permits. This includes facilities required to be permitted under the State Industrial Storm Water Program and industries and commercial facilities that are not required to be permitted. Pollution prevention should be emphasized. The Regional Water Board will enforce the General Permits and municipalities are expected to enforce their local ordinances.

122.26(d)(2)(ii) Source identification. The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(1) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

122.26(d)(2)(iv)(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls.

122.26(d)(2)(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:
(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;
(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7) (iii) and (iv).

d. Follow-up procedures

C. LOCAL PERMITS - Optional
1. Coordination with existing permits
2. New permit issues

D. TRAINING
1. Planning personnel
2. Public Works personnel
3. Inspectors

E. CONTROL MEASURES - Permanent measures to be installed during construction to control runoff from the final development or redevelopment.
1. Pollution prevention measures
   a. Site design - inlet design to allow easy and frequent cleaning.
   b. Education/training
   c. Other
2. Post construction (treatment) measures - grassy swales, extended detention basins, sand filters, constructed wetlands, oil/water separators.
   a. Applicability
   b. Effectiveness
   c. Retrofit opportunities
3. Operation and maintenance - It must be clear who is responsible for the long term maintenance, and who will pay for it.
   a. Requirements
   b. Responsible party
4. Conflicts with other mandates - Regulations from other agencies can conflict with recommended practices in the storm water program. An example of this is the storage of materials. While the storm water program recommends covering materials, fire codes will not allow some materials to be covered. In another area, the minimization of impervious areas and design of landscaping to allow flow to the vegetated areas are recommended practices in storm water. Often local building ordinances dictate the amount of impervious areas and the configuration of the landscaping. These conflicts should be identified and an attempt made to resolve them.
   a. Identification of conflicts
      i. Landscaping
      ii. Pavement/curbs
   b. Conflict resolution

F. OUTREACH
1. Developers
2. Contractors
3. Other parties

G. ENFORCEMENT - Municipalities must enforce their ordinances, including their grading ordinances.

H. COORDINATION WITH STATE CONSTRUCTION STORM WATER PERMIT - It is anticipated that the municipalities will have regulations through ordinance or other legal mechanisms that would be written such that compliance with a municipality's regulations would cause a construction project to be in compliance with the State General Construction Permit. Coordination between the Regional Boards and the municipalities will be necessary. As such, the municipalities should discuss the anticipated relationship or agreement they would have with the Regional Board, and the mechanism they will pursue to enact such an agreement or relationship.

1. Memorandum of Understanding - An MOU can be used to formalize the agreement between municipalities and the Regional Board on the construction compliance program.
2. Reports

public employees should be trained in the storm water regulations, both so that they abide by the regulations in the course of their work day and so that they can tell if an activity that they witness is legal. In addition inspectors who visit commercial or industrial facilities, or who go to construction sites can determine compliance with the storm water regulations and educate the facilities about the requirements of the program.

1. Public employees
2. Inspectors

G. COORDINATION WITH STATE INDUSTRIAL STORM WATER PERMIT - It is anticipated that the municipalities will have regulations through ordinance or other legal mechanisms that would be written such that compliance with a municipality's regulations would cause an industrial discharger to be in compliance with the State General Permit. It is anticipated that coordination between the Regional Boards and the municipalities will be required. As such, the municipalities should discuss the anticipated relationship or agreement they would have with the Regional Board, and the mechanism they will pursue to enact such an agreement or relationship.

1. Memorandum of Understanding - An MOU can be used to formalize the agreement between municipalities and the Regional Board on the industrial compliance program.
2. Reports
3. Other issues

IV. NEW DEVELOPMENT AND RE-DEVELOPMENT - Each permittee must have a plan for managing storm water runoff from new construction and re-development. The plan must cover both construction covered by the State Construction Storm Water General Permit and construction under five acres. The plan should emphasize pollution prevention, especially erosion prevention.

122.26(d)(2)(iv)(A)(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed.

122.26(d)(2)(iv)(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:
(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;
(2) A description of requirements for nonstructural and structural best management practices;
(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and
(4) A description of appropriate educational and training measures for construction site operators.

A. PLANNING PROCESS - The planning process for new development and re-development must address a comprehensive plan to develop, implement and enforce controls to reduce the discharge of pollutants from areas of new development and significant redevelopment. Master planning and other studies regarding flood management must assess the impact on water quality.

1. Watershed protection policies
2. Coordination with CEQA
3. Site planning practices
4. General Plan changes
5. Use of master plans
6. Other policies
7. Planning - public works interface
8. Implementation procedures

B. CONSTRUCTION SITES - Construction site management must consider the requirements of the State Construction Storm Water General Permit. Erosion prevention using vegetation, soil stabilization and timing of grading should be emphasized.

1. Erosion control requirements
2. Chemical and waste management requirements
3. Inspections
   a. Checklist
   b. Schedule
   c. Reports

D. STORM DRAIN SYSTEM OPERATION AND MANAGEMENT - The maintenance and operation of the storm drain system has an impact on storm water quality and must be addressed in the management plan. Material clogging storm drains can not be discharged into drains. It must be removed and disposed of properly.
   1. Inlet maintenance
   2. Drain maintenance
   3. Waste management
   4. New system designs
   5. Retro-fit opportunities

E. STREETS AND ROADS - Construction, operation, and maintenance of roads has an impact on storm water quality and must be addressed in the management plan..
   1. Sweeping - Street sweeping waste cannot be dumped in storm drain.
      a. Storm water quality based operation
      b. Waste management
   2. Street/pavement washing - Wash waters must be managed as non-storm water discharges.
   3. Maintenance
      a. Saw-cut slurry management
      b. Paving practices
      c. Waste management
      d. Medians/Landscaped Right of Way
         i. Irrigation
         ii. Fertilizer/pesticides

F. FLOOD CONTROL - Flood control practices have an impact on storm water quality and must be addressed in the management plan. Flood control managers must be educated about storm water quality requirements. Water quality must be a consideration in moving the water through the system.
   1. Coordination with new projects
   2. Coordination of maintenance activities
      a. Desilting/sediment removal
      b. Vegetation management
      c. Waste management
   3. Operation of facilities
      a. Detention basins - BMPs must be implemented when draining or pumping detention basins. Risers should not be directed into storm drain inlets.
      b. Other
   4. Retrofit opportunities

G. PUBLIC FACILITIES - Storm water runoff and non-storm water discharges from other public facilities must be addressed. Chemical use by these facilities should also be included. Address pressure blasting/cleaning sidewalks and concrete.
   1. Parking facilities
   2. Golf courses
   3. Schools
   4. Hospitals
   5. Parks / Landscapes
   6. Other buildings/plazas/etc.

H. PONDS, FOUNTAINS, AND OTHER PUBLIC WATER BODIES - Maintenance practices used on public water bodies, including waste management and non-storm water discharges, must be addressed in the plan.
   1. Algae control
      a. Use of chemicals
   2. Chlorine management
   3. Maintenance

VI. RESIDENTIAL (Not Elsewhere Covered) - Residential activities including private vehicle washing and maintenance; use of chemicals such as pesticides, herbicides and paints; private swimming pool maintenance; and other household

3. Other issues

V. PUBLIC AGENCY ACTIVITIES - All municipalities perform functions that have an impact on storm water quality. These include among other things, vehicle maintenance, landscape maintenance and weed control, water body maintenance including swimming pool maintenance, construction and maintenance of streets and roads, and construction and maintenance of the flood control system. Since municipalities must address all significant sources of pollutants, all of these activities must be examined and if appropriate, controlled.

122.26(d)(2)(v) Management programs. (A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

122.26(d)(2)(iv)(A)(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

122.26(d)(2)(iv)(A)(3) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

122.26(d)(2)(iv)(A)(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

122.26(d)(2)(iv)(A)(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage, or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

122.26(d)(2)(iv)(A)(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

A. SEWAGE SYSTEMS - Sewage spills must not be allowed to go into the storm drain. Sewage must be contained and vacuum pumped. Storm drains must be protected during a sewage spill.

B. CORPORATION YARDS - Corporation yards include any area or facility that is used for vehicle maintenance or washing, other maintenance, chemical storage or use, such as a paint facility, and waste management. Identify all corporation yards and give their locations and describe their functions.

1. Storm Water Pollution Prevention Plans - SWPPP are not required, however, municipalities are required to control any potential source of pollution, and SWPPP are a good vehicle for compliance. Identify what the potential storm water problems are, who is responsible for implementing the storm water measures, what management practices will be used, and how they will be implemented. For measures that are not already in place give a timetable for implementation. Tell how the effectiveness of the BMPs will be judged. If a municipality chooses not to use SWPPP, they must use an equivalent method to handle their corporation yard discharges.

C. PARKS AND RECREATION - Park Departments manage landscaping and swimming pools. Both of these activities involve the use of chemicals, waste management, and non-storm water discharges. Their use of chemicals must be addressed in the storm water management plan. In addition maintenance of swimming pools requires the periodic discharge of large quantities of swimming pool water.

1. Fertilizers/Pesticides
   a. Use / Application management
   b. Storage
2. Facility Management
   a. Wash waters
   b. Maintenance
   c. Swimming pool waters

difficult. Municipalities must develop a process by which they can evaluate the effectiveness of their program, and recommend changes to it.

VIII. PROGRAM EVALUATION - The storm water program developed under this plan must be evaluated for its effectiveness on a regular basis. The plan for this evaluation must include a schedule for evaluation, a methodology for the evaluation, a discussion of who will carry out the evaluation, and what will be evaluated. In addition, there must be a mechanism to follow up on the information generated by the evaluation. The plan should be adjusted based on the program evaluation.

122.26(d)(2)(v) Assessment of controls. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

A. PERFORMANCE STANDARDS - The permittees, possibly through management-committee sub-committees, must develop standards to judge the effectiveness of their activities and control measures. As an example, for street sweeping, permittees must devise a way of determining if the street sweeping has an impact on water quality. This could include determining what kind of pollutants are removed by the sweeping, measuring the size of the pollutants and the amount removed. Methodologies should be developed for each, which if followed, will assure that each control measure or action is implemented to the maximum extent practicable. For street sweeping, this would include the frequency of sweeping, the method of sweeping, the equipment used, how the equipment is cleaned and maintained, and the method of disposal for the material collected. Contol measure studies can be coordinated on a larger scale, such as statewide, so that each municipality is studying a different procedure.
   1. Development procedure
   2. Role of subcommittees
   3. Activity/source/action area specific

B. ANNUAL REPORTS - Reports must be submitted after the end of each fiscal year. Permittees should propose a date for submittals that works for them. The reports should be more than a simple compilation of activities. Rather, they should be used to evaluate the program and the effectiveness of the management measures. Each annual report should contain a report on the program implemented during the previous year and a plan that will be implemented during the current year. In addition, the findings of the evaluation of the previous years program should be used to suggest changes that are appropriate for implementation during the next year. Any revisions to the five year plan should be addressed here.
   1. Formal/Structure - Each group of permittees under an area wide permit should develop a format that all the permittees will use for the annual report.
   2. Effectiveness measures - The co-permittees are responsible for developing methods for determining the effectiveness of the BMPs that they implement, for their particular program, and developing a level of effort that will be required in each area.
   3. Content

C. SUB-ANNUAL REPORTS - Each year, before the end of the fiscal year, the permittees should submit a report that contains a draft preliminary report addressing the implementation of that years program, a preliminary budget for the next year program addressing the funding issues for the upcoming budget process, and a preliminary plan for the next year showing what revisions to the five year plan will be required. In some regions, rather than a sub-annual report, the permittees will meet with the Regional Board to discuss these issues.
   1. Purpose
   2. Formal/Structure
   3. Content

D. INTERNAL REPORTING - We suggest the development of a process for interagency - intragency exchange information among themselves and to develop the annual and semiannual reports
   1. Standard forms
   2. Procedures
   3. Record keeping - The Regional Board does not need to see all of the extraneous information, but there should be a mechanism for storage of records in case they are needed.

and landscape maintenance can contribute to storm water pollution. Identify measures that can be taken to improve the quality of the runoff from residential area. Emphasize pollution prevention and the identification and use of safe substitutes.

VII. PUBLIC INFORMATION AND PARTICIPATION - It is necessary to involve the public in the storm water program in order to have an effective municipal program. The outreach program should be focused on the specific needs of individual cities. Tell how the public education needs were determined, who is responsible for developing and implementing the education program, what program and what materials will be developed, give a timetable for implementing the program, and the method to be used to determine its effectiveness.

122.26(d)(2)(iv) Proposed management program. A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate.

122.26(d)(2)(iv)(B)(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

122.26(d)(2)(iv)(B)(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

A. GENERAL OUTREACH - Describe your outreach materials developed for the general public. Tell what the focus of the materials are, and how you arrived at that focus. Tell what materials have already been developed and how they are distributed. Tell what materials are still to be produced, what they address, who is producing them, how they will be distributed, what kind of follow up opportunities are provided, and the timetable for production and distribution.
   1. Written material
   2. Audio material
   3. Video material
   4. Distribution plan

B. FOCUSED OUTREACH - Describe your outreach materials developed for specific groups. Tell how these groups were identified and prioritized. Tell what the focus of the materials are, and how you arrived at that focus. Tell what materials have already been developed and how they are distributed. Tell what materials are still to be produced, what they address, who is producing them, how they will be distributed, what kind of follow up opportunities are provided, and the timetable for production and distribution.
   1. Pollutant specific
   2. Practice/activity specific
   3. Business specific

C. EDUCATION PROGRAMS
   1. Public employees - It is important to educate all of the public employees about the storm water program both so that they do not continue with practices that are counter productive and so that they can participate in its implementation and enforcement. Describe your public employee outreach programs. Tell what the focus of the training is, how it is implemented, who is implementing it, the schedule for training, and the opportunities for continuing education.
   2. K-12 - Describe programs developed for schools. These programs should include storm water awareness, illegal dumping awareness, source minimization and pollution prevention.
   3. Other

D. CITIZENS PARTICIPATION
   1. Volunteer monitoring
   2. Cooperative outreach
   3. Complaint procedures - Describe any mechanism available for citizen reports of illegal discharge illicit connections or potential pollution problems.

E. EFFECTIVENESS EVALUATION - Quantifying the effectiveness of education and outreach efforts may be

e. Other habitat

4. Land use - Characterize the land use in the permitted area. Characterize the storm water discharges from specific land use categories and mixed land use.
   a. General categories
   b. Specific features/sources

B. SOURCE IDENTIFICATION - Do focused monitoring on pollutants of concern.
1. Specific land-use
2. Specific activities

C. CONTROL MEASURE EFFECTIVENESS - Monitor to determine the effectiveness of control measures. Identify what control measure studies will be done and how they will be prioritized. Give a schedule for doing the studies.
1. Specific Sources (e.g., corp yards)
2. Specific Activities (e.g., waste management)
3. Special Studies

D. POLLUTANT LOADING - An initial determination of the pollutant loading, both system wide and specific to land use types should be made through monitoring and modeling. Once the initial determination is made, it is important to continue a minimal long term monitoring program to track trends in the pollutant loading over time.

1. System-wide
2. Land-use specific
3. Long-term stations

E. COMPONENTS OF A MONITORING PROGRAM PLAN - These are the expected elements of a monitoring plan. The elements suggested here do not replace any directions from the regulating Regional Board.
1. Monitoring/sampling points with map
   a. rationale for sampling points
2. Dry weather sampling
   a. frequency
   b. monitored parameters
   c. method for documentation of outfall field inspections
3. Storm sampling plan
   a. number of storm events to be samples
   b. method for determining representative event
   c. worker safety plan
   d. sampling plan
   e. timing of sampling
   f. monitored parameters
      i. how were parameters chose?
   g. method to be used for flow weighted compositing of samples
      i. time duration between samples
      ii. minimum number of samples per hour
4. Manual of field techniques
   a. general field techniques
   b. manual vs automatic sampling
   c. appropriate sampling technique for each pollutant
      i. grab vs composite
   d. appropriate sample size for each pollutant
5. Flow analysis for sampled storm event
   a. method for determining flow
      i. flow rate
      ii. flow volume
6. USEPA Title 40 CFR Part 136 compliance
   a. container type

E. STORM WATER MANAGEMENT PLAN REVISIONS - There should be a review process which will allow you to revise the plan for the next year and for the rest of the permit period.
   1. Process
   2. Reporting

IX. MONITORING - Monitoring serves several purposes. It allows a baseline characterization of storm water/urban runoff from the permitted area, it identifies the problems and their sources and evaluates impacts on receiving waters, it allows the permittee to determine what are appropriate, and it allows a permittee to judge the effectiveness of its control measures. Monitoring is not limited to water sampling. It can include such elements as visual inspections of above and underground systems or compilation of chemical use data.

Characterization of the permitted area, the watershed, the storm drain system, the receiving waters, and the land use was required in the previous permits. The information collected from previous efforts should be used in baseline characterization. This plan should also tell what the future monitoring objectives are, what information will be collected, the purpose of the information, how it will be collected and used, and how the information will be analyzed, reported and stored.

122.26(d)(1)(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

122.26(d)(2)(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

122.26(d)(2)(ii) Source identification The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(1) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

122.26(d)(1)(iii)(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts.

122.26(d)(2)(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

122.26(d)(2)(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under Section 122.21(c)(7)) for BOD5, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

122.26(d)(2)(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section;

A. SYSTEM CHARACTERIZATION - The previous permit required a complete characterization of the entire system. This included the storm drain system, the receiving waters and the land use activities.
   1. Watershed - Characterize each watershed including the storm drain system, the land uses and the particular problems of the receiving waters.
   2. Storm drain system - Characterize the system including all major outfalls.
      a. Inlets
      b. Outlets
   3. Receiving waters - Identify and evaluate water bodies. Use existing water quality data along with current monitoring efforts to characterize and prioritize the receiving waters. Perform additional monitoring as necessary to characterize the receiving waters.
      a. Streams
      b. Lakes
      c. Bays
      d. Wetlands

United States Environmental Protection Agency

Office of Wetlands, Oceans and Watersheds (4503F)

EPA 841-B-95-002 September 1995

EPA

Economic Benefits of Runoff Controls

Even though urban runoff management costs money, properly designed runoff systems can provide economic benefits that counterbalance or even outweigh these costs.

This report describes the economic impacts of various types of urban runoff controls and presents case studies of developments where the implementation of runoff control requirements has provided economic benefits to developers and property owners.

VOL 23

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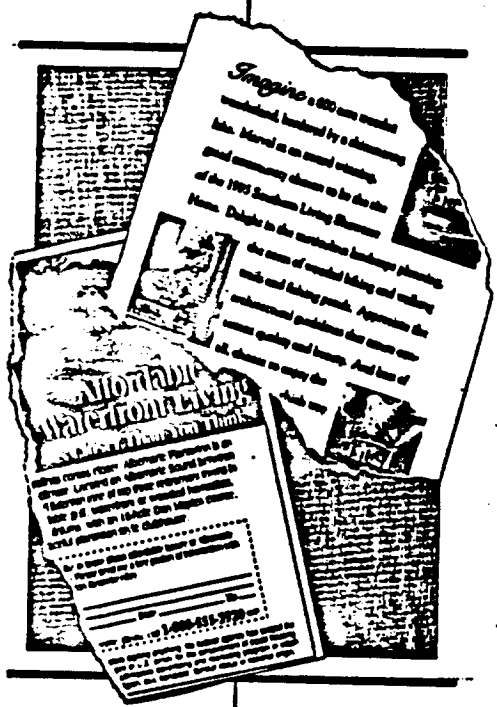
Overview

PEOPLE HAVE a strong emotional attachment to water, arising from its aesthetic qualities—tranquility, coolness, and beauty. As a result, most waterbodies within developments can be used as marketing tools to set the tone for entire projects *(Tourbier and Westmacott, 1992)*. A recent study conducted by the National Association of Home Builders indicates that "whether a beach, pond, or stream, the proximity to water raises the value of a home by up to 28 percent." A 1991 American Housing Survey conducted by the Department of Housing and Urban Development and the Department of Commerce also concurs that "when all else is equal, the price of a home located within 300 feet from a body of water increases by up to 27.8 percent" *(NAHB, 1993)*. Dick Dillingham, President of the National Association of Realtors' Residential Sales Council, declares, "Water makes a difference . . . there is such a very small supply of properties that can claim a water location and it is something you cannot add" *(Lehman, 1994)*.



Although there are a limited number of natural waterfront sites adjacent to lakes, rivers, streams, estuaries, or open ocean, many opportunities exist to create waterfront property. Homes and businesses can be sited along hydroelectric or water supply impoundments or near the banks of artificial lakes created for wildlife, recreational, or aesthetic reasons. A practice becoming more prevalent is to site developments around man-made ponds, lakes, or wetlands created to control flooding and reduce the impacts of urban runoff on neighboring natural streams, lakes, or coastal areas. When designed and sited correctly, artificial lakes or wetlands can help developers reduce negative environmental impacts caused by the development process and increase the value of the property.

The purpose of this report is to show that certain urban runoff management controls can be incorporated into a development in a way that provides aesthetic and economic benefits. Table 1 summarizes the findings of this report. Urban runoff controls that are pleasing to the eye and safe for children can lead to increased property values. Because the beauty of natural surroundings can increase real property values and enhance the quality of life, beautification of land areas adjacent to waterways and detention ponds should be considered an integral part of planning by developers. For existing runoff controls that are unsightly, corrective renovations can be made to increase the property value and quality of life.

People have a strong emotional attachment to water, arising from its aesthetic qualities—tranquility, coolness, and beauty.

Table 1: Examples of real estate premiums charged for property fronting urban runoff controls

Location	Base Costs of Lots/Homes	Estimated Water Premium
Chancery on the Lake, Alexandria, Virginia	Condominium: $129,990 - $139,990	Up to $7,500
Centex Homes at Barkley, Fairfax, Virginia	Home with lot: $330,000 - $368,000	Up to $10,000
Townhomes at Lake Barton, Burke, Virginia	Townhome with lot: $130,000 - $160,000	Up to $10,000
Lake of the Woods, Orange County, Virginia	Varies	Up to $49,000
Dodson Homes, Layton, Fauquier County, Virginia	Home with lot: $289,000 - $305,000	Up to $10,000
Ashburn Village, Loudon County, Virginia	Varies	$7,500 - $10,000
Weston Development, Broward County, Florida	Home with lot: $110,000 - $1,000,000	$6,000 - $60,000 depending on lake size, location, and the percent of lakefront property in the neighborhood
Silver Lakes Development, Broward County, Florida	Varies	$200 - $400 per linear foot of waterfront, depending on lake size and view
Highland Parks, Hybernia, Illinois	Waterfront lot: $299,900 - $374,900	$30,000 - $37,500
Waterside Apartments, Reston, Virginia	Apartment Rental	Up to $10/month
Village Lake Apartments, Waldorf, Maryland	Apartment Rental	$5 - $10/month depending on apartment floor plan
Lake Arbors Towers, Mitchellville, Maryland	Apartment Rental	$10/month
Marymount at Laurel Lakes Apartments, Laurel Lakes, Maryland	Apartment Rental	$10/month
Lynne Lake Arms, St. Petersburg, Florida	Apartment Rental: $336 - $566/month	$5 - $35/month depending on lake size
Sale Lake, Boulder, Colorado	Waterfront lot: $134,000	Up to $35,000
The Landing, Wichita, Kansas	Waterfront lot: $35,000 - $40,000	Up to $20,000
Fairfax County, Virginia	Commercial Office Space Rental	Up to $1/square foot
Laurel Lakes Executive Park, Laurel, Maryland	Commercial Office Space Rental	$1 - $1.50/square foot

Impacts and Controls

URBANIZATION CAUSES changes and impacts to the environment and our communities. Many effects of urbanization are positive, such as new places for people to live and work, increased recreational opportunities, and economic growth. However, some of the impacts might be negative if they are not handled with foresight.

Most local governments require some form of urban runoff management for new development.

Development leads to an increase in the amount of pollutants in an area. Sediment from construction sites can end up in streams and rivers, choking plant and animal life. Oil and gas from vehicles can leak onto roads and parking lots. Fertilizers and pesticides, if not applied properly, can wash off lawns. Pesticides are often found in higher concentrations in urban areas than in agricultural areas (USGS, 1995). Pet waste, if not properly disposed of, can enter storm drains that lead to wetlands, streams, or rivers. Household chemicals, such as paints and cleaning products, can leak if not stored or disposed of properly. All of these pollutants can wash away when it rains and end up in streams, rivers, lakes, estuaries, or ground water. Many pollutants also bind to the sediment, so when sediment washes away it takes the pollutants with it.

Urbanization also leads to loss of pervious areas (porous surfaces) that allow rainwater to soak into the ground. This can increase the amount and velocity of rainwater flowing to streams and rivers, as illustrated in Figures 1 and 2. This increased speed and volume of water can have many impacts, including eroded stream banks, increased turbidity and pollution, increased stream water temperature, and increased water flow. All of these can have an adverse effect on the fish and other organisms living in the stream and the receiving waters. When rainwater cannot soak into the ground, the result can be a loss of drinking water because many areas of the country rely on rainwater soaking into the ground to replenish underground drinking water supplies.

Loss of trees due to urbanization can have negative impacts. Trees are important for controlling the water temperature along the shorelines of waterbodies. Since many aquatic plant and animal species are sensitive to changes in water temperature (trout, for example), it is important to keep stream temperatures as close to natural levels as possible. When the shade of trees is lost, the water temperature can increase.

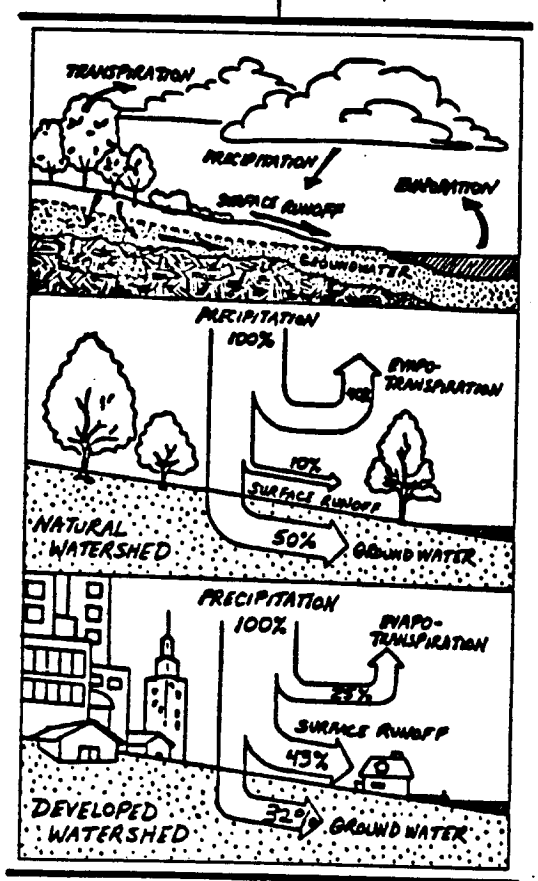


Figure 1: Development decreases the amount of rainwater that can soak into the ground. (L.B. Leopold, USGS Circular 554, 1968, cited in NYSDEC, 1992)

"Best management practices," or BMPs, help address these impacts. BMPs are designed to help reduce the amount of pollution in urban runoff. Some help to control the volume and speed of runoff before it enters receiving waters. Many help to increase the amount of rainwater that soaks into the ground to restore groundwater. There are two general types of BMPs: structural and nonstructural. Structural controls involve building a "facility" for controlling urban runoff. There are a variety of structural controls and most require some level of routine maintenance. This report discusses two types of structural controls that have been documented as providing economic benefits: urban runoff ponds and constructed wetlands. Nonstructural BMPs do not require construction of a facility. For example, planning a development so that there are buffers along stream banks and minimizing the amount of impervious area are types of nonstructural controls. Structural and nonstructural controls can be used in combination to manage runoff.

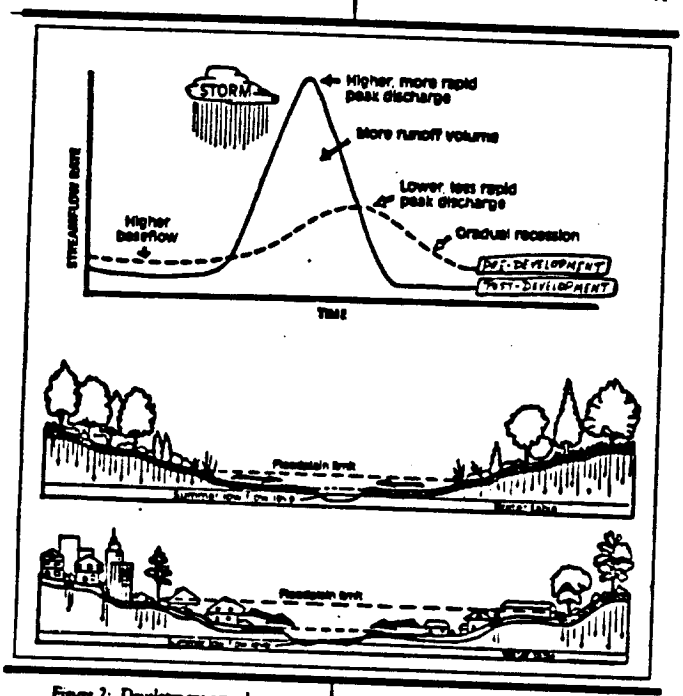


Figure 2: Development can alter an area's hydrology by increasing the amounts of impervious surface. (adapted from Schueler, 1987).

Urban runoff management controls are now widely accepted due to lessons learned from not planning properly for the impacts associated with increased urbanization. Most local governments require some form of urban runoff management for new development. They require such controls for two reasons: to prevent pollution and to prevent flooding caused by increased runoff, mostly from impervious areas. Usually they require structural controls although some local governments give credit for nonstructural controls.

Methodology

A LITERATURE REVIEW was conducted to examine the impacts of urban runoff management ponds on property values. Many experts in the real estate field and experts involved in management of urban BMPs/runoff controls were contacted. Discussions with organizations including the Urban Land Institute, the American Planning Association, and the National Association of Home Builders proved valuable in identifying developments that have incorporated urban runoff management requirements into site development and have realized an economic benefit. Regional personnel of the U.S. Environmental Protection Agency (EPA) were contacted and provided information on their region of the country as well as potential case study examples. Developers and realtors provided comparative values and information on premiums charged for various properties nationwide.

Information regarding case studies was compiled through literature reviews, site visits, and discussions with developers and realtors. After the information-gathering process was completed, case studies were selected. The case studies are

"Why not take an environmental negative and turn it into a positive, into a visual asset?"

(Don Reuble in Tourbier and Westmacott, 1992)

representative examples of positive economic impacts on new development, existing development, and commercial property. Conclusions were made based on information gathered and discussions with experts in the fields of real estate and urban runoff controls.

Ponds and Wetlands for Urban Runoff Control

MOST STRUCTURAL urban runoff BMPs function on the principle that it is best to hold runoff for a period of time. This approach serves two functions. It controls the peak flow rates of water released from a site, thereby controlling downstream flooding, and it allows pollutants to be removed from the water column. There are many different types of urban BMPs, many of which add value to adjacent property. This report focuses on two types of BMPs that are often used: urban runoff "wet ponds" and constructed wetlands, as illustrated in Figure 3.

"Preservation is not a problem for developers; it's a golden opportunity."
(David Hoffman in Tourbier and Weinstein, 1992)

Wet Ponds

Wet ponds, as their name implies, are runoff holding facilities that have water in them all the time. Storm flows are held in the pond temporarily and then released to maintain healthy downstream habitats. Sediment and other pollutants settle out of the water and are not discharged to the receiving waters. Wet ponds are usually vegetated, and the plants' roots hold sediment and use the nutrients that are often contained in urban runoff. The ponds are designed to be big enough to control onsite and offsite flooding in the event of a major storm. This helps to control impacts on downstream habitats.

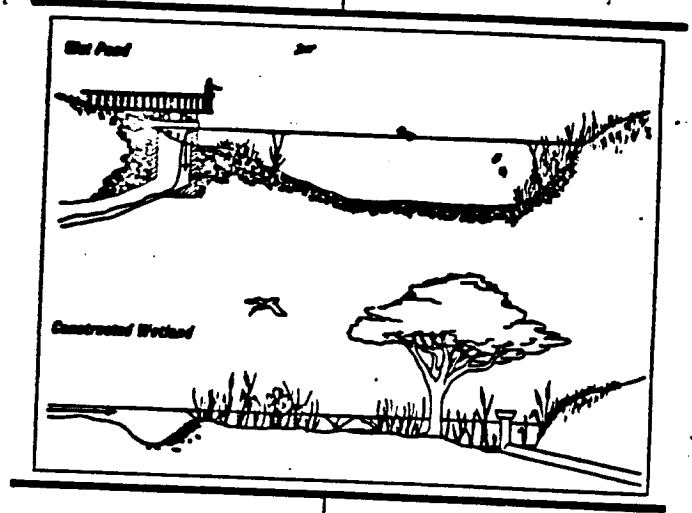


Figure 3: Wet ponds and constructed wetlands are two types of runoff controls.

Many of the "lakes" in developments are actually detention or retention wet ponds. Developers can design the wet ponds to look like natural lakes. Wet ponds can be highly effective in removing sediment and in reducing nutrients if they are properly constructed and maintained. They can usually be used for large drainage areas. Wet ponds can be incorporated into new development site plans and can enhance the value of surrounding property. Old wet ponds can also add value to the surrounding property once they have been aesthetically improved.

Constructed Wetlands

Wetlands serve an important function in controlling the impacts of urban runoff. Because wetlands are heavily vegetated, they serve as a natural filter for urban runoff. They also help to slow the flow of water to the receiving waters and replenish groundwater. When properly designed, constructed wetlands have many

advantages as an urban BMP, including reliable pollutant removal, longevity, adaptability to many development sites, ability to be combined with other BMPs, and excellent wildlife habitat potential (MWCOG, 1992).

Making Urban Runoff Management Work for You

IN MANY CASES, developers are able to realize additional profits (and quicker sales) from units that are adjacent to a wet pond (Harden 1995; MWCOG, 1983). If the urban runoff management control is also developed to allow passive recreation (e.g., a walking path around a lake or pond), the recreational area and the wet pond/constructed wetland can become the feature attraction when advertising the property (Figure 4). Adding walking trails, fitness equipment, gazebos, bird houses, and other facilities to enhance a detention area can be costly, but eventually additional profits are realized (Sala, 1995).

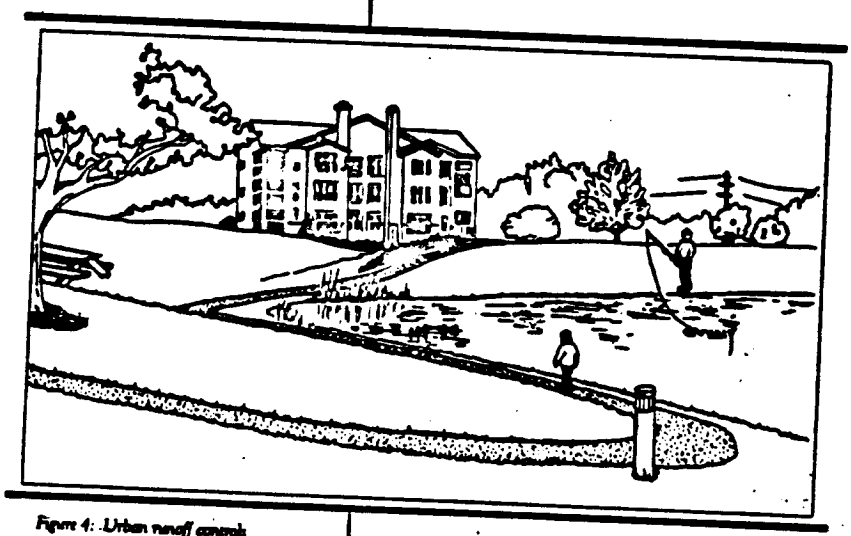


Figure 4: Urban runoff controls can be assets to a development.

The impacts of urban runoff management controls on property values are site-specific (CDM, 1982). Controls can affect property values in one of three ways: increase the value, decrease the value, or have no impact. "Urban runoff controls are greeted with varying degrees of skepticism and acceptance by residential versus commercial property owners," according to Judith Costello Pearson, Manager, Market Research, Fairfax County (Virginia) Economic Development Authority. One must consider the appeal of an attractive urban runoff management control along with the liability of open water. A childless adult might perceive a wet pond as an amenity, but a family might view it as a potential hazard to children.

"Whether a beach, pond, or stream, the proximity to water raises the value of a home by up to 28 percent."
(Lehman, 1994)

Factors That Lead to Increases in Property Value

Urban runoff systems with standing water often appear to be natural systems. A clean lake or pond offers benefits to developers by creating an ideal setting for model units and for the sales office. If located close to the entrance and visible from the road, it will have considerable curb appeal and can repay installation costs through faster sales, in addition to raising the value of adjacent lots (Tourbier and Westmacott, 1992). Developers can charge premiums (extra charges) for property with water views, views of wooded land, or other amenities.

Many ponds planned for urban runoff control are also designed to provide recreational facilities. They are often surrounded by walking trails and picnic areas complete with gazebos and outdoor grills. The ponds also can be used by nonmotorized boats like canoes and are excellent areas for bird-watching. This natural setting creates a home for a variety of birds and animals that homeowners find appealing (Figure 5). Fountains, often included in plans, also add to the aesthetic qualities of the pond.

"Higher sales prices for properties with views of the water have been consistent for 23 years."
(Wade, 1995)

Many developers have capitalized on urban runoff regulations by designing aesthetic wet ponds and marketing them as if they were natural lakes or ponds. A Pennsylvania developer has said, "We are required to build urban runoff management basins. Why not take an environmental negative and turn it into a positive, into a visual asset?" (Tourbier and Westmacott, 1992). In an effort to incorporate landscape design into stormwater management planning to enhance the value and quality of development, General Telephone of Marion, Ohio, created an attractive wet pond ornamented with plantings, stones, and pedestrian paths. Runoff from the Hyatt Regency Ravina hotel complex in Atlanta, Georgia, flows into a series of beautifully designed wet ponds linked together by streams and waterfalls that are kept flowing by recirculating pumps. A carefully designed wet pond at the Woods in Rhinebeck, New York, provides flood control and water quality benefits, and the waterfront created by the impoundment enhances the value of surrounding townhouses (NYSDEC, 1992).

Figure 5: Constructed wetlands provide wildlife habitat and are aesthetically pleasing.

Factors That Lead to Decreases in Property Value

Residential lots located near an urban runoff pond are often a concern to home buyers with young children. Parents fear their children will be attracted by the water or wildlife and drown. Incidents of drowning in urban runoff management areas have occurred in residential as well as commercial areas. Children who fall through frozen ponds or fall into the water without knowing how to swim are usually the victims (Suit filed, 1990; Woellert, 1993). Adults have also drowned in detention ponds. A Chicago man fell into an 18-foot-deep retention pond located on the property of a junkyard and drowned (OSHA probing, 1994). According to one real estate appraiser, safety is the only issue regarding urban runoff management controls that adversely affects property value (Jablonski, 1995).

One solution is to construct a fence surrounding the pond to deter entry and reduce accident potential. Chain-link fencing is often used. Rusting, poorly maintained chain-link fencing reduces any aesthetic qualities of the area, but fencing that has a black or green protective coating is more attractive and can improve the appearance of the runoff control. Prince William County, Virginia, has a fencing ordinance for constructed ponds aimed at preventing entry of children under 4 years of age (Guzman, 1995; MWCOG, 1983). A "protective device" of the developer's choice must be placed around ponds near residential areas with over 2 feet of standing water or more than 2 hours of drainage time. The protective device may be fencing or plantings of bushes and trees (Figure 6); in some cases, flat slopes or shallow beaches extending at least 20 feet from the perimeter of the pond are acceptable. These flat slopes or beaches provide protection for children who could roll down steep slopes directly into the pond. Using flat slopes reduces the amount of land available for development, however, and is the least used option. Fencing is the most inexpensive solution and is used frequently. It has been reported to be an "attractive nuisance," however, because some older children feel challenged to climb fences and enter restricted areas (MWCOG, 1983).

Figure 6: Natural "fencing" can be used as a protective device.

Requirements to construct wet ponds for urban runoff management are a concern for developers, who lose the potential profit from this otherwise buildable land. This unrealized profit, or foregone value, can be substantial if, for example, a builder is no longer able to construct several planned townhomes (Rolband, 1995). Developers often increase the number of homes built in the area available for development and reduce the size of individual homes to recoup the foregone value of the property.

Urban runoff management controls are now widely accepted due to lessons learned from not planning properly for the impacts associated with increased urbanization.

Poorly maintained wet ponds or constructed wetlands are often unsightly due to excessive algal growth or garbage build-up. These conditions are considered detriments by area residents and people passing through the areas. Wet ponds and constructed wetlands can also become mosquito breeding grounds. Mosquito problems usually can be reduced or eliminated by designing the wet pond so that all portions of the basin are connected to open water to allow natural predators to

control the mosquito larvae (Tourbier and Westmacott, 1992). Generally mosquitoes are not a problem in the presence of a good biological community. Organic controls such as mosquito-eating fish or insecticidal bacteria like *Bacillus thuringiensis israelensis* (Bti), however, are also options where mosquitoes need to be controlled.

When designed and sited correctly, artificial lakes or wetlands can help developers reduce negative environmental impacts caused by the development process and increase the value of the property.

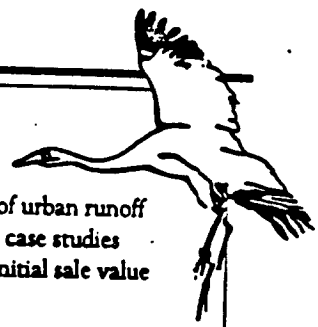
Improving the Acceptance of Urban Runoff Facilities

Effective landscaping can do much to overcome the disadvantages of urban runoff systems and improve the appearance of facilities. Banks of urban runoff storage areas and drainage ditches should be graded smoothly into adjacent areas where feasible. Steep slopes should be protected against erosion by stabilization techniques, such as gabions, rip-rap, or other practices that detract as little as possible from the natural setting. Planting and preservation of trees, shrubs, and other vegetation should also be a part of the improvement plan (Poertner, 1974).

Sediment accumulation and waterlogging of otherwise usable land areas can be avoided by the use of proper design, construction, and operation techniques. Ponds used for urban runoff control can be spared from excessive sediment accumulation by the use of forebays for silt collection. The amount of silt transported can be reduced by directing runoff through vegetated areas or specially designed runoff filters. Waterlogging of land surrounding urban runoff storage areas can be minimized by sloping the ground toward storage areas, eliminating water pockets, and minimizing the frequency and duration of ponding on areas otherwise suitable for multipurpose use (Poertner, 1974).

Operation and Maintenance

Wet ponds and constructed wetlands require periodic maintenance to preserve environmental and monetary benefits of "waterfront" lots. However, the benefits of higher resale value and quality of life typically outweigh the combined costs of the initial lot premium and annual maintenance fees charged by homeowners' associations. In fact, operation and maintenance costs of urban runoff retention ponds can be as low as $62 per year for homeowners (MWCOG, 1983).



Case Studies

THE FOLLOWING CASE studies highlight developments where the incorporation of urban runoff controls resulted in economic benefits to the local homeowners or developers. The case studies detail how the presence of aesthetically designed runoff controls affected both the initial sale value of new developments and the resale values for existing developments.

New Development

Columbia, Maryland *A landmark survey by the National Institute for Urban Wildlife indicated that 75 percent of the residents of Columbia, Maryland, a community planned for a population of 100,000, prefer urban runoff ponds that contain permanent pools of water, wetlands, and wildlife over the dry ponds many municipalities prescribe for their subdivisions. Residents (94 percent) overwhelmingly believed that managing future runoff basins for fish and wildlife as well as for flood and sediment control would be desirable. Residents (92 percent) considered the view of birds and other wildlife to be particularly important and felt that the sight of them outweighed any nuisances they created. Perhaps most importantly, 75 percent of Columbia homeowners felt that permanent bodies of water added to real estate values and 73 percent said they would pay more for property located in a neighborhood with stormwater control basins designed to enhance fish or wildlife use. The study in Columbia covered an area that contained 3 lakes, 22 runoff ponds with a permanent pool of water, and 9 dry detention basins (Adams et al., 1984; Tourbier and Westmacott, 1992).*

For further information contact Charles Rhodeshamel, Columbia Association, Land Management Division, 9450 Gerwig Lane, Columbia, Maryland 21046; phone (410) 381-0288.

Champaign-Urbana, Illinois *Residents of seven Champaign-Urbana, Illinois, subdivisions with urban runoff detention ponds were questioned about the role the pond played in their decision to purchase their home. Sixty-three percent of the respondents living adjacent to a wet pond identified the pond as what they liked most about their neighborhood. Seventy-four percent of homeowners surveyed believed that wet ponds contributed positively to the image of a subdivision as a desirable place to live. Only 3.5 percent felt a wet pond had a negative influence on the image of their neighborhood. Overall, respondents believed that lots adjacent to a wet pond were worth an average of 21.9 percent more than comparable nonadjacent lots in the same subdivision. Eighty-two percent of all respondents said they would, in the future, be willing to pay a premium for a lot adjacent to a wet pond (Emmerling-DiNovo, 1995).*

Boulder, Colorado *Built in 1993, the Sale Lake subdivision of single-family homes surrounds a 4-acre constructed wetland. Sale Lake demonstrates environmental sensitivity in suburban development. Lots located alongside the wetland sold for as much as $134,000, up to a 30 percent premium over lots with no water view (St. Germain, 1995).*

For further information contact Will St. Germain, St. Germain Construction, Inc., 2709 Pine Street, Boulder, Colorado 80302; phone (303) 449-1379.

Highland Parks, Illinois "Preservation is not a problem for developers; it's a golden opportunity," insists the president of the development company for Hybernia, a community of 122 single-family houses on a 133.5-acre site in Highland Parks, Illinois. The site, zoned for 40,000-square-foot lots, was laid out around a constructed pond/stream system and 27 acres of land approved as a state nature preserve. The site includes 16.5 acres of ponds. Forebays at urban runoff inlets catch sediments (Tourbier and Westmacott, 1992).

Hybernia is a an example of ecological landscape planning. Waterfront lots, which now sell for $299,900 to $374,900, draw a 10 percent premium above those with no water view (Margolin, 1995).

For further information contact Peter Margolin, Hybernia Homeowners Association, c/o Red Seal Development Corporation, 425 Huehl Road, Building 18, Northbrook, Illinois 60062; phone (708) 272-5600.

Alexandria, Virginia Chancery on the Lake, a condominium development in Alexandria, Virginia, is a residential project with an attractive 14-acre urban runoff detention area. Realtors are currently promoting the wet pond as the development's feature selling point. The wet pond will be surrounded by a walking trail, and a gazebo and fishing pier will also be built. According to Ginger Harden, Sales Associate of Chancery Associates LP, condominiums are priced between $129,990 and $139,990. Condominiums that front the lake are selling at a $7,500 premium. For the first four buildings on the market, a $5,000 premium was charged for units fronting the lake. The lakefront units were the only units selling, and now the premium has been raised to $7,500 (Harden, 1995).

For further information contact Eric Yakuchev, sales manager, 6540 S. Van Dorn Street, Alexandria, Virginia 22315; phone (703) 922-7171

St. Petersburg, Florida A development consisting of apartments and townhouses in St. Petersburg, Florida, Lynne Lake Arms, has four urban runoff detention ponds on site. Three of the ponds are 3 to 5 acres in size, and the fourth is a 25-acre pond with a large fountain in the center. Apartments or townhouses rent for between $336 and $566 a month. Units facing the three smaller ponds have a $15 per month waterfront premium; units facing the large pond are rented at a $35 per month premium (McInturf, 1995). A small channel connects the large detention pond and one of the smaller ponds. Even apartments fronting this channel have a $5 per month waterfront premium.

For further information contact Mark Mahaffey, leasing agent, 5800 Lynne Lake Drive South, St. Petersburg, Florida 33712; phone (813) 823-3399.

Wichita, Kansas The owner of a 72.3-acre parcel of land had plans to fill deteriorating wetlands before building a subdivision. He was persuaded to enhance them instead and now promotes enhanced and constructed wetlands as the feature selling point of The Landing. A lake with 3,750 feet of shoreline provides aesthetic and recreational value, as well as sensible detention of urban runoff. Waterfront lots currently sell for $18,000 to $40,000, a premium of up to $21,000 (150 percent) above comparable lots with no water view (Baird, 1995).

For further information contact Sally Baird, sales agent, 320 S. Holland Street, Suite 401, Wichita, Kansas 67209; phone (316) 722-0777.

Existing Development

Fairfax County, Virginia *Since their construction in 1971, units facing the constructed pond in the townhouse community of Pinewood Lakes have sold at a premium. Of the 497 units, all with exactly the same square footage according to tax records, only 20 have direct water views in either the front or the rear. Figures show the average 1994 sales price of townhouses lacking the water amenity to be $93,833. The average waterfront sales price is $100,000, a premium of $6,117. Higher sales prices for properties with views of the water have been consistent for 23 years (Wade, 1995).*

Evans Mills is an upscale community of 41 townhouses in the Tysons Corner area built around an existing pond. Fairfax County tax records show Evans Mills waterfront townhouses sell at higher prices. In 1994, waterfront homes sold for an average $17,467 premium above the average $419,200 price of homes not facing the pond (Wade, 1995).

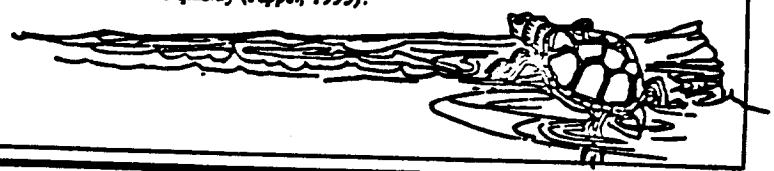
Single-family homes can have higher initial sale values as well as higher resale values when they face urban runoff detention areas. County tax records reveal that land values in Franklin Farms, an established residential neighborhood in northern Virginia, are highest when located in view of its 5-acre urban runoff detention area, which is surrounded by a walking path furnished by the developer. "Waterfront" homes in this neighborhood sold for 10 to 20 percent more initially and again at resale than land with no water view (Dounham, 1995). (These percentages might be slightly higher than actual premiums due to possible additional amenities in the waterfront homes.)

Commercial Property

Prince George's County, Maryland *Laurel Lakes Executive Park, commercial property in Laurel, Maryland, also has created an attractive wet pond system. Office space fronting the water rents at a premium of $100 to $200 per month depending on the size and layout of the office space (Kalish, 1995). On average, first-class office space located in Prince George's County with a lakefront view rents for between $17.50 and $20.00 per square foot, whereas properties without a view rent for between $16.50 and $18.50 per square foot (Duncan, 1995).*

Fairfax County, Virginia *Commercial office space also can be valued higher when it fronts aesthetically designed runoff retention ponds. The lakefront Lakeside at Avion and Tysons Pond, both located in Fairfax County, Virginia, are examples of commercial projects that took advantage of the requirement to implement urban runoff management controls by enhancing a retention pond and then capitalizing on the presence of the pond when naming the project. In Fairfax, Virginia, the average cost of commercial office space without water as an amenity is approximately $15 per square foot. The average leasing rate for commercial waterfront office space is $16 per square foot (Constam, 1995; Goeller, 1995).*

In a soft commerical real estate market, where office space is overabundant, it can be difficult to ask for a premium of any kind. However, real estate brokers agree that, when all else is equal, commercial waterfront property rents considerably faster than space that does not front water (Berman, 1995; Constam, 1995; Goeller, 1995; Pepper, 1995). Although a tenant might not be charged for a water amenity, it can provide a steadier flow of income and fewer vacancies for the realtor (Berman, 1995). Mike Pepper, Vice President of CB Commercial Real Estate Group, Inc., declares that "There is absolutely a premium associated with commercial lakefront property. Anything adding to the aesthetic value is going to raise a property's value." Mr. Pepper concedes that in the saturated market of northern Virginia, property with a water view might or might not rent for a $1-$3 per square foot premium, but will always sell or be rented more quickly (Pepper, 1995).



Conclusion

ENVIRONMENTAL BENEFITS are not the only valid reason for encouraging developers to incorporate urban runoff controls into new residential and commercial developments. Increased property values can result from aesthetically landscaped controls. Both homeowners and developers have realized benefits from beautification of areas adjacent to waterways and detention ponds. Residents find the beauty and tranquility of water, as well as fish, birds, and other wildlife, highly desirable. The beauty of natural surroundings increases real residential property values by up to 28 percent while also enhancing the quality of life. Commercial property owners, too, can benefit when their property is adjacent to an aesthetically designed urban runoff control. They can realize lower vacancies, lower tenant turnover, and high rental prices. Real estate professionals agree that the more amenities a property has, the faster it will sell or rent. Of course, to maintain higher property values, aesthetics must be considered during the operation and maintenance of wet ponds and constructed wetlands over the years. Moreover, for runoff controls to be successful, they must have the support of people in the community as well as developers (Adams et al., 1984). Then, everyone can benefit.

References Cited

Adams, L., E. Dove, and D. Leedy. 1984. Public Attitudes Toward Urban Wetlands for Stormwater Control and Wildlife Enhancement. *Wildlife Society Bulletin* 12(3):299-303.

Baird, Sally, The Landing, personal communication. February 24, 1995.

Berman, Steven, U.S. Census Bureau, personal communication, May 2, 1995.

CDM. 1982. *National Economic Overview of Urban Stormwater Pollution Abatement.* Camp Dresser & McKee, Inc.

Constam, John, Grubbs & Ellis Brokerage Firm, personal communication, May 2, 1995.

Downham, John, Fairfax City Real Estate Office, personal communication, January 9, 1995.

Duncan, Ken, W.F. Chesley Real Estate, Inc., personal communication, May 2, 1995.

Emmerling-DiNovo, C. 1995. Stormwater Detention Basins and Residential Locational Decisions. *Water Resources Bulletin* 31(3):515-520.

Goeller, Kevin, Colquitt Caruthers, personal communication, May 2, 1995.

Guzman, Oscar, Prince William County, Virginia, personal communication, January 11, 1995.

Harden, Ginger, Chancery Associates LP, personal communication, January 9, 1995.

Jablonski, Al, Chantilly Real Estate Appraisal, personal communication, January 5, 1995.

Kalish, Peter, Michael T. Rose Associates, personal communication, March 2, 1995.

Lehman, H. J. 1994, January 8. Study Finds Environment Affects a Home's Value. *The Washington Post.* p. E, 1:4.

Margolin, Peter, Hybernia Homeowners Association, personal communication, February 24, 1995.

McInnerf, Trina, Leasing Agent, Lynne Lake Arms, personal communication, January 6, 1995.

MWCOG. 1983. *An Evaluation of the Costs of Stormwater Management Pond Construction and Maintenance.* Report by Water Resources Planning Board, Department of Environmental Resources, Metropolitan Washington Council of Governments, Washington, DC.

MWCOG. 1992. *Design of Stormwater Wetlands: Guidelines for Creating Diverse and Effective Stormwater Wetland Systems in the Mid-Atlantic Region.* Report by T. R. Schueler, Anacostia Restoration Team, Department of Environmental Programs, Metropolitan Washington Council of Governments, Washington, DC.

NYSDEC. 1992. *Reducing the Impacts of Stormwater Runoff from New Development.* New York State Department of Environmental Conservation, Division of Water, Bureau of Water Quality Management, Albany, NY.

OSHA Probing Junkyard Where Employee Drowned. 1994, June 30. *The Chicago Tribune,* p. 25W, 4:1.

Pepper, Mike, CB Commercial Real Estate Group, Inc., personal communication, May 2, 1995.

Poertner, H.G. 1974. *Practices in Detention of Urban Stormwater Runoff.* APWA Special Report No. 43. American Public Works Association, Washington, DC.

Rolband, Mike, Wetland Studies & Solutions, personal communication, January 4, 1995.

Sala, Tony, Foster Brothers, personal communication, January 4, 1995.

Suit Filed in Fairfax Boy's Drowning. 1990, May 31. *The Washington Post,* p. B, 6:2.

Tourbier, J. T., and R. Westmacott. 1992. *Lakes and Ponds.* 2d ed. The Urban Land Institute, Washington, DC.

USGS. 1995. *National Water Quality Assessment Program Report.* U.S. Geological Survey, Reston, VA.

Wade, J. 1995. Summary of the Effects of Waterfront on Resale of Property. Draft report prepared for Tetra Tech Inc., Fairfax, VA.

Woellert, L. 1993, May 31. Baby, Man Victims of Drowning. *The Washington Times*, p. B, 1:6.

Other References

Bibby, Sylvia, Long & Foster Realtors at Lake of the Woods, personal communication, February 23, 1995.

Black, Tom, Urban Land Institute, personal communication, May 2, 1995.

Burns, Emma Jane, Kettler Folines Builders, personal communication, January 3, 1995.

Crist, Dean, National Association of Home Builders, personal communication, May 2, 1995.

Dodson, Larry, Dodson Homes, personal communication, February 23, 1995.

Draughn, Sherree, Waterside Apartments, personal communication, February 23, 1995.

Flight, Terri, Re/Max Realty, personal communication, January 6, 1995.

Glenn, Sylvia, Lake Arbors Towers, personal communication, February 23, 1995.

Grazer, Anita A., Fairfax County Economic Development Authority, personal communication, January 3, 1995.

Johnson, Margaret, Lakeside North Apartments, personal communication, February 23, 1995.

Lawton, Patsy, Village Lake Apartments, personal communication, February 23, 1995.

Leopold, L.B., USGS Circular 554, 1968, cited in NYSDEC, 1992.

Moore, Priscilla, Prudential Preferred Properties, Townhomes at Lake Barton, personal communication, February 23, 1995.

NAHB. 1993. *Housing Economics.* National Association of Home Builders, Washington, DC.

Pearson, Judith Costello, Fairfax County Economic Development Authority, personal communication, January 3, 1995.

Randolph, Arch, Ryland Homes at Ashburn Village, personal communication, February 23, 1995.

Schueler, T. 1987. *Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs.* Metropolitan Washington Council of Governments, Washington, DC.

St. Germain, Will, St. Germain Construction, Inc., personal communication, February 24, 1995.

Steinberg, Ann, Marymount at Laurel Lakes Apartments, personal communication, February 23, 1995.

Terrene Institute. 1994a. *Fundamentals of Urban Runoff Management.* U.S. Environmental Protection Agency, Office of Water, Washington, DC.

Terrene Institute. 1994b. *Urbanization and Water Quality—A Guide to Protecting the Urban Environment.* U.S. Environmental Protection Agency, Office of Water, Washington, DC.

USEPA. 1993. *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters.* EPA 840-B-92-002. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

Glossary of Terms

Best management practice (BMP): A practice or combination of practices that are determined to be the most effective and practicable (including technological, economic, and institutional considerations) means of controlling point and nonpoint source pollutants at levels compatible with environmental quality goals.

Constructed wetland: An artificial wetland system designed to mitigate the impacts of urban runoff.

Forebay: An extra storage space provided near an inlet of a wet pond or constructed wetland to trap incoming sediments before they accumulate in the pond.

Gabion: A rectangular basket or mattress made of steel wire in a hexagonal mesh. Gabions are generally subdivided into equal-sized cells that are wired together and filled with stones, forming a large, heavy mass used for shore protection.

Impervious area: A hard surface area (e.g., parking lot) that prevents or retards the entry of water into the soil, thus causing water to run off the surface in greater quantities and at an increased rate of flow.

Nonpoint source pollution: Water pollution caused by rainfall or snowmelt moving over and through the ground which carries pollutants. A nonpoint source is any source of water pollution that does not meet the legal definition of point source in section 502(14) of the Clean Water Act.

Nonstructural control: A practice that does not require construction of a facility to control urban runoff.

Premium: An additional charge for real estate property with an amenity such as a water view or a view of wooded land.

Receiving waters: Lakes, rivers, wetlands, coastal waters, and groundwaters that receive runoff.

Riprap: A protective layer or facing of quarrystone placed to prevent erosion, scour, or sloughing of an embankment or cliff.

Sediment: The product of erosion processes; the solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice.

Structural control: A practice that involves design and construction of a facility to mitigate the adverse impact of urban runoff, and often requires maintenance.

Urban runoff: The portion of precipitation, snowmelt, or irrigation water that does not naturally percolate into the ground or evaporate, but runs off the land into streams or other surface water. It can carry pollutants from the air and land into the receiving waters.

Wet pond: Pond for urban runoff management that is designed to detain urban runoff and always contains water.

State of California

Memorandum

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To : Bruce Fujimoto
Division of Water Quality

Elizabeth M. Jennings

From : Elizabeth Miller Jennings
Senior Staff Counsel
OFFICE OF THE CHIEF COUNSEL
STATE WATER RESOURCES CONTROL BOARD
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Subject: MUNICIPAL STORM WATER PERMITS: COMPLIANCE WITH WATER QUALITY OBJECTIVES

VOL 23

0914

ISSUE

Must storm water permits for municipal separate storm sewer systems (MS4s) include requirements necessary to achieve water quality objectives?

CONCLUSION

Storm water permits issued to MS4s must include requirements necessary to achieve water quality objectives.

DISCUSSION

Section 301 of the Clean Water Act prohibits the discharge of any pollutant unless pursuant to a National Pollutant Discharge Elimination System (NPDES) permit. Section 301 also requires compliance with effluent limitations necessary to achieve compliance with technology-based standards (e.g., best practicable control technology currently available or secondary treatment). Finally, Section 301 requires compliance with any more stringent effluent limitation which are necessary to protect water quality standards.

Section 402(p) of the Clean Water Act includes a technology-based standard for storm water permits issued to MS4s. Such permits must require:

> "controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods ...."

Section 402(p) does not discuss water quality-based standards. A question is therefore raised whether permits issued to MS4s

must include only effluent limitations to meet the technology-based standard of "maximum extent practicable" (MEP), or whether they must also include water quality-based effluent limitations.

This question has already been answered by the SWRCB in Order No.WQ 91-03. The answer is that permits issued to MS4s must include effluent limitations which will achieve the MEP standard, and will also achieve compliance with water quality objectives. The SWRCB stated:

> We therefore conclude that permits for municipal separate storm sewer systems issued pursuant to Clean Water Act Section 402(p) must contain effluent limitations based on water quality standards. Order No. WQ 91-03, at slip op. 36.

The specific language in effluent limitations or other permit conditions is left to the discretion of the agency issuing the permit. Thus, for storm water permits for MS4s, it is appropriate to include "best management practices" (BMPs) instead of numeric effluent limitations. See, Order No. WQ 91-03, at slip op. 37-38. These BMPs may be adequate as both technology-based limitations and water quality-based limitations. *Id.* Section 301(b)(1)(C) of the Clean Water Act broadly requires compliance with "any more stringent limitation, including those necessary to meet water quality standards". The legal requirements for determining effluent limitations in permits are listed in 40 Code of Federal Regulations (CFR) Section 122.44. The SWRCB interpreted these provisions in Order No. WQ 91-03, and concluded permits for MS4s may include BMPs as effluent limitations.

In Order No. WQ 91-04, the SWRCB considered a storm water permit issued to a MS4 that included BMPs as effluent limitations, and did not specifically require compliance with water quality objectives. The SWRCB stated that even where a permit does not specifically reference violation of water quality standards, it should be read "so as to require the implementation of practices which will achieve compliance with applicable standards". Slip op. at 15.

In conclusion, the SWRCB has determined storm water permits for MS4s must include requirements necessary to achieve compliance with both MEP and water quality standards. The SWRCB has allowed RWQCBs to determine the specific requirements to place in permits. The SWRCB has approved permits for MS4s which include BMPs rather than numeric effluent limitations. The SWRCB has also approved a permit that did not specifically

prohibit violation of water quality objectives. The permit was approved because it contained BMPs adequate to meet water quality objectives.

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Environmental Protection
Agency

Office of Water
Washington DC 20460

December 1995

EPA

National Water Quality Inventory

1994 Report to Congress

Executive Summary

VOL 23

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Executive Summary

The Quality of Our Nation's Water

Introduction

The *National Water Quality Inventory Report to Congress* is the primary vehicle for informing Congress and the public about general water quality conditions in the United States. This document characterizes our water quality, identifies widespread water quality problems of national significance, and describes various programs implemented to restore and protect our waters.

The *National Water Quality Inventory Report to Congress* summarizes the water quality information submitted by 61 States, American Indian Tribes, Territories, Interstate Water Commissions, and the District of Columbia (hereafter referred to as States, Tribes, and other jurisdictions) in their 1994 water quality assessment reports. As such, the report identifies water quality issues of concern to the States, Tribes, and other jurisdictions, not just the issues of concern to EPA. Section 305(b) of the Clean Water Act (CWA) requires that the States and other participating jurisdictions submit water quality assessment reports every 2 years. Most of the survey information in the 1994 Section 305(b) reports is based on water quality information collected and evaluated by the States, Tribes, and other jurisdictions during 1992 and 1993.

It is important to note that this report is based on information submitted by States, Tribes, and other jurisdictions that do not use identical survey methods and criteria to rate their water quality. The States, Tribes, and other jurisdictions favor flexibility in the 305(b) process to accommodate natural variability in their waters, but there is a trade-off between flexibility and consistency. Without known and consistent survey methods in place, EPA must use caution in comparing data or determining the accuracy of data submitted by different States and jurisdictions. Also, EPA must use caution when comparing water quality information submitted during different 305(b) reporting periods because States and other jurisdictions may modify their criteria or survey different waterbodies every 2 years.

Paul Goetz, Cary, NC

For over 10 years, EPA has pursued a balance between flexibility and consistency in the Section 305(b) process. Recent actions by EPA, the States, Tribes, and other jurisdictions include implementing the recommendations of the National 305(b) Consistency Workgroup and the Intergovernmental Task Force on Monitoring Water Quality. These actions will enable States and other jurisdictions to share data across political boundaries as they develop watershed protection strategies.

EPA recognizes that national initiatives alone cannot clean up our waters; water quality protection and restoration must happen at the local watershed level, in conjunction with State, Tribal, and Federal activities. Similarly, this document alone cannot provide the detailed information needed to manage water quality at all levels. This document should be used together with the individual Section 305(b) reports (see the inside back cover for information on obtaining the State and Tribal Section 305(b) reports), watershed management plans, and other local documents to develop integrated water quality management options.

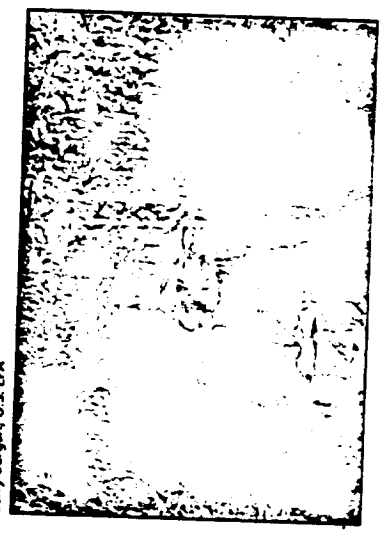
Key Concepts

Measuring Water Quality

The States, participating Tribes, and other jurisdictions survey the quality of their waters by determining if their waters attain the water quality standards they established. Water quality standards consist of beneficial uses, numeric and narrative criteria for supporting each use, and an antidegradation statement:

- **Designated beneficial uses** are the desirable uses that water quality should support. Examples are drinking water supply, primary contact recreation (such as swimming), and aquatic life support. Each designated use has a unique set of water quality requirements or criteria that must be met for the use to be realized. States, Tribes, and other jurisdictions may designate an individual waterbody for multiple beneficial uses.

- **Numeric water quality criteria** establish the minimum physical, chemical, and biological parameters required to support a beneficial use. Physical and chemical numeric criteria may set maximum concentrations of pollutants, acceptable ranges of physical parameters, and minimum concentrations of desirable parameters, such as dissolved oxygen. Numeric biological criteria describe the expected attainable community attributes and establish values based on measures such as species richness, presence or absence of indicator taxa, and distribution of classes of organisms.



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- **Narrative water quality criteria** define, rather than quantify, conditions and attainable goals that must be maintained to support a designated use. Narrative biological criteria establish a positive statement about aquatic community characteristics expected to occur within a waterbody. For example, "Ambient water quality shall be sufficient to support life stages of all native aquatic species." Narrative criteria may also describe conditions that are desired in a waterbody, such as, "Waters must be free of substances that are toxic to humans, aquatic life, and wildlife."

- **Antidegradation statements**, where possible, protect existing uses and prevent waterbodies from deteriorating, even if their water quality is better than the fishable and swimmable water quality goals of the Act.

The CWA allows States, Tribes, and other jurisdictions to set their own standards but requires that all beneficial uses and their criteria comply with the goals of the Act. At a minimum, beneficial uses must provide for "the protection and propagation of fish, shellfish, and wildlife" and provide for "recreation in and on the water" (i.e., the fishable and swimmable goals of the Act), where attainable. The Act prohibits States and other jurisdictions from designating waste transport or waste assimilation as a beneficial use, as some States did prior to 1972.

Section 305(b) of the CWA requires that the States biennially survey their water quality for attainment of the fishable and swimmable goals of the Act and report the results to EPA. The States, participating Tribes, and other jurisdictions measure attainment of the CWA goals by determining how well their waters support their designated beneficial uses. EPA encourages the surveying of waterbodies for support of the following individual beneficial uses:

Aquatic Life Support

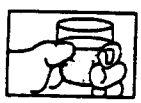
The waterbody provides suitable habitat for protection and propagation of desirable fish, shellfish, and other aquatic organisms.

Fish Consumption

The waterbody supports fish free from contamination that could pose a human health risk to consumers.

Shellfish Harvesting

The waterbody supports a population of shellfish free from toxicants and pathogens that could pose a human health risk to consumers.



Drinking Water Supply

The waterbody can supply safe drinking water with conventional treatment.

Primary Contact Recreation – Swimming

People can swim in the waterbody without risk of adverse human health effects (such as catching waterborne diseases from raw sewage contamination).

Secondary Contact Recreation

People can perform activities on the water (such as boating) without risk of adverse human health effects from ingestion or contact with the water.

Agriculture

The water quality is suitable for irrigating fields or watering livestock.

States, Tribes, and other jurisdictions may also define their own individual uses to address special concerns. For example, many Tribes and States designate their waters for the following beneficial uses:

Ground Water Recharge

The surface waterbody plays a significant role in replenishing ground water, and surface water supply and quality are adequate to protect existing or potential uses of ground water.

Wildlife Habitat

Water quality supports the waterbody's role in providing habitat and resources for land-based wildlife as well as aquatic life.

Tribes may designate their waters for special cultural and ceremonial uses:

Water Quality Monitoring

Water quality monitoring consists of data collection and sample analysis performed using accepted protocols and quality control procedures. Monitoring also includes subsequent analysis of the body of data to support decisionmaking. Federal, Interstate, State, Territorial, Tribal, Regional, and local agencies, industry, and volunteer groups with approved quality assurance programs monitor a combination of chemical, physical, and biological water quality parameters throughout the country.

- Chemical data often measure concentrations of pollutants and other chemical conditions that influence aquatic life, such as pH (i.e., acidity) and dissolved oxygen concentrations. The chemical data may be analyzed in water samples, fish tissue samples, or sediment samples.
- Physical data include measurements of temperature, turbidity (i.e., light penetration through the water column), and solids in the water column.
- Biological data measure the health of aquatic communities. Biological data include counts of aquatic species that indicate healthy ecological conditions.
- Habitat and ancillary data (such as land use data) help interpret the above monitoring information.

Monitoring agencies vary parameters, sampling frequency, and sampling site selection to meet program objectives and funding constraints. Sampling may occur at regular intervals (such as monthly, quarterly, or annually), irregular intervals, or during one-time intensive surveys. Sampling may be conducted at fixed sampling stations, randomly selected stations, stations near suspected water quality problems, or stations in pristine waters.

Culture

Water quality supports the waterbody's role in Tribal culture and preserves the waterbody's religious, ceremonial, or subsistence significance.

The States, Tribes, and other jurisdictions assign one of five levels of use support categories to each of their waterbodies (Table ES-1). If possible, the States, Tribes, and other jurisdictions determine the level of use support by comparing monitoring data with numeric criteria for each use designated for a particular waterbody. If monitoring data are not available, the State, ribe, or other jurisdiction may determine the level of use support with qualitative information. Valid qualitative information includes land use data, fish and game surveys, and predictive model results. Monitored assessments are based on monitoring data. Evaluated assessments are based on qualitative information or monitored information more than 5 years old.

For waterbodies with more than one designated use, the States, Tribes, and other jurisdictions consolidate the individual use support information into a single overall use support determination:

Good/Fully Supporting Overall Use – All designated beneficial uses are fully supported.

Good/Threatened Overall Use – One or more designated beneficial uses are threatened and the remaining uses are fully supported.

Fair/Partially Supporting Overall Use – One or more designated beneficial uses are partially supported and the remaining uses are fully supported or threatened. These waterbodies are considered impaired.

Poor/Not Supporting Overall Use – One or more designated beneficial uses are not supported. These waterbodies are considered impaired.

Poor/Not Attainable – The State, Tribe, or other jurisdiction has performed a use-attainability analysis and demonstrated that use support of one or more designated beneficial uses is not attainable due to one of six biological, chemical, physical, or economic/social conditions specified in the *Code of Federal Regulations* (40 CFR Section 131.10). These conditions include naturally high concentrations of pollutants (such as metals); other natural physical features that create

Table ES-1: Levels of Use Support

Symbol	Use Support Level	Water Quality Condition	Definition
	Fully Supporting	Good	Water quality meets designated use criteria.
	Threatened	Good	Water quality supports beneficial uses now but may not in the future unless action is taken.
	Partially Supporting	Fair (Impaired)	Water quality fails to meet designated use criteria at times.
	Not Supporting	Poor (Impaired)	Water quality frequently fails to meet designated use criteria.
	Not Attainable	Poor	The State, Tribe, or other jurisdiction has performed a use-attainability analysis and demonstrated that use support is not attainable due to one of six biological, chemical, physical, or economic/social conditions specified in the *Code of Federal Regulations*.

unsuitable aquatic life habitat (such as inadequate substrate, riffles, or pools); low flows or water levels; dams and other hydrologic modifications that permanently alter waterbody characteristics; poor water quality resulting from human activities that cannot be reversed without causing further environmental degradation; and poor water quality that cannot be improved without imposing more stringent controls than those required in the CWA that would result in widespread economic and social impacts.

- **Impaired Waters** – The sum of waterbodies partially supporting uses and not supporting uses.

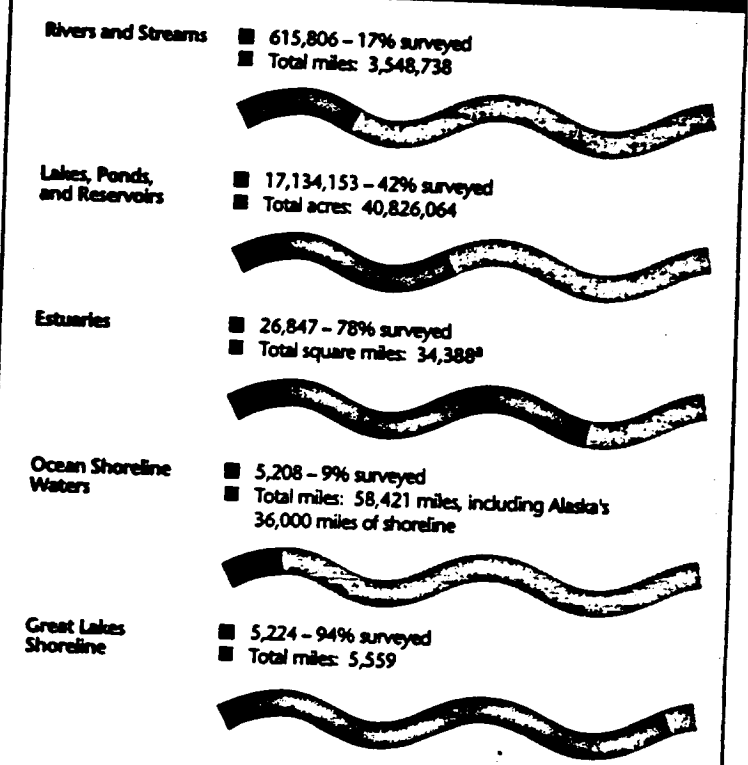
The EPA then aggregates the use support information submitted by the States, Tribes, and other jurisdictions into a national assessment of the Nation's water quality.

How Many of Our Waters Were Surveyed for 1994?

National estimates of the total waters of our country provide the foundation for determining the percentage of waters surveyed by the States, Tribes, and other jurisdictions and the portion impaired by pollution. For the 1992 reporting period, EPA provided the States with estimates of total river miles and lake acres derived from the EPA Reach File, a database containing traces of waterbodies adapted from 1:100,000 scale maps prepared by the U.S. Geological Survey. The States modified these total water estimates where necessary. Based on the 1992 EPA/State figures, the national estimate of total river miles doubled in large part because the EPA/State estimates included nonperennial streams, canals, and ditches that were previously excluded from estimates of total stream miles.

Estimates for the 1994 reporting cycle are a minor refinement of the 1992 figures and indicate that the United States has:

Figure ES-1. Percentage of Total Waters Surveyed for the 1994 Report



Source: 1994 Section 305(b) reports submitted by the States, Tribes, Territories, and Commissions.

[a]Excluding estuarine waters in Alaska because no estimate was available.

- More than 3.5 million miles of rivers and streams, which range in size from the Mississippi River to small streams that flow only when wet weather conditions exist (i.e., nonperennial streams)
- Approximately 40.8 million acres of lakes, ponds, and reservoirs
- About 34,388 square miles of estuaries (excluding Alaska)
- More than 58,000 miles of ocean shoreline, including 36,000 miles in Alaska
- 5,559 miles of Great Lakes shoreline
- More than 277 million acres of wetlands such as marshes, swamps, bogs, and fens, including 170 million acres of wetlands in Alaska.

The Intergovernmental Task Force on Monitoring Water Quality

In 1992, the Intergovernmental Task Force on Monitoring Water Quality (ITFM) convened to prepare a strategy for improving water quality monitoring nationwide. The ITFM is a Federal/State partnership of 10 Federal agencies, 9 State and Interstate agencies, and 1 American Indian Tribe. The EPA chairs the ITFM with the USGS as vice chair and Executive Secretariat as part of their Water Information Coordination Program pursuant to OMB memo 92-01.

The mission of the ITFM is to develop and aid implementation of a national strategic plan to achieve effective collection, interpretation, and presentation of water quality data and to improve the availability of existing information for decisionmaking at all levels of government and the private sector. A permanent successor to the ITFM, the National Monitoring Council will provide guidelines and support for institutional collaboration, comparable field and laboratory methods, quality assurance/quality control, environmental indicators, data management and sharing, ancillary data, interpretation and techniques, and training.

The ITFM and its successor, the National Monitoring Council, are also producing products that can be used by monitoring programs nationwide, such as an outline for a recommended monitoring program, environmental indicator selection criteria, and a matrix of indicators to support assessment of State and Tribal designated uses.

For a copy of the first, second, and final ITFM reports, contact:

The U.S. Geological Survey
417 National Center
Reston, VA 22092
1-800-426-9000

Most States do not survey all of their waterbodies during the 2-year reporting cycle required under CWA Section 305(b). Thus, the surveyed waters reported in Figure ES-1 are a subset of the Nation's total waters. In addition, the summary information based on surveyed waters may not represent general conditions in the Nation's total waters because States, Tribes, and other jurisdictions often focus on surveying major perennial rivers, estuaries, and public lakes with suspected pollution problems in order to direct scarce resources to areas that could pose the greatest risk. Many States, Tribes, and other jurisdictions lack the resources to collect use support information for nonperennial streams, small tributaries, and private ponds. This report does not predict the health of these unassessed waters, which include an unknown ratio of pristine waters to polluted waters.

Pollutants and Processes That Degrade Water Quality

Where possible, States, Tribes, and other jurisdictions identify the pollutants or processes that degrade water quality and indicators that document impacts of water quality degradation. The most widespread pollutants and processes identified in rivers, lakes, and estuaries are presented in Table ES-2. Pollutants include sediment, nutrients, and chemical contaminants (such as dioxins and metals). Processes that

degrade waters include habitat modification (such as destruction of streamside vegetation) and hydrologic modification (such as flow reduction). Indicators of water quality degradation include physical, chemical, and biological parameters. Examples of biological parameters include species diversity and abundance. Examples of physical and chemical parameters include pH, turbidity, and temperature. Following are descriptions of the effects of the pollutants and processes most commonly identified in rivers, lakes, estuaries, coastal waters, wetlands, and ground water.

Low Dissolved Oxygen

Dissolved oxygen is a basic requirement for a healthy aquatic ecosystem. Most fish and beneficial aquatic insects "breathe" oxygen dissolved in the water column. Some fish and aquatic organisms (such as carp and sludge worms) are adapted to low oxygen conditions, but most desirable fish species (such as trout and salmon) suffer if dissolved oxygen concentrations fall below 3 to 4 mg/L (3 to 4 milligrams of oxygen dissolved in 1 liter of water, or 3 to 4 parts of oxygen per million parts of water). Larvae and juvenile fish are more sensitive and require even higher concentrations of dissolved oxygen.

Many fish and other aquatic organisms can recover from short periods of low dissolved oxygen availability. However, prolonged episodes of depressed dissolved oxygen concentrations of 2 mg/L or less can result in "dead" waterbodies. Prolonged exposure to low dissolved oxygen conditions can suffocate adult fish or reduce their reproductive survival by suffocating sensitive eggs and larvae or can starve fish by killing aquatic insect larvae and other prey. Low dissolved oxygen concentrations also favor anaerobic bacterial activity that produces noxious gases or foul odors often associated with polluted waterbodies.

Table ES-2: Five Leading Causes of Water Quality Impairment

Rank	Rivers	Lakes	Estuaries
1	Bacteria	Nutrients	Nutrients
2	Siltation	Siltation	Bacteria
3	Nutrients	Oxygen-Depleting Substances	Oxygen-Depleting Substances
4	Oxygen-Depleting Substances	Metals	Habitat Alterations
5	Metals	Suspended Solids	Oil and Grease

Source: Based on 1994 Section 305(b) reports submitted by States, Tribes, Territories, Commissions, and the District of Columbia.

Fish Kills

Fish kill reporting is a voluntary process; States, Tribes, and other jurisdictions are not required to report on how many fish kills occur, or what might have caused them. In many cases it is the public–anglers, and hunters, recreational boaters, or hikers–who first notice fish kills and report them to game wardens or other State officials. Many fish kills go undetected or unreported, and others may be difficult to investigate, especially if they occur in remote areas. This is because dead fish may be carried quickly downstream or may be difficult to count because of turbid conditions. It is therefore likely that the statistics presented by the States, Tribes, and other jurisdictions underestimate the total number of fish kills that occurred nationwide between 1992 and 1994.

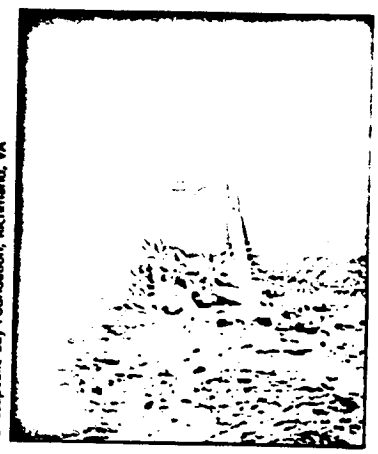
Despite these problems, fish kills are an important consideration in water quality assessments. In 1994, 32 States, Tribes, and other jurisdictions reported a total of 1,454 fish kill incidents. These States attributed 737 of the fish kills to pollution, 257 to unknown causes, 263 to natural conditions (such as low flow and high temperatures), and 229 kills to ambiguous causes. Pollutants most often cited as the cause of kills include oxygen-depleting substances, sewage, pesticides, manure and silage, oil and gas, chlorine, and ammonia. Leading sources of fish kills include agricultural activities, industrial discharges, municipal sewage treatment plant discharges, spills, runoff, and pesticide applications.

Oxygen concentrations in the water column fluctuate under natural conditions, but severe oxygen depletion usually results from human activities that introduce large quantities of biodegradable organic materials into surface waters. Biodegradable organic materials contain plant, fish, or animal matter. Leaves, lawn clippings, sewage, manure, shellfish processing waste, milk solids, and other food processing wastes are examples of oxygen-depleting organic materials that enter our surface waters.

In both pristine and polluted waters, beneficial bacteria use oxygen to break apart (or decompose) organic materials. Pollution-containing organic wastes provide a continuous glut of food for the bacteria, which accelerates bacterial activity and population growth. In polluted waters, bacterial consumption of oxygen can rapidly outpace oxygen replenishment from the atmosphere and photosynthesis performed by algae and aquatic plants. The result is a net decline in oxygen concentrations in the water.

Toxic pollutants can indirectly lower oxygen concentrations by killing algae, aquatic weeds, or fish, which provides an abundance of food for oxygen-consuming bacteria. Oxygen depletion can also result from chemical reactions that do not involve bacteria. Some pollutants trigger chemical reactions that place a chemical oxygen demand on receiving waters.

Other factors (such as temperature and salinity) influence the amount of oxygen dissolved in water. Prolonged hot weather will depress oxygen concentrations and may cause fish kills even in clean



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waters because warm water cannot hold as much oxygen as cold water. Warm conditions further aggravate oxygen depletion by stimulating bacterial activity and respiration in fish, which consumes oxygen. Removal of streamside vegetation eliminates shade, thereby raising water temperatures, and accelerates runoff of organic debris. Under such conditions, minor additions of pollution-containing organic materials can severely deplete oxygen.

Nutrients

Nutrients are essential building blocks for healthy aquatic communities, but excess nutrients (especially nitrogen and phosphorus compounds) overstimulate the growth of aquatic weeds and algae. Excessive growth of these organisms, in turn, can clog navigable waters, interfere with swimming and boating, outcompete native submerged aquatic vegetation (SAV), and lead to oxygen depletion. Oxygen concentrations can fluctuate daily during algal blooms, rising during the day as algae perform photosynthesis, and falling at night as algae continue to respire, which consumes oxygen. Beneficial bacteria also consume oxygen as they decompose the abundant organic food supply in dying algae cells.

Lawn and crop fertilizers, sewage, manure, and detergents contain nitrogen and phosphorus, the nutrients most often responsible for water quality degradation. Rural areas are vulnerable to ground water contamination from nitrates (a compound containing nitrogen) found in fertilizer and manure. Very high concentrations of nitrate (>10 mg/L) in drinking water cause methemoglobinemia, or blue baby syndrome, an inability to fix oxygen in the blood.

Nutrients are difficult to control because lake and estuarine ecosystems recycle nutrients. Rather than leaving the ecosystem, the nutrients cycle among the water column, algae and plant tissues, and the bottom sediments. For example, algae may temporarily remove all the nitrogen from the water column, but the nutrients will return to the water column when the algae die and are decomposed by bacteria. Therefore, gradual inputs of nutrients tend to accumulate over time rather than leave the system.

Sediment and Siltation

In a water quality context, sediment usually refers to soil particles that enter the water column from eroding land. Sediment consists of particles of all sizes, including fine clay particles, silt, sand, and gravel. Water quality managers use the

term "siltation" to describe the suspension and deposition of small sediment particles in waterbodies.

Sediment and siltation can severely alter aquatic communities. Sediment may clog and abrade fish gills, suffocate eggs and aquatic insect larvae on the bottom, and fill in the pore space between bottom cobbles where fish lay eggs. Silt and sediment interfere with recreational activities and aesthetic enjoyment at waterbodies by reducing water clarity and filling in waterbodies. Sediment may also carry other pollutants into waterbodies. Nutrients and toxic chemicals may attach to sediment particles on land and ride the particles into surface waters where the pollutants may settle with the sediment or detach and become soluble in the water column.

Rain washes silt and other soil particles off of plowed fields, construction sites, logging sites, urban areas, and strip-mined lands into waterbodies. Eroding stream banks also deposit silt and sediment in waterbodies. Removal of vegetation on shore can accelerate streambank erosion.

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Bacteria and Pathogens

Some waterborne bacteria, viruses, and protozoa cause human illnesses that range from typhoid and dysentery to minor respiratory and skin diseases. These organisms may enter waters through a number of routes, including inadequately treated sewage, storm water drains, septic systems, runoff from livestock pens, and sewage dumped overboard from recreational boats. Because it is impossible to test waters for every possible disease-causing organism, States and other jurisdictions usually measure indicator bacteria that are found in great numbers in the stomachs and intestines of warm-blooded animals and people. The presence of indicator bacteria suggests that the waterbody may be contaminated with untreated sewage and that other, more dangerous organisms may be present. The States, Tribes, and other jurisdictions use bacterial criteria to determine if waters are safe for recreation and shellfish harvesting.

Toxic Organic Chemicals and Metals

Toxic organic chemicals are synthetic compounds that contain carbon, such as polychlorinated biphenyls (PCBs), dioxins, and the pesticide DDT. These synthesized compounds often persist and accumulate in the environment because they do not readily break down in natural ecosystems. Many of these compounds cause cancer in people and birth defects in other predators near the top of the food chain, such as birds and fish.

Metals occur naturally in the environment, but human activities (such as industrial processes and mining) have altered the distribution of metals in the environment. In most reported cases of metals contamination, high concentrations of metals appear in fish tissues rather than the water column because the metals accumulate in greater concentrations in predators near the top of the food chain.

pH

Acidity, the concentration of hydrogen ions, drives many chemical reactions in living organisms. The standard measure of acidity is

pH, and a pH value of 7 represents a neutral condition. A low pH value (less than 5) indicates acidic conditions; a high pH (greater than 9) indicates alkaline conditions. Many biological processes, such as reproduction, cannot function in acidic or alkaline waters. Acidic conditions also aggravate toxic contamination problems because sediments release toxicants in acidic waters. Common sources of acidity include mine drainage, runoff from mine tailings, and atmospheric deposition.

Habitat Modification/ Hydrologic Modification

Habitat modifications include activities in the landscape, on shore, and in waterbodies that alter the physical structure of aquatic ecosystems and have adverse impacts on aquatic life. Examples of habitat modifications include:

- Removal of streamside vegetation that stabilizes the shoreline and provides shade, which moderates instream temperatures
- Excavation of cobbles from a stream bed that provide nesting habitat for fish
- Stream burial
- Excessive suburban sprawl that alters the natural drainage patterns by increasing the intensity, magnitude, and energy of runoff waters.

Hydrologic modifications alter the flow of water. Examples of hydrologic modifications include channelization, dewatering, damming, and dredging.

Other pollutants include salts and oil and grease. Fresh waters may become unfit for aquatic life and some human uses when they become contaminated by salts. Sources of salinity include irrigation runoff, brine used in oil extraction, road deicing operations, and the intrusion of sea water into ground and surface waters in coastal areas. Crude oil and processed petroleum products may be spilled during extraction, processing, or transport or leaked from underground storage tanks.

Table ES-3. Pollution Source Categories Used In This Report

Category	Examples
Industrial	Pulp and paper mills, chemical manufacturers, steel plants, metal process and product manufacturers, textile manufacturers, food processing plants
Municipal	Publicly owned sewage treatment plants that may receive indirect discharges from industrial facilities or businesses
Combined Sewers	Single facilities that treat both stormwater and sanitary sewage, which may become overloaded during storm events and discharge untreated wastes into surface waters.
Storm Sewers/ Urban Runoff	Runoff from impervious surfaces including streets, parking lots, buildings, lawns, and other paved areas.
Agricultural	Crop production, pastures, rangeland, feedlots, other animal holding areas
Silvicultural	Forest management, tree harvesting, logging road construction
Construction	Land development, road construction
Resource Extraction	Mining, petroleum drilling, runoff from mine tailing sites
Land Disposal	Leachate or discharge from septic tanks, landfills, and hazardous waste sites
Hydrologic Modification	Channelization, dredging, dam construction, streambank modification

Sources of Water Pollution

Sources of impairment generate the pollutants that violate use support criteria (Table ES-3). Point sources discharge pollutants directly into surface waters from a conveyance. Point sources include industrial facilities, municipal sewage treatment plants, and combined sewer overflows. Nonpoint sources deliver pollutants to surface waters from diffuse origins. Nonpoint sources include urban runoff, agricultural runoff, and atmospheric deposition of contaminants in air pollution. Habitat alterations, such as hydromodification, dredging, and streambank destabilization, can also degrade water quality.

Throughout this document, EPA rates the significance of causes and

sources of pollution by the percentage of surveyed waters impaired by each individual cause or source (obtained from the Section 305(b) reports submitted by the States, Tribes, and other jurisdictions). Note that the cause and source rankings do not describe the condition of all waters in the United States because the States identify the causes and sources degrading some of their impaired waters, which are a small subset of surveyed waters, which are a subset of the Nation's total waters. For example, the States identified sources degrading some of the 224,236 impaired river miles, which represent 36% of the surveyed river miles and only 6% of the Nation's total stream miles.

> "The term 'point source' means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture."
>
> Clean Water Act Section 502(14)

Table ES-4 lists the leading sources of impairment related to human activities as reported by States, Tribes, and other jurisdictions for their rivers, lakes, and estuaries. Other sources cited include removal of riparian vegetation, forestry activities, land disposal, petroleum extraction and processing activities, and construction. In addition to human activities, the States, Tribes, and other jurisdictions also reported impairments from natural sources. Natural sources refer to an assortment of water quality problems:

- Natural deposits of salts, gypsum, nutrients, and metals in soils that leach into surface and ground waters
- Warm weather and dry conditions that raise water temperatures, depress dissolved oxygen concentrations, and dry up shallow waterbodies
- Low-flow conditions and tannic acids from decaying leaves that lower pH and dissolved oxygen concentrations in swamps draining into streams.

With so many potential sources of pollution, it is difficult and expensive for States, Tribes, and other jurisdictions to identify specific sources responsible for water quality impairments. Many States and other jurisdictions lack funding for monitoring to identify all but the most apparent sources degrading waterbodies. Local management priorities may focus monitoring budgets on other water quality issues, such as identification of contaminated fish populations that pose a human health risk. Management priorities may also direct monitoring efforts to larger waterbodies and overlook sources impairing smaller waterbodies. As a result, the States, Tribes, and other jurisdictions do not associate every impacted waterbody with a source of impairment in their 305(b) reports, and the summary cause and source information presented in this report applies exclusively to a subset of the Nation's impaired waters.

Table ES-4: Five Leading Sources of Water Quality Impairment

Rank	Rivers	Lakes	Estuaries
1	Agriculture	Agriculture	Urban Runoff/ Storm Sewers
2	Municipal Sewage Treatment Plants	Municipal Sewage Treatment Plants	Municipal Sewage Treatment Plants
3	Hydrologic/Habitat Modification	Urban Runoff/ Storm Sewers	Agriculture
4	Urban Runoff/ Storm Sewers	Unspecified Nonpoint Sources	Industrial Point Sources
5	Resource Extraction	Hydrologic/Habitat Modification	Petroleum Activities

Source: Based on 1994 Section 305(b) reports submitted by States, Tribes, Territories, Commissions, and the District of Columbia.

Rivers and Streams

Rivers and streams are characterized by flow. Perennial rivers and streams flow continuously, all year round. Nonperennial rivers and streams stop flowing for some period of time, usually due to dry conditions or upstream withdrawals. Many rivers and streams originate in nonperennial headwaters that flow only during snowmelt or heavy showers. Nonperennial streams provide critical habitats for nonfish species, such as amphibians and dragonflies, as well as safe havens for juvenile fish to escape from predation by larger fish.

The health of rivers and streams is directly linked to habitat integrity in shore and in adjacent wetlands. Stream quality will deteriorate if activities damage shoreline (i.e., riparian) vegetation and wetlands, which filter pollutants from runoff and bind soils. Removal of vegetation also eliminates shade that moderates stream temperature as well as the land temperature that can warm runoff entering surface waters. Stream temperature, in turn, affects the availability of dissolved oxygen in the water column for fish and other aquatic organisms.

Overall Water Quality

For the 1994 Report, 58 States, Territories, Tribes, Commissions, and the District of Columbia surveyed 615,806 miles (17%) of the Nation's total 3.5 million miles of rivers and streams (Figure ES-2). The surveyed rivers and streams represent 48% of the 1.3 million miles of perennial rivers and streams that flow year round in the lower 48 States.

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Altogether, the States and Tribes surveyed 27,075 fewer river miles in 1994 than in 1992. Individually, most States reported that they surveyed more river miles in 1994, but their increases were offset by a decline of 85,000 surveyed river miles reported by Montana, Mississippi, and Maryland. For 1994, these States reported use support status for only those river miles that they surveyed in direct monitoring programs or evaluations rather than using inferences for unsurveyed waters.

The following discussion applies exclusively to surveyed waters and cannot be extrapolated to describe conditions in the Nation's rivers as a whole because the States, Tribes, and other jurisdictions do not consistently use statistical or probabilistic survey methods to characterize all their waters at this time. EPA is working with the States, Tribes, and other jurisdictions to expand survey coverage of the Nation's waters and expects future survey information to cover a greater portion of the Nation's rivers and streams.

Figure ES-2. River Miles Surveyed

Total rivers = 3.5 million miles
Total surveyed = 615,806 miles

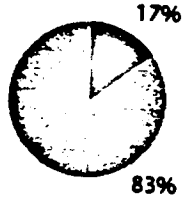
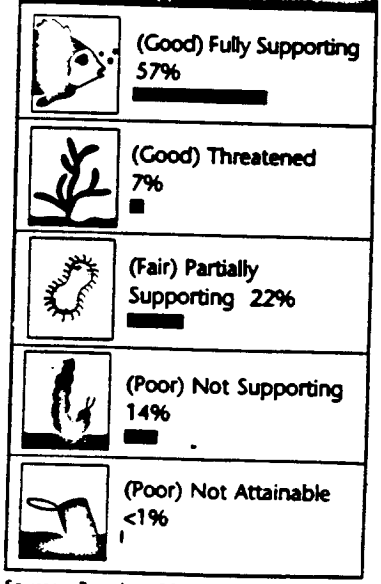


Figure ES-3. Levels of Overall Use Support & Rivers



Source: Based on 1994 Section 305(b) reports submitted by States, Tribes, Territories, Commissions, and the District of Columbia.

Of the Nation's 615,806 surveyed river miles, the States, Tribes, and other jurisdictions found that 64% have good water quality. Of these waters, 57% fully support their designated uses, and an additional 7% support uses but are threatened and may become impaired if pollution control actions are not taken (Figure ES-3).

Some form of pollution or habitat degradation prevents the remaining 36% (224,236 miles) of the surveyed river miles from fully supporting a healthy aquatic community or human activities all year round. Twenty-two percent of the surveyed river miles have fair water quality that partially supports designated uses. Most of the time, these waters provide adequate habitat for aquatic organisms and support human activities, but periodic pollution interferes with these activities and/or stresses aquatic life. Fourteen percent of the surveyed river miles have poor water quality that consistently stresses aquatic life and/or prevents people from using the river for activities such as swimming and fishing.

What Is Polluting Our Rivers and Streams?

The States and Tribes report that bacteria pollute 76,397 river miles (which equals 34% of the impaired river miles) (Figure ES-4). Bacteria provide evidence of possible fecal contamination that may cause illness if the public ingests the water.

Siltation, composed of tiny soil particles, remains one of the most widespread pollutants impacting rivers and streams. The States and Tribes reported that siltation impairs 75,792 river miles (which equals 34% of the impaired river miles).

Bacteria and siltation are the most widespread pollutants in rivers and streams, affecting 34% of the impaired river miles.

Siltation alters aquatic habitat and suffocates fish eggs and bottom-dwelling organisms. Excessive siltation can also interfere with drinking water treatment processes and recreational use of a river.

In addition to siltation and bacteria, the States and Tribes also reported that nutrients, oxygen-depleting substances, metals, and habitat alterations impact more miles of rivers and streams than other pollutants and processes. Often, several pollutants and processes impact a single river segment. For example, a process, such as removal of shoreline vegetation, may accelerate erosion of sediment and nutrients into a stream.

Where Does This Pollution Come From?

The States and Tribes reported that agriculture is the most widespread source of pollution in the Nation's surveyed rivers (Figure ES-4). Agriculture generates pollutants that degrade aquatic life or interfere with public use of 134,557 river miles (which equals 60% of the impaired river miles) in 49 States and Tribes.

Twenty-one States reported the size of rivers impacted by specific types of agricultural activities:

- Nonirrigated Crop Production – crop production that relies on rain as the sole source of water.
- Irrigated Crop Production – crop production that uses irrigation systems to supplement rainwater.
- Rangeland – land grazed by animals that is seldom enhanced by the application of fertilizers or pesticides, although managers sometimes modify plant species to a limited extent.
- Pastureland – land upon which a crop (such as alfalfa) is raised to feed animals, either by grazing the animals among the crops or harvesting the crops.
- Feedlots – facilities where animals are fattened and confined at high densities.
- Animal Holding Areas – facilities where animals are confined briefly before slaughter.

The States reported that nonirrigated crop production impaired the most river miles, followed by irrigated crop production, rangeland, feedlots, pastureland, and animal holding areas.

Many States reported declines in pollution from sewage treatment

Agriculture is the leading source of impairment in the Nation's rivers, affecting 60% of the impaired river miles.

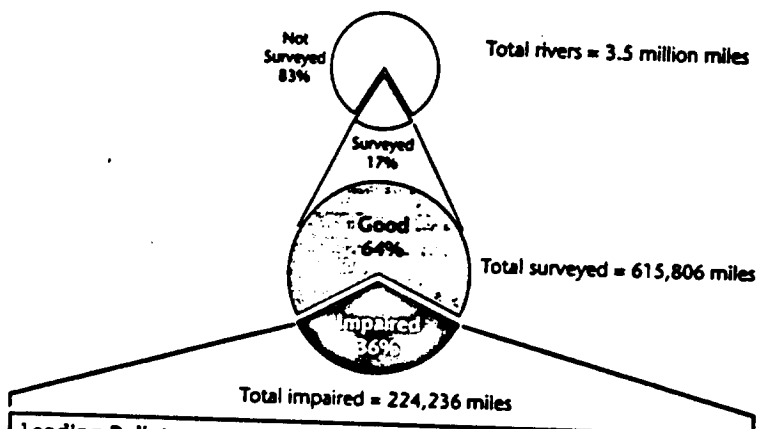
plants and industrial discharges as a result of sewage treatment plant construction and upgrades and permit controls on industrial discharges. Despite the improvements, municipal sewage treatment plants remain the second most common source of pollution in rivers (impairing 37,443 miles) because population growth increases the burden on our municipal facilities.

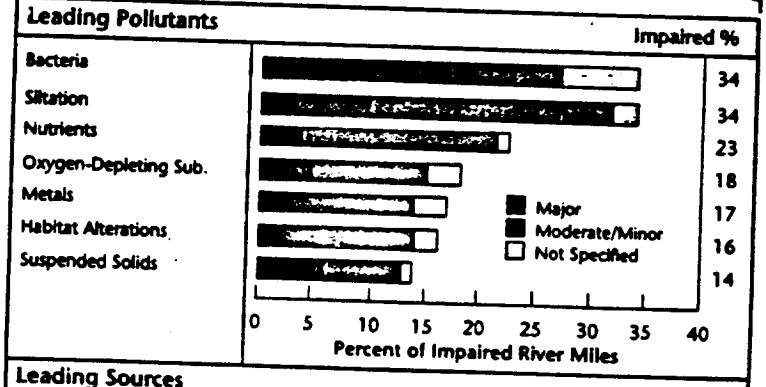
Hydrologic modifications and habitat alterations are a growing concern to the States. Hydrologic modifications include activities that alter the flow of water in a stream, such as channelization, dewatering, and damming of streams. Habitat alterations include removal of streamside vegetation that protects the stream from high temperatures, and scouring of stream bottoms. Additional gains in water quality conditions will be more subtle and require innovative management strategies that go beyond point source controls.

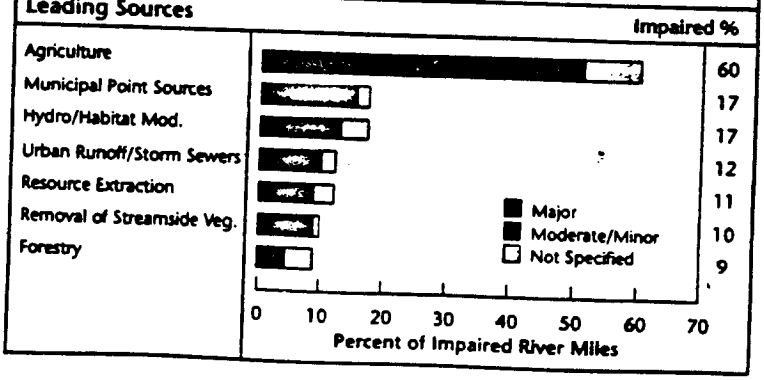
The States, Tribes, and other jurisdictions also reported that urban runoff and storm sewers impair 26,862 river miles (12% of the impaired rivers), resource extraction impairs 24,059 river miles (11% of the impaired rivers), and removal of streamside vegetation impairs 21,706 river miles (10% of the impaired rivers).

The States, Tribes, and other jurisdictions also report that "natural" sources impair significant stretches of rivers and streams. "Natural" sources, such as low flow [illegible] soils with arsenic deposits, can prevent waters from supporting uses in the absence of human activities.

Figure ES-4. Impaired River Miles: Pollutants and Sources







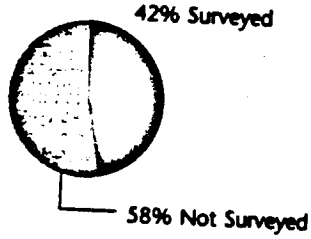
Lakes, Ponds, and Reservoirs

Lakes are sensitive to pollution inputs because lakes flush out their contents relatively slowly. Even under natural conditions, lakes undergo eutrophication, an aging process that slowly fills in the lake with sediment and organic matter (see following sidebar). The eutrophication process alters basic lake characteristics such as depth, biological productivity, oxygen levels, and water clarity. The eutrophication process is commonly defined by a series of trophic states as described in the sidebar.

John Thelgard, Dynum, NC

Figure ES-5. Lake Acres Surveyed

Total lakes = 40.8 million acres
Total surveyed = 17.1 million acres



Overall Water Quality

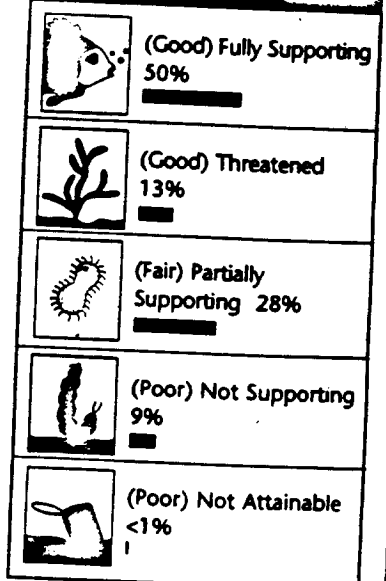
Forty-eight States, Tribes, and other jurisdictions surveyed overall use support in more than 17.1 million lake acres representing 42% of the approximately 40.8 million total acres of lakes, ponds, and reservoirs in the Nation (Figure ES-5). For 1994, the States surveyed about 1 million fewer lake acres than in 1992.

The number of surveyed lake acres declined because several States separated fish tissue data from their survey of overall use support. Some of these States, such as Minnesota, have established massive databases of fish tissue contamination information (which is used to establish fish consumption advisories), but lack other types of water quality data for many of their lakes. In 1994, these States chose not to assess overall use support entirely with fish tissue data alone, which is a very narrow indicator of water quality.

The States and Tribes reported that 63% of their surveyed 17.1 million lake acres have good water quality. Waters with good quality include 50% of the surveyed lake acres fully supporting uses and 13% of the surveyed lake acres that are threatened and might deteriorate if we fail to manage potential sources of pollution (Figure ES-6).

Some form of pollution or habitat degradation impairs the remaining 37% of the surveyed lake acres. Twenty-eight percent of the surveyed lake acres have fair water quality that partially supports designated uses. Most of the time, these waters provide adequate habitat for aquatic organisms and support human activities, but periodic pollution interferes with these activities and/or stresses aquatic life. Nine percent of the surveyed lake acres suffer from poor water quality that consistently stresses aquatic life and/or prevents people from using the lake for activities such as swimming and fishing.

Figure ES-6. Levels of Overall Use Support in Lakes



Source: Based on 1994 Section 305(b) reports submitted by States, Tribes, Territories, Commissions, and the District of Columbia.

What Is Polluting Our Lakes, Ponds, and Reservoirs?

Forty-one States, the District of Columbia, and Puerto Rico reported the number of lake acres impacted by individual pollutants and processes.

Thirty-seven States and Puerto Rico identified more lake acres polluted by nutrients than any other pollutant or process (Figure ES-7). The States and Puerto Rico reported that extra nutrients pollute 2.8 million lake acres (which equals 43% of the impaired lake acres). Healthy lake ecosystems contain nutrients in small quantities, but extra inputs of nutrients from human activities unbalance lake ecosystems.

In addition to nutrients, the States, Puerto Rico, and the District of Columbia report that siltation pollutes 1.8 million lake acres (which equals 28% of the impaired lake acres), enrichment by organic wastes that deplete oxygen impacts 1.6 million lake acres (which equals 24% of the impaired lake acres), and metals pollute 1.4 million acres (which equals 21% of the impaired lake acres).

Metals declined from the most widespread pollutant impairing lakes in the 1992 305(b) reporting cycle

Trophic States

Oligotrophic	Clear waters with little organic matter or sediment and minimum biological activity.
Mesotrophic	Waters with more nutrients and, therefore, more biological productivity.
Eutrophic	Waters extremely rich in nutrients, with high biological productivity. Some species may be choked out.
Hypereutrophic	Murky, highly productive waters, closest to the wetlands status. Many clearwater species cannot survive.
Dystrophic	Low in nutrients, highly colored with dissolved humic organic matter. (Not necessarily a part of the natural trophic progression.)

The Eutrophication Process

Eutrophication is a natural process, but human activities can accelerate eutrophication by increasing the rate at which nutrients and organic substances enter lakes from their surrounding watersheds. Agricultural runoff, urban runoff, leaking septic systems, sewage discharges, eroded streambanks, and similar sources can enhance the flow of nutrients and organic substances into lakes. These substances can overstimulate the growth of algae and aquatic plants, creating conditions that interfere with the recreational use of lakes and the health and diversity of native fish, plant, and animal populations. Enhanced eutrophication from nutrient enrichment due to human activities is one of the leading problems facing our Nation's lakes and reservoirs.

Acid Effects on Lakes

Increases in lake acidity can radically alter the community of fish and plant species in lakes and can increase the solubility of toxic substances and magnify their adverse effects. Twenty-eight States reported the results of lake acidification assessments. These States assessed pH (a measure of acidity) at more than 5,933 lakes and detected acidic conditions in 526 lakes and a threat of acidic conditions in 423 lakes. Most of the States that assessed acidic conditions are located in the Northeast, upper Midwest, and the South.

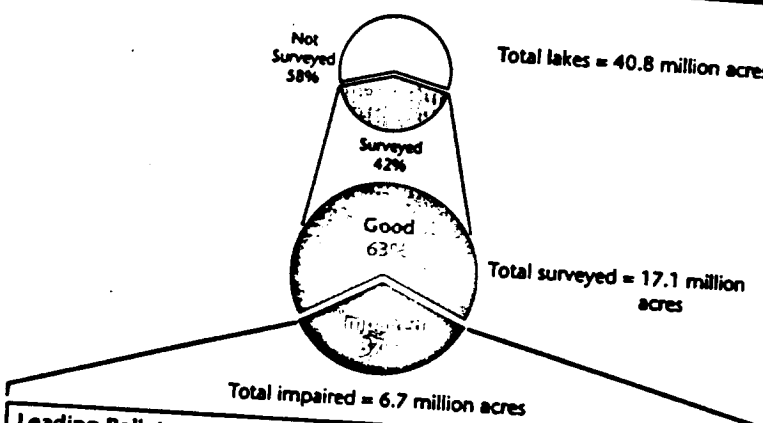
Only 11 States identified sources of acidic conditions. Maine and New Hampshire attributed most of their acid lake conditions to acid deposition from acidic rain, fog, or dry deposition in conjunction with natural conditions that limit a lake's capacity to neutralize acids. Alabama, Kansas, Maryland, Montana, Oklahoma, and Tennessee reported that acid mine drainage resulted in acidic lake conditions or threatened lakes with the potential to generate acidic conditions.

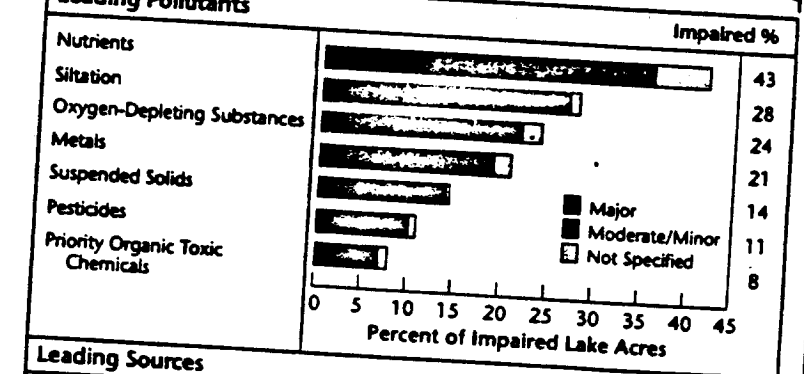
to the fourth leading pollutant impairing lakes in 1994. The decline is due to changes in State reporting and assessment methods rather than a measured decrease in metals contamination. In 1994, several States chose to no longer assess overall use support with fish contamination data alone. Much of that data consisted of measurements of metals in fish tissue. As a result of excluding this fish tissue data, the national estimate of lake acres impaired by metals fell by over 2 million acres in 1994.

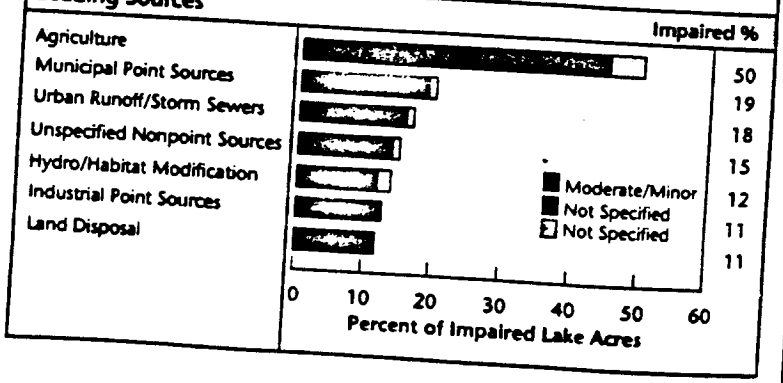
More States reported impairments due to nutrients than any other single pollutant.

Forty-one States also surveyed trophic status, which is associated with nutrient enrichment, in 9,735 of their lakes. Nutrient enrichment tends to increase the proportion of lakes in the eutrophic and hypereutrophic categories. These States reported that 18% of the lakes they surveyed for trophic status were oligotrophic, 32% were mesotrophic, 36% were eutrophic, 6% were hypereutrophic, and 3% were dystrophic. This information may not be representative of national lake conditions because States often assess lakes in response to a problem or public complaint or because of their easy accessibility. It is likely that more remote lakes—which are probably less impaired—are underrepresented in these assessments.

Figure ES-7. Impaired Lake Acres: 4 Pollutants and Sources





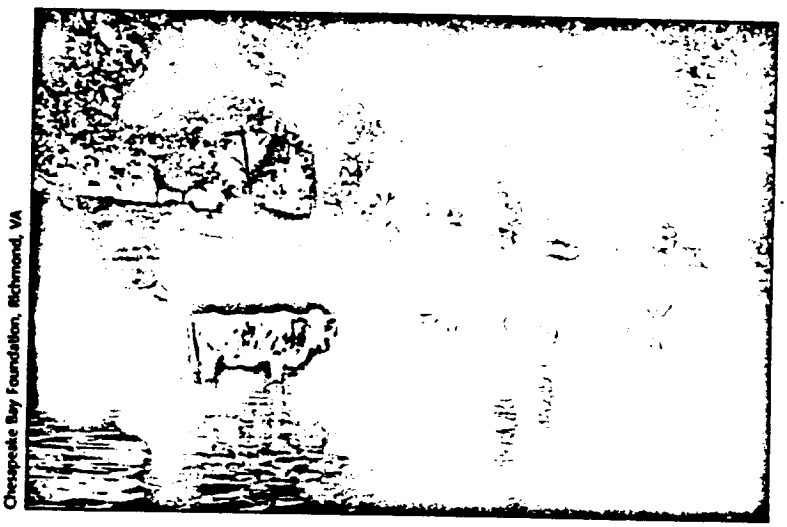


Where Does This Pollution Come From?

Forty-two States and Puerto Rico reported sources of pollution in some of their impacted lakes, ponds, and reservoirs. These States and Puerto Rico reported that agriculture is the most widespread source of pollution in the Nation's surveyed lakes (Figure ES-7). Agriculture generates pollutants that degrade aquatic life or interfere with public use of 3.3 million lake acres (which equals 50% of the impaired lake acres).

Agriculture is the leading source of impairment in lakes, affecting 50% of impaired lake acres.

The States and Puerto Rico also reported that municipal sewage treatment plants pollute 1.3 million lake acres (19% of the impaired lake acres), urban runoff and storm sewers pollute 1.2 million lake acres (18% of the surveyed lake acres), unspecified nonpoint sources impair 989,000 lake acres (15% of the impaired lake acres), hydrologic modifications and habitat alterations degrade 832,000 lake acres (12% of the impaired lake acres), and industrial point sources pollute 759,000 lake acres (11% of the impaired lake acres). Many States prohibit new point source discharges into lakes, but existing municipal sewage treatment plants remain a leading source of pollution entering lakes.



Chesapeake Bay Foundation, Richmond, VA

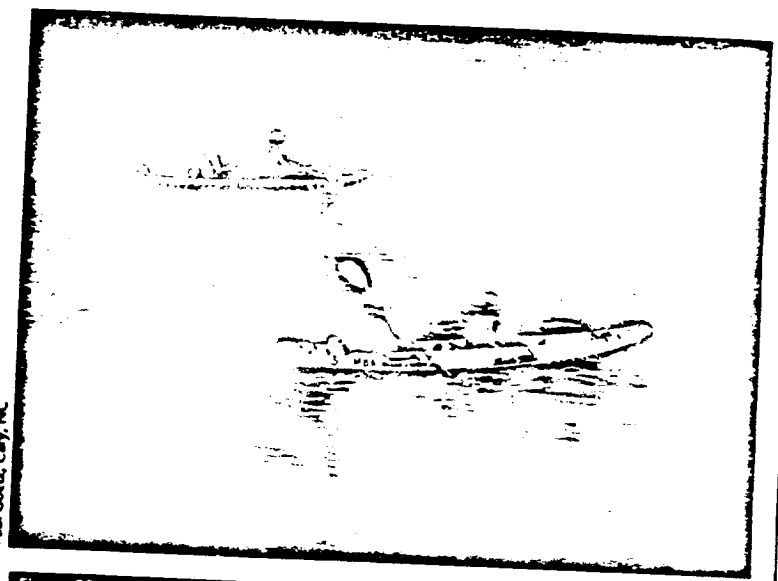
The States and Puerto Rico listed numerous sources that impact several hundred thousand lake acres, including land disposal of wastes, construction, flow regulation, highway maintenance and runoff, contaminated sediments, atmospheric deposition of pollutants, and onsite wastewater systems (including septic tanks).

The Great Lakes

The Great Lakes contain one-fifth of the world's fresh surface water and are stressed by a wide range of pollution sources, including air pollution. Many of the pollutants that reach the Great Lakes remain in the system indefinitely because the Great Lakes are a relatively closed water system with few natural outlets. Despite dramatic declines in the occurrence of algal blooms, fish kills, and localized "dead" zones depleted of oxygen, less visible problems continue to degrade the Great Lakes.

Overall Water Quality

The States surveyed 94% of the Great Lakes shoreline miles for 1994 and reported that fish consumption advisories and aquatic life concerns are the dominant water quality problems, overall, in the Great Lakes (Figure ES-8). The States reported that most of the Great Lakes nearshore waters are safe for swimming and other recreational activities and can be used as a source of drinking water with normal treatment. However, only 2% of the surveyed nearshore waters fully support designated uses, overall, and 1% support uses but are threatened (Figure ES-9). About 97% of the surveyed waters do not fully support designated uses, overall, because fish consumption advisories are posted throughout the nearshore waters of the Great Lakes and water quality conditions are unfavorable for supporting aquatic life in many cases. Aquatic life impacts result from persistent toxic pollutant burdens in birds, habitat degradation and destruction, and competition



Paul Goetz, Cary, NC

Figure ES-8: Great Lakes Shoreline Miles Surveyed

Total Great Lakes = 5,559 miles
Total surveyed = 5,224 miles

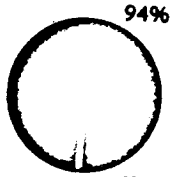


Figure ES-9: Levels of Overall Use Support, Great Lakes


(Good) Fully Supporting 2%


(Good) Threatened 1%


(Fair) Partially Supporting 34%


(Poor) Not Supporting 63%


(Poor) Not Attainable 0%

Source: Based on 1994 State Section 305(b) reports.

and predation by nonnative species such as the zebra mussel and the sea lamprey.

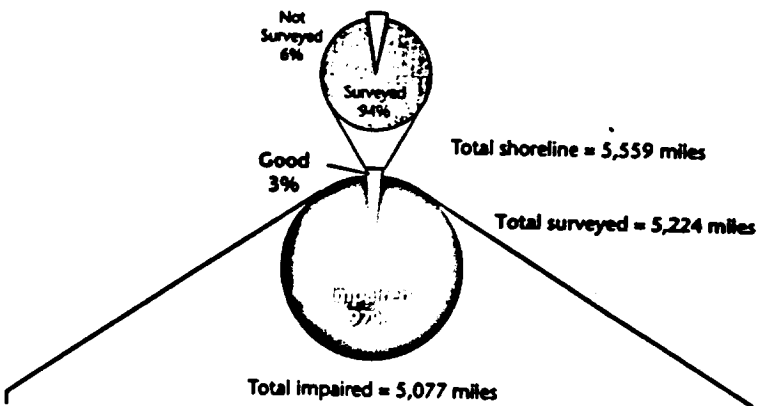
Considerable progress has been made in controlling conventional pollutants, but the Great Lakes are still subject to the effects of toxic pollutants.

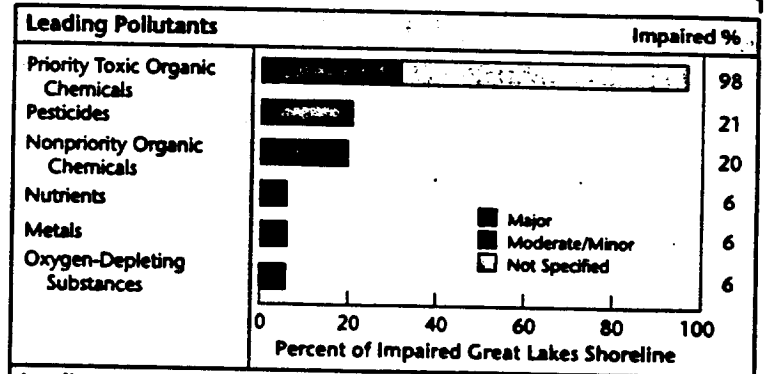
These figures do not address water quality conditions in the deeper, cleaner, central waters of the Lakes.

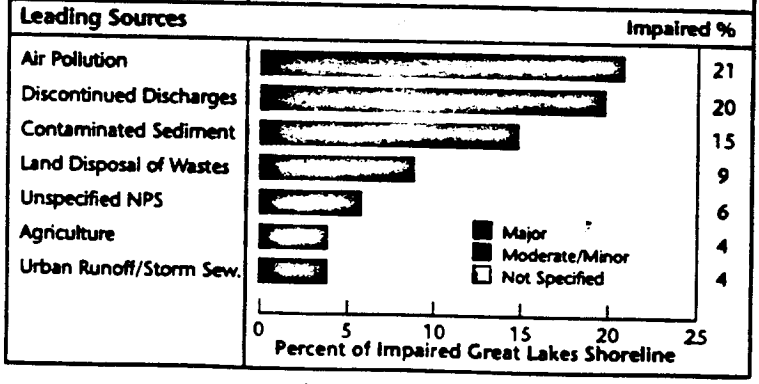
What Is Polluting the Great Lakes?

The States reported that most of the Great Lakes shoreline is polluted by toxic organic chemicals–primarily PCBs–that are often found in fish tissue samples. The Great Lakes States reported that toxic organic chemicals impact 98% of the impaired Great Lakes shoreline miles. Other leading causes of impairment include pesticides, affecting 21%; nonpriority organic chemicals, affecting 20%; nutrients, affecting 6%; and metals, affecting 6% (Figure ES-10).

Figure ES-10. Impaired Great Lakes Shoreline: Pollutants and Sources







Where Does This Pollution Come From?

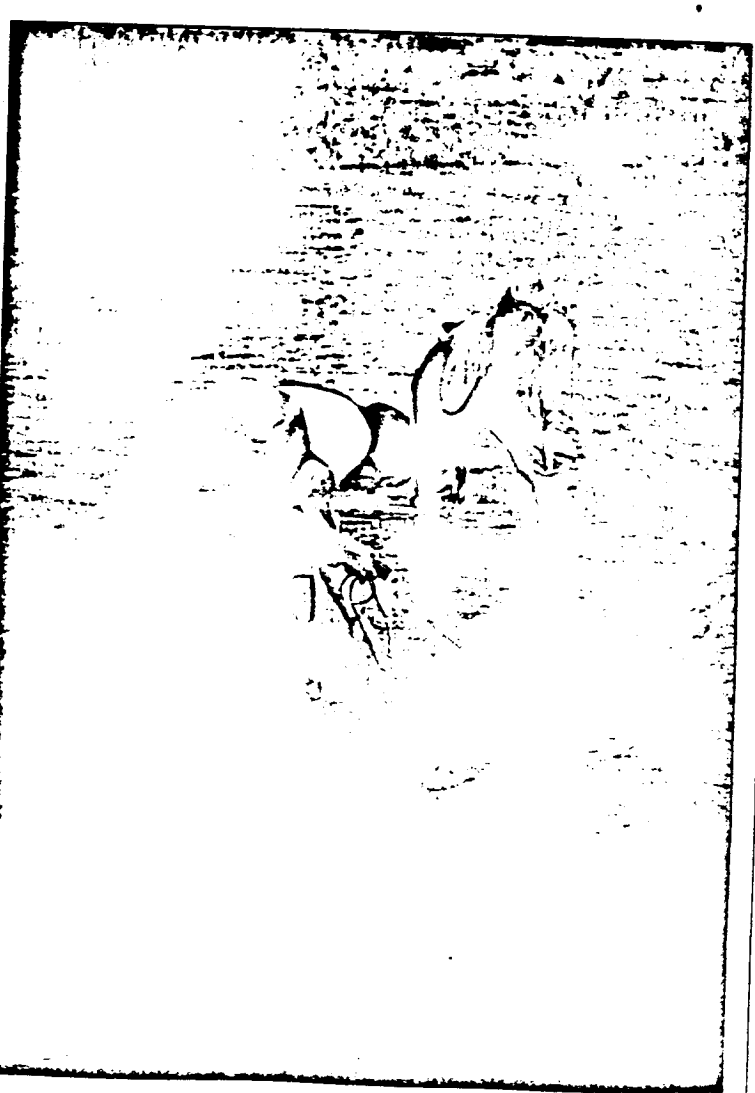
Only four of the eight Great Lakes States measured the size of their Great Lakes shoreline polluted by specific sources. These States have jurisdiction over one-third of the Great Lakes shoreline, so their findings do not necessarily reflect conditions throughout the Great Lakes Basin.

- Wisconsin identifies air pollution and discontinued discharges as a source of pollutants contaminating all 1,017 of their surveyed shoreline miles. Wisconsin also identified smaller areas impacted by contaminated sediments, nonpoint sources, industrial and municipal discharges, agriculture, urban runoff and storm sewers, combined sewer overflows, and land disposal of waste.

- Indiana attributes all of the pollution along its entire 43-mile shoreline to air pollution, urban runoff and storm sewers, industrial and municipal discharges, and agriculture.

- Ohio reports that nonpoint sources pollute 86 miles of its 236 miles of shoreline, in-place contaminants impact 33 miles, and land disposal of waste impacts 24 miles of shoreline.

- New York identifies many sources of pollutants in their Great Lakes waters, but the State attributes the most miles of degradation to contaminated sediments (439 miles) and land disposal of waste (374 miles).



Phil Johnson, U.S. EPA, Region 5

Estuaries

Estuaries are areas partially surrounded by land where rivers meet the sea. They are characterized by varying degrees of salinity, complex water movements affected by ocean tides and river currents, and high turbidity levels. They are also highly productive ecosystems with a range of habitats for many different species of plants, shellfish, fish, and animals.

Many species permanently inhabit the estuarine ecosystem; others, such as shrimp, use the nutrient-rich estuarine waters as nurseries before traveling to the sea.

Estuaries are stressed by the particularly wide range of activities located within their watersheds. They receive pollutants carried by rivers from agricultural lands and cities; they often support marinas, harbors, and commercial fishing fleets; and their surrounding lands are highly prized for development. These stresses pose a continuing threat to the survival of these bountiful waters.

Overall Water Quality

Twenty-five coastal States and jurisdictions surveyed 78% of the Nation's total estuarine waters in 1994 (Figure ES-11). The States and other jurisdictions reported that 63% of the surveyed estuarine waters have good water quality that fully supports designated uses (Figure ES-12). Of these waters, 6% are threatened and might deteriorate if we fail to manage potential sources of pollution.

Brian Murphy, Walnut Creek, CA

Some form of pollution or habitat degradation impairs the remaining 37% of the surveyed estuarine waters. Twenty-seven percent of the surveyed estuarine waters have fair water quality that partially supports designated uses. Most of the time these waters provide adequate habitat for aquatic organisms and support human activities, but periodic pollution interferes with these activities and/or stresses aquatic life. Nine percent of the surveyed estuarine waters suffer from poor water quality that consistently stresses aquatic life and/or prevents people from using the estuarine waters for activities such as swimming and shellfishing.

Figure ES-11: Estuary Square Miles Surveyed

Total estuaries = 34,388 square miles
Total surveyed = 26,847 square miles

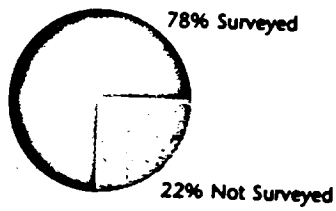
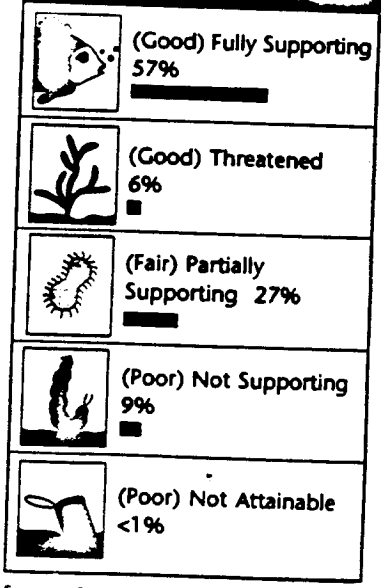


Figure ES-12: Levels of Overall Use Support: Estuaries



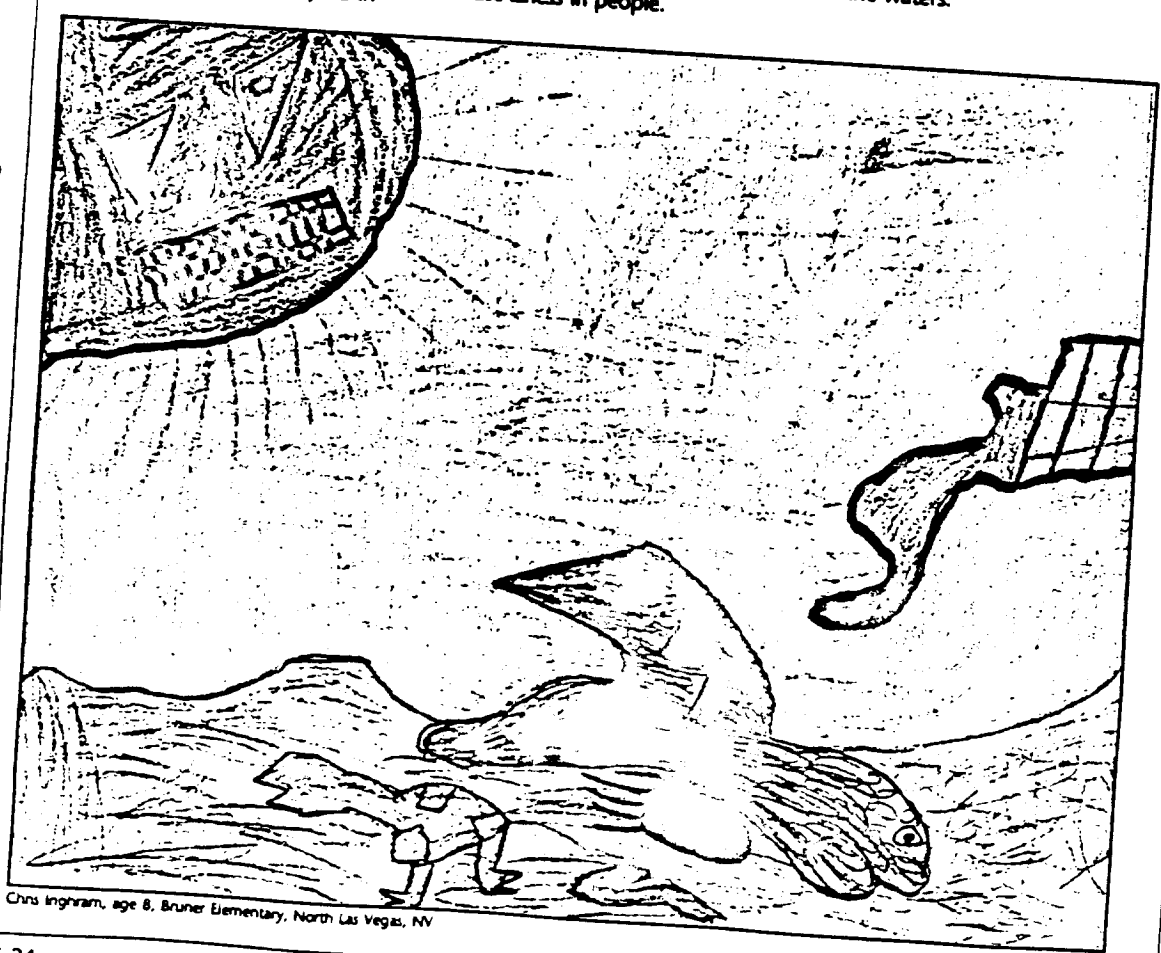
Source: Based on 1994 Section 305(b) reports submitted by States, Tribes, Territories, Commissions, and the District of Columbia.

What Is Polluting Our Estuaries?

The States identified more square miles of estuarine waters polluted by nutrients and bacteria than any other pollutant or process (Figure ES-13). Fifteen States reported that extra nutrients pollute 4,548 square miles of estuarine waters (which equals 47% of the impaired estuarine waters). As in lakes, extra inputs of nutrients from human activities destabilize estuarine ecosystems.

Twenty-five States reported that bacteria pollute 4,479 square miles of estuarine waters (which equals 46% of the impaired estuarine waters). Bacteria provide evidence that an estuary is contaminated with sewage that may contain numerous viruses and bacteria that cause illness in people.

The States also report that oxygen depletion from organic wastes impacts 3,127 square miles (which equals 32% of the impaired estuarine waters), habitat alterations impact 1,564 square miles (which equals 16% of the impaired estuarine waters), and oil and grease pollute 1,344 square miles (which equals 14% of the impaired estuarine waters.

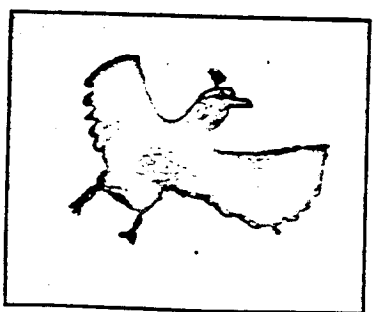


Chris Ingraram, age 8, Bruner Elementary, North Las Vegas, NV

Where Does This Pollution Come From?

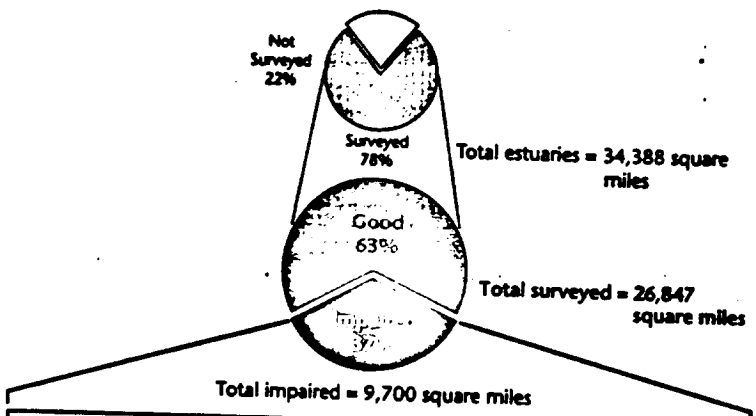
Twenty-three States reported that urban runoff and storm sewers are the most widespread source of pollution in the Nation's surveyed estuarine waters. Pollutants in urban runoff and storm sewer effluent degrade aquatic life or interfere with public use of 4,508 square miles of estuarine waters (which equals 46% of the impaired estuarine waters) (Figure ES-13).

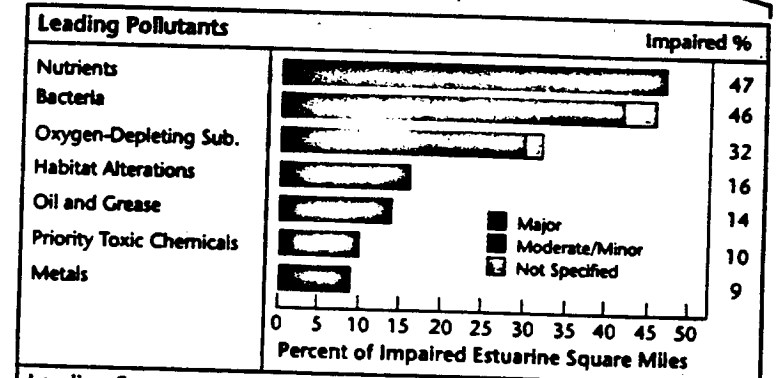
The States also reported that municipal sewage treatment plants pollute 3,827 square miles of estuarine waters (39% of the impaired estuarine waters), agriculture pollutes 3,321 square miles of estuarine waters (34% of the impaired estuarine waters), and industrial discharges pollute 2,609 square miles (27% of the impaired estuarine waters). Urban sources contribute more to the degradation of estuarine waters than agriculture because urban centers are located adjacent to most major estuaries.

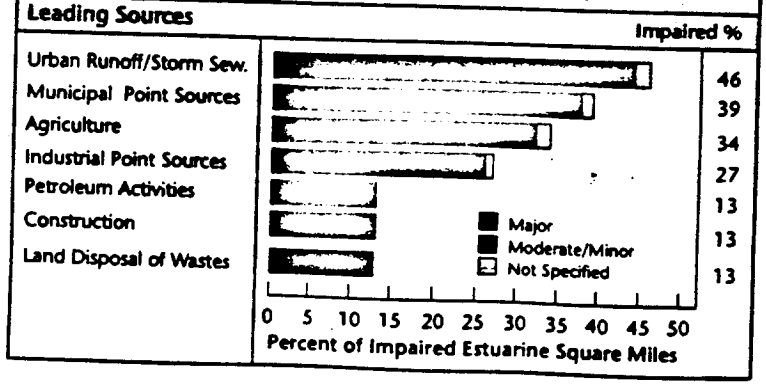


Krista Rose, age 8, Bruner Elementary, North Las Vegas, NV

Figure ES-13. Impaired Estuaries: Pollutants and Sources







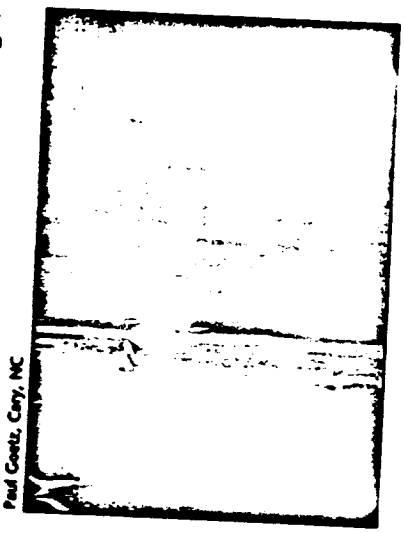
Ocean Shoreline Waters

Although the oceans are expansive, they are vulnerable to pollution from numerous sources, including city storm sewers, ocean outfalls from sewage treatment plants, overboard disposal of debris and sewage, oil spills, and bilge discharges that contain oil and grease. Nearshore ocean waters, in particular, suffer from the same pollution problems that degrade our inland waters.

Overall Water Quality

Thirteen of the 27 coastal States and Territories surveyed only 9% of the Nation's estimated 58,421 miles of ocean coastline (Figure ES-14). Most of the surveyed waters (4,834 miles, or 93%) have good quality that supports a healthy aquatic community and public activities (Figure ES-15). Of these waters, 225 miles (4% of the surveyed shoreline) are threatened and may deteriorate in the future.

Some form of pollution or habitat degradation impairs the remaining 7% of the surveyed shoreline (374 miles). Five percent of the surveyed estuarine waters have fair water quality that partially supports designated uses. Most of the time, these waters provide adequate habitat for aquatic organisms and support human activities, but periodic pollution interferes with these activities and/or stresses aquatic life. Only 2% of the surveyed shoreline suffers from poor water quality that consistently stresses aquatic life and/or prevents people from using the shoreline for activities such as swimming and shellfishing.



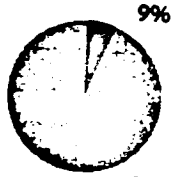
Paul Gantz, Cary, NC

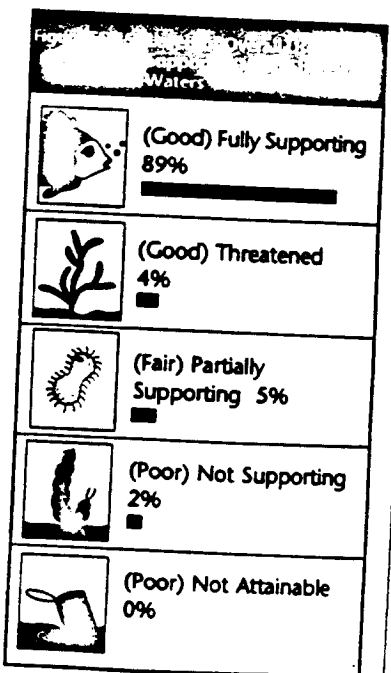
Only six of the 27 coastal States identified pollutants and sources of pollutants degrading ocean shoreline waters. General conclusions cannot be drawn from the information supplied by these States because these States border less than 1% of the shoreline along the contiguous States. The six States identified impacts in their ocean shoreline waters from bacteria, metals, nutrients, turbidity, siltation, and pesticides. The six States reported that urban runoff and storm sewers, industrial discharges, land disposal of wastes, septic systems, agriculture, unspecified nonpoint sources, and combined sewer overflows (CSOs) pollute their coastal shoreline waters.

Figure ES-14: Ocean Shoreline Waters Surveyed

Total ocean shore = 58,421 miles including Alaska's shoreline

Total surveyed = 5,208 miles





Source: Based on 1994 Section 305(b) reports submitted by States and Territories.

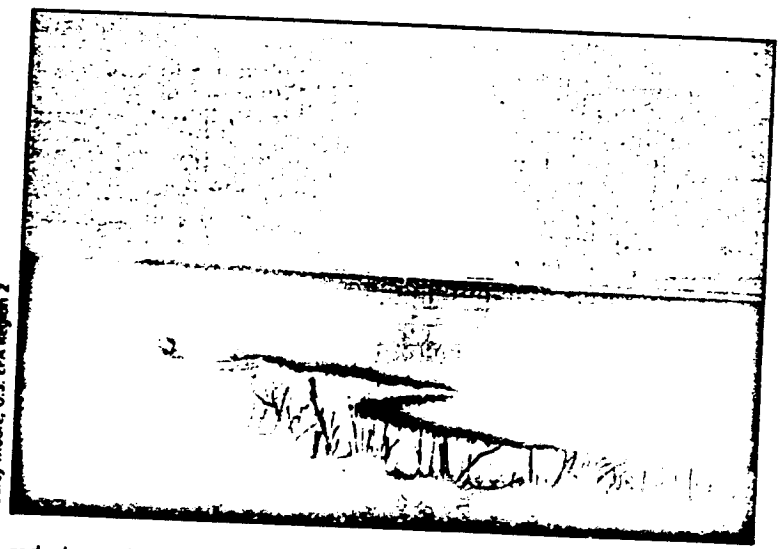
Wetlands

Wetlands are areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support (and that under normal circumstances do support) a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands, which are found throughout the United States, generally include swamps, marshes, bogs, and similar areas.

Wetlands are now recognized as some of the most unique and important natural areas on earth. They vary in type according to differences in local and regional hydrology, vegetation, water chemistry, soils, topography, and climate. Coastal wetlands include estuarine marshes; mangrove swamps found in Puerto Rico, Hawaii, Louisiana, and Florida; and Great Lakes coastal wetlands. Inland wetlands, which may be adjacent to a waterbody or isolated, include marshes and wet meadows, bottomland hardwood forests, Great Plains prairie potholes, cypress-gum swamps, and southwestern playa lakes.

In their natural condition, wetlands provide many benefits, including food and habitat for fish and wildlife, water quality improvement, flood protection, shoreline erosion control, ground water exchange, as well as natural products for human use and opportunities for recreation, education, and research.

Wetlands help maintain and improve water quality by intercepting surface water runoff before it reaches open water, removing or retaining nutrients, processing chemical and organic wastes, and reducing sediment loads to receiving waters. As water moves through a wetland, plants slow the water, allowing sediment and pollutants to settle out. Plant roots trap sediment and are then able to metabolize and detoxify pollutants and remove nutrients such as nitrogen and phosphorus.



Audrey Moore, U.S. EPA Region 2

Wetlands function like natural basins, storing either floodwater that overflows riverbanks or surface water that collects in isolated depressions. By doing so, wetlands help protect adjacent and downstream property from flood damage. Trees and other wetlands vegetation help slow the speed of flood waters. This action, combined with water storage, can lower flood heights and reduce the water's erosive potential. In agricultural areas, wetlands can help reduce the likelihood of flood damage to crops. Wetlands within and upstream of urban areas are especially valuable for flood protection because urban development increases the rate and volume of surface water runoff, thereby increasing the risk of flood damage.

Wetlands produce a wealth of natural products, including fish and shellfish, timber, wildlife, and wild rice. Much of the Nation's fishing and shellfishing industry harvests wetlands-dependent species. A national survey conducted by the Fish and Wildlife Service (FWS) in 1991 illustrates the economic value of some of the wetlands-dependent products. Over 9 billion pounds of fish and shellfish landed in the United States in 1991 had a direct, dockside value of $3.3 billion. This served as the basis of a seafood processing and sales industry that generated total expenditures of $26.8 billion. In addition, 35.6 million anglers spent $24 billion on freshwater and saltwater fishing. It is estimated that 71% of commercially

valuable fish and shellfish depend directly or indirectly on coastal wetlands.

Overall Water Quality

The States, Tribes, and other jurisdictions are making progress in developing specific designated uses and water quality standards for wetlands, but many States and Tribes still lack specific water quality criteria and monitoring programs for wetlands. Without criteria and monitoring data, most States and Tribes cannot evaluate use support. To date, only 9 States and Tribes reported the designated use support status for some of their wetlands. Only one State used quantitative data as a basis for the use support decisions.

EPA cannot derive national conclusions about water quality conditions in all wetlands because the States used different methodologies to survey only 3% of the total wetlands in the Nation. Summarizing State wetlands data would also produce misleading results because two States (North Carolina and Louisiana) contain 91% of the surveyed wetlands acreage.

What Is Polluting Our Wetlands and Where Does This Pollution Come From?

The States have even fewer data to quantify the extent of pollutants degrading wetlands and the sources of these pollutants. Although most States cannot quantify wetlands area impacted by individual causes and sources of degradation, 12 States identified causes and 13 States identified sources known to degrade wetlands integrity to some extent. These States listed sediment as the most widespread cause of degradation impacting wetlands, followed by flow alterations, habitat modifications, and draining (Figure ES-16). Agriculture topped the list of sources degrading wetlands, followed by urban runoff, hydrologic modification, and municipal point sources (Figure ES-17).

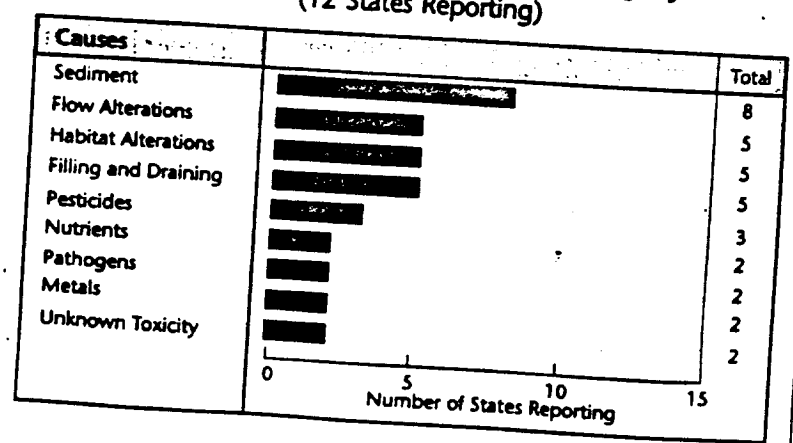
Wetlands Loss: A Continuing Problem

It is estimated that over 200 million acres of wetlands existed in the lower 48 States at the time of European settlement. Since then, extensive wetlands acreage has been lost, with many of the original wetlands drained and converted to farmland and urban development. Today, less than half of our original wetlands remain. The losses amount to an area equal to the size of California. According to the U.S. Fish and Wildlife Service's *Wetlands Losses in the United States 1780's to 1980's*, the three States that have sustained the greatest percentage of wetlands loss are California (91%), Ohio (90%), and Iowa (89%).

According to FWS status and trends reports, the average annual loss of wetlands has decreased over the past 40 years. The average annual loss from the mid-1950s to the mid-1970s was 458,000 acres, and from the mid-1970s to the mid-1980s it was 290,000 acres. Agriculture was responsible for 87% of the loss from the mid-1950s to the mid-1970s and 54% of the loss from the mid-1970s to the mid-1980s.

Figure ES-16

Causes Degrading Wetlands Integrity
(12 States Reporting)



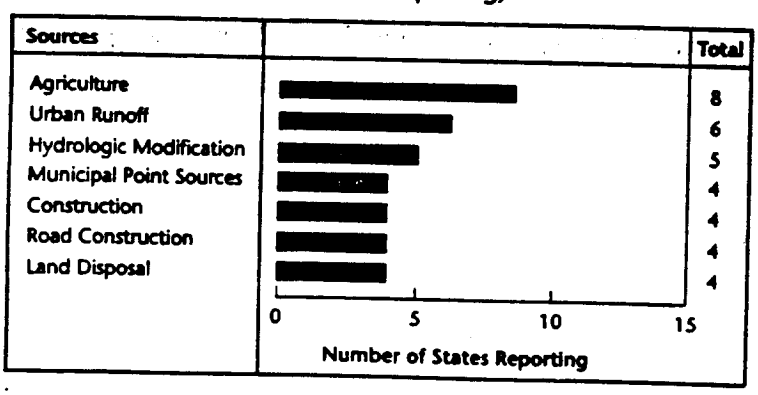
A more recent estimate of wetlands losses from the National Resources Inventory (NRI), conducted by the Natural Resources Conservation Service (NRCS), indicates that 792,000 acres of wetlands were lost on non-Federal lands between 1982 and 1992 for a yearly loss estimate of 70,000 to 90,000 acres. This net loss is the result of gross losses of 1,561,300 acres of wetlands and gross gains of 768,700 acres of wetlands over the 10-year period. The NRI estimates are consistent with the trend of declining wetlands losses reported by FWS. Although losses have decreased, we still have to make progress toward our interim goal of no overall net loss of the Nation's remaining wetlands and the long-term goal of increasing the quantity and quality of the Nation's wetlands resource base.

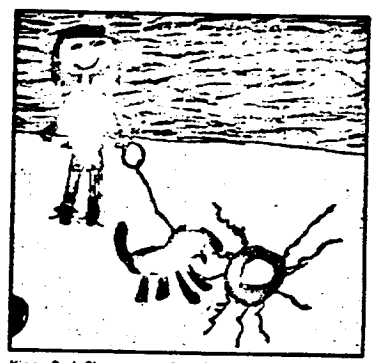
The decline in wetlands losses is a result of the combined effect of several trends: (1) the decline in profitability in converting wetlands for agricultural production; (2) passage of Swampbuster provisions in the 1985 and 1990 Farm Bills that denied crop subsidy benefits to farm operators who converted wetlands to cropland after 1985; (3) presence of the CWA Section 404 permit programs as well as development of State management programs; (4) greater public interest and support for wetlands protection; and (5) implementation of wetlands restoration programs at the Federal, State, and local level.

Nineteen States listed sources of recent wetlands losses in their 1994 305(b) reports. Residential development and urban growth were cited as the leading sources of current losses. Other losses were due to commercial development; construction of roads, highways, and bridges; agriculture; and industrial development. In addition to human activities, a few States also reported that natural sources, such as rising lake levels, resulted in wetlands losses and degradation.

Figure ES-17

Sources Degrading Wetlands Integrity
(13 States Reporting)





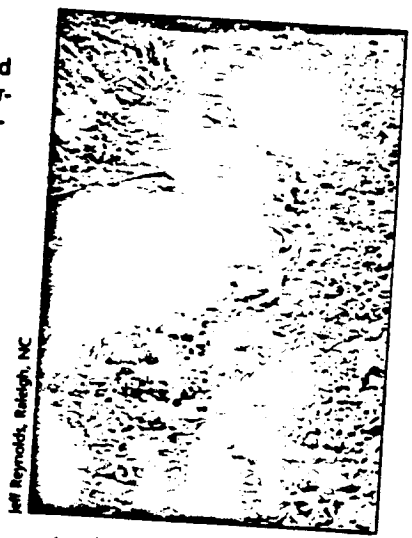
Kings Park Elementary, 3rd Grade, Springfield, VA

More information on wetlands can be obtained from the EPA Wetlands Hotline at 1-800-832-7828.

Ground Water

Ninety-five percent of all fresh water available on earth (exclusive of icecaps) is ground water. Ground water–water found in natural underground rock formations called aquifers–is a vital natural resource with many uses. The extent of the Nation's ground water resources is enormous. At least 60% of the land area in the conterminous United States overlies aquifers. Usable ground water exists in every State.

Aquifers can range in size from thin surficial formations that yield small quantities of ground water to large systems such as the High Plains aquifer that underlies eight western States and provides water to millions. Although the Nation's ground water is of good quality, it is recognized that ground water is more vulnerable to contamination than previously reported and that an increasing number of pollution events and contamination sources are threatening the integrity of the resource.



Jeff Reynolds, Raleigh, NC

Ground Water Use

Nationally, 51% of the population relies to some extent on ground water as a source of drinking water. This percentage is even higher in rural areas where most residents rely on potable or treatable ground water as an economical source of drinking water. Eighty-one percent of community water systems are dependent on ground water. Seventy-four percent of community water systems are small ground water systems serving 3,300 people or less. Ninety-five percent of the approximately 200,000 noncommunity water systems (serving schools, parks, and other small facilities) are ground water systems.

Ground water provides drinking water for 51% of the population.

Irrigation accounts for approximately 63% of national ground water withdrawals. Public drinking water supplies account for approximately 19% of the Nation's total ground water withdrawals. Domestic, commercial, livestock, industrial, mining, and thermoelectric withdrawals together account for approximately 18% of national ground water withdrawals.

Ground Water Quality

Although the 1994 Section 305(b) State Water Quality Reports indicate that, overall, the Nation's ground water is of good quality, many local areas have experienced significant ground water contamination. The sources and types of ground water contamination vary depending upon the region of the country. Those most frequently reported by States include:

- **Leaking underground storage tanks.** Approximately 1.2 million federally regulated underground storage tanks are buried at over 500,000 sites nationwide. An estimated 139,000 tanks have leaked and impacted ground water quality.
- **Agricultural activities.** Seventy-seven percent of the 1.1 billion pounds of pesticides produced annually in the United States is applied to land in agricultural production, which often overlies aquifers.
- **Superfund sites.** More than 85% of all Superfund sites have some degree of ground water contamination. Most of these sites impact aquifers that are currently used, or potentially may be used, for drinking water purposes.
- **Septic tanks.** Approximately 23 million domestic septic tanks are in operation in the United States. These tanks impact ground water quality through the discharge of fluids into or above aquifers.

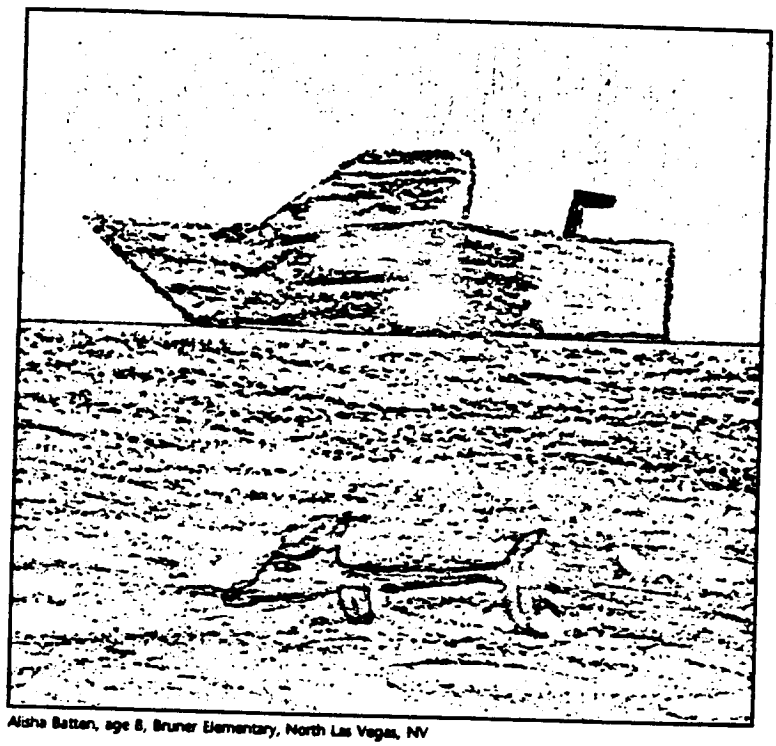
The most common contaminants associated with these sources include petroleum compounds, nitrates, metals, volatile organic compounds (VOCs), and pesticides.

States are reporting that ground water quality is most likely to be adversely affected by contamination

in areas of high demand or stress. To combat these problems, States are developing programs designed to evaluate the overall quality and vulnerability of their ground water resources, to identify potential threats to ground water quality, and to identify methods to protect their ground water resources. Thirty-three States indicate that they have implemented statewide ground water monitoring programs.

Ground water monitoring programs vary widely among the States, depending upon the special needs of each of the States. For example, some States choose to monitor ground water quality in specific areas that are especially vulnerable to contamination, whereas other States may choose to monitor ground water quality on a state-wide basis. When it comes to selecting chemicals to test for in the ground water, some States monitor for a large suite of chemicals, whereas other States limit monitoring to one or two specific chemicals that are a definite threat to ground water quality.

Ground water monitoring provides a great deal of information about the nature and quality of our Nation's ground water resources. Still, there is much we do not know about how human activities influence ground water quality. Our continued quest for information about the status of our ground water will help protect and preserve this vast and vulnerable resource. Through a greater understanding of how human activities influence ground water quality, we can better ensure the long-term availability of high-quality water for future generations.



Alisha Batten, age 8, Bruner Elementary, North Las Vegas, NV

Kings Park Elementary, 3rd Grade, Springfield, VA

Water Quality Protection Programs

Although significant strides have been made in reducing the impacts of discrete pollutant sources, our aquatic resources remain at risk from a combination of point sources and complex nonpoint sources, including air pollution. Since 1991, EPA has promoted the watershed protection approach as a holistic framework for addressing complex pollution problems.

The watershed protection approach is a place-based strategy that integrates water quality management activities within hydrologically defined drainage basins–watersheds–rather than areas defined by political boundaries. Thus, for a given watershed, the approach encompasses not only the water resource (such as a stream, lake, estuary, or ground water aquifer), but all the land from which water drains to the resource. To protect water resources, it is increasingly important to address the condition of land areas within the watershed because water carries the effects of human activities throughout the watershed as it drains off the land into surface waters or leaches into the ground water.

Mike Steuart, Minnesota Pollution Control Agency

Under the Watershed Protection Approach (WPA), a "watershed" is a hydrogeologic area defined for addressing water quality problems. For example, a WPA watershed may be a river basin, a county-sized watershed, or a small drinking water supply watershed.

EPA's Office of Water envisions the watershed protection approach as the primary mechanism for achieving clean water and healthy, sustainable ecosystems throughout the Nation. The watershed protection approach enables stakeholders to take a comprehensive look at ecosystem issues and tailor corrective actions to local concerns within the coordinated framework of a national water program. The emphasis on public participation also provides an opportunity to incorporate environmental justice issues into watershed restoration and protection solutions.

In May of 1994, the EPA Assistant Administrator for Water, Robert Perciasepe, created the Watershed Management Policy Committee to coordinate the EPA water program's support of the watershed protection approach. During 1995, EPA's water program managers, under the direction of the Watershed Management Policy Committee, evaluated their programs and identified additional activities needed to support the watershed protection approach in an action plan.

EPA's Office of Water will continue to promote and support the watershed protection approach at local, State, Tribal, Territorial, and Federal levels. The Office of Water recognizes that the watershed protection approach relies on active participation by local governments and citizens who have the most direct knowledge of local problems and opportunities in their watersheds. However, the Office of Water will look to the States, Tribes, and Territories to create the framework

for supporting local efforts because most EPA programs are implemented by the States, Tribes, and Territories.

The Clean Water Act

A number of laws provide the authority to develop and implement pollution control programs. The primary statute providing for water quality protection in the Nation's rivers, lakes, wetlands, estuaries, and coastal waters is the Federal Water Pollution Control Act of 1972, commonly known as the Clean Water Act.

The CWA and its amendments are the driving force behind many the water quality improvements we have witnessed in recent years. Key provisions of the CWA provide the following pollution control programs.

Water quality standards and criteria – States, Tribes, and other jurisdictions adopt EPA-approved standards for their waters that define water quality goals for individual waterbodies. Standards consist of designated beneficial uses to be made of the water, criteria to protect those uses, and antidegradation provisions to protect existing water quality.

Effluent guidelines – The EPA develops nationally consistent guidelines limiting pollutants in discharges from industrial facilities and municipal sewage treatment plants. These guidelines are then used in permits issued to dischargers under the

The Watershed Protection Approach (WPA)

Several key principles guide the watershed protection approach:

- **Place-based focus** – Resource management activities are directed within specific geographical areas, usually defined by watershed boundaries, areas overlying or recharging ground water, or a combination of both.
- **Stakeholder involvement and partnerships** – Watershed initiatives involve the people most likely to be affected by management decisions in the decision making process. Stakeholder participation ensures that the objectives of the watershed initiative will include economic stability and that the people who depend on the water resources in the watershed will participate in planning and implementation activities. Watershed initiatives also establish partnerships between Federal, State, and local agencies and nongovernmental organizations with interests in the watershed.
- **Environmental objectives** – The stakeholders and partners identify environmental objectives (such as "populations of striped bass will stabilize or increase") rather than programmatic objectives (such as "the State will eliminate the backlog of discharge permit renewals") to measure the success of the watershed initiative. The environmental objectives are based on the condition of the ecological resource and the needs of people in the watershed.
- **Problem identification and prioritization** – The stakeholders and partners use sound scientific data and methods to identify and prioritize the primary threats to human and ecosystem health within the watershed. Consistent with the Agency's mission, EPA views ecosystems as the interactions of complex communities that include people; thus, healthy ecosystems provide for the health and welfare of humans as well as other living things.
- **Integrated actions** – The stakeholders and partners take corrective actions in a comprehensive and integrated manner, evaluate success, and refine actions if necessary. The watershed protection approach coordinates activities conducted by numerous government agencies and nongovernmental organizations to maximize efficient use of limited resources.

National Pollutant Discharge Elimination System (NPDES) program. Additional controls may be required if receiving waters are still affected by water quality problems after permit limits are met.

Total Maximum Daily Loads – The development of Total Maximum Daily Loads, or TMDLs, establishes the link between water quality standards and point/nonpoint source pollution control actions such as permits or Best Management Practices (BMPs). A TMDL calculates allowable loadings from the contributing point and nonpoint sources to a given waterbody and provides the quantitative basis for pollution reduction necessary to meet water quality standards. States, Tribes, and other jurisdictions develop and implement TMDLs for high-priority impaired or threatened waterbodies.

Permits and enforcement – All industrial and municipal facilities that discharge wastewater must have an NPDES permit and are responsible for monitoring and reporting levels of pollutants in their discharges. EPA issues these permits or can delegate that permitting authority to qualifying States or other jurisdictions. The States, other qualified jurisdictions, and EPA inspect facilities to determine if their discharges comply with permit limits. If dischargers are not in compliance, enforcement action is taken.

Grants – The EPA provides States with financial assistance to help support many of their pollution control programs. These programs include the State Revolving Fund program for construction and upgrading of municipal sewage treatment plants; water quality monitoring, permitting, and enforcement; and developing and implementing nonpoint source pollution controls, combined sewer and stormwater controls, ground water strategies, lake assessment, protection, and restoration activities, estuary and near coastal management programs, and wetlands protection activities.

Nonpoint source control – The EPA provides program guidance, technical support, and funding to help the States, Tribes, and other jurisdictions control nonpoint source pollution. The States, Tribes, and other jurisdictions are responsible for analyzing the extent and severity of their nonpoint source pollution problems and developing and implementing needed water quality management actions.

The CWA also established pollution control and prevention programs for specific waterbody categories, such as the Clean Lakes Program. Other statutes that also guide the development of water quality protection programs include:

- **The Safe Drinking Water Act**, under which States establish standards for drinking water quality, monitor wells and local water supply systems, implement drinking water protection programs, and implement Underground Injection Control (UIC) programs.

- **The Resource Conservation and Recovery Act**, which establishes State and EPA programs for ground water and surface water protection and cleanup and emphasizes prevention of releases through management standards in addition to other waste management activities.

- **The Comprehensive Environmental Response, Compensation, and Liability Act (Superfund Program)**, which provides EPA with the authority to clean up contaminated waters during remediation at contaminated sites.

- **The Pollution Prevention Act** of 1990, which requires EPA to promote pollutant source reduction rather than focus on controlling pollutants after they enter the environment.

Protecting Lakes

Managing lake quality often requires a combination of in-lake restoration measures and pollution controls, including watershed management measures:

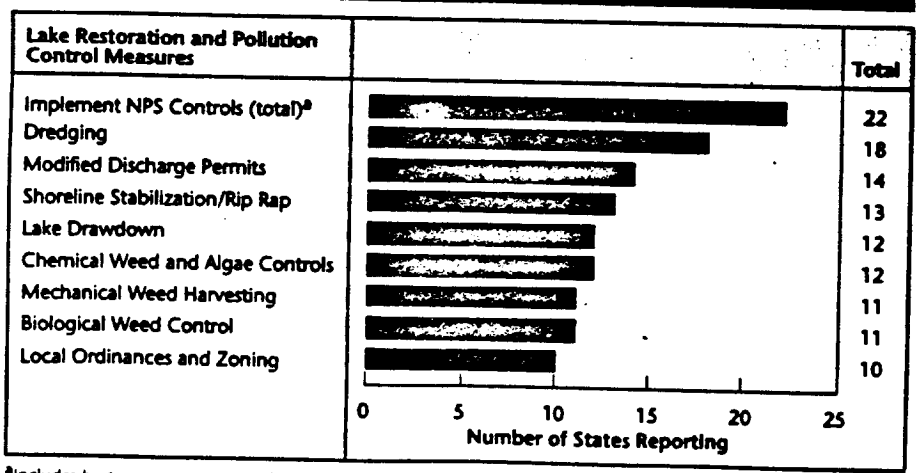
Restoration measures are implemented to reduce existing pollution problems. Examples of in-lake restoration measures include harvesting aquatic weeds, dredging sediment, and adding chemicals to precipitate nutrients out of the water column. Restoration measures focus on restoring uses of a lake and may not address the source of the pollution.

Pollution control measures deal with the sources of pollutants degrading lake water quality or threatening to impair lake water quality. Control measures include planning activities, regulatory actions, and implementation of BMPs to reduce nonpoint sources of pollutants.

During the 1980s, most States implemented chemical and mechanical in-lake restoration measures to control aquatic weeds and algae. In their 1994 Section 305(b) reports, the States and Tribes report a shift toward nonpoint source controls to reduce pollutant loads responsible for aquatic weed growth and algal blooms (Figure ES-18). Twenty-two States reported that they implemented best management practices to control nonpoint source pollution entering more than 171 lakes. The States reported that they implemented agricultural practices to control soil erosion, constructed retention and detention basins to control urban runoff, managed animal waste, revegetated shorelines, and constructed or restored wetlands to remove pollutants from runoff. Although the States reported that they still use in-lake treatments, the States recognize that source controls are needed in addition to in-lake treatments to restore lake water quality.

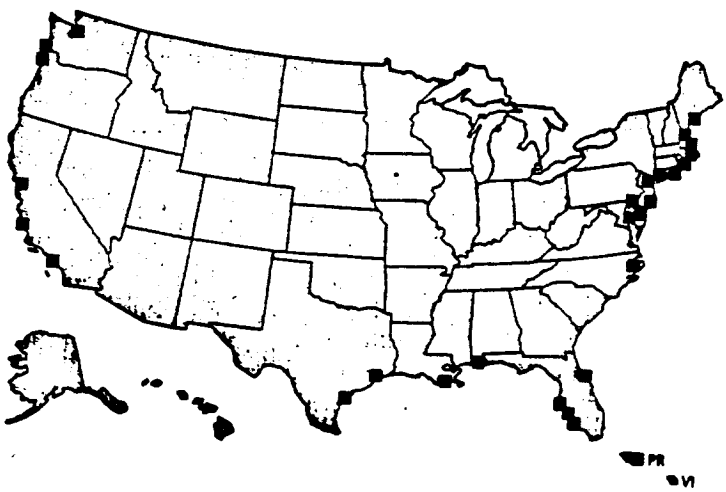
Successful lake programs require strong commitment from local citizens and cooperation from natural resource agencies at the local, State, and Federal levels.

Figure ES-18



[a]Includes best management practices, such as conservation tillage, sediment detention basins, vegetated buffers, and animal waste management.

Figure ES-19.. Locations of National Estuary Program Sites



The National Estuary Program

Section 320 of the Clean Water Act (as amended by the Water Quality Act of 1987) established the National Estuary Program (NEP) to protect and restore water quality and living resources in estuaries. The NEP adopts a geographic or watershed approach by planning and implementing pollution abatement activities for the estuary and its surrounding land area as a whole.

The NEP embodies the ecosystem approach by building coalitions, addressing multiple sources of contamination, pursuing habitat protection as a pollution control mechanism, and investigating cross-media transfer of pollutants from air and soil into specific estuarine waters. Under the NEP, a State governor nominates an estuary in his or her State for participation in the program. The State must demonstrate a likelihood of success in protecting candidate estuaries and provide evidence of institutional, financial, and political commitment to solving estuarine problems.

If an estuary meets the NEP guidelines, the EPA Administrator convenes a management conference of representatives from interested Federal, Regional, State, and local governments; affected industries; scientific and academic institutions; and citizen organizations. The management conference defines program goals and objectives, identifies problems, and designs strategies to control pollution and manage natural resources in the estuarine basin. Each management conference develops and initiates implementation of a Comprehensive Conservation and Management Plan (CCMP) to restore and protect the estuary.

The NEP currently supports 28 estuary projects.

The NEP integrates science and policy by bringing water quality managers, elected officials, and stakeholders together with scientists from government agencies, academic institutions, and the private sector. Because the NEP is not a research program, it relies heavily on past and ongoing research of other agencies and institutions to support development of CCMPs.

With the addition of seven estuary sites in July of 1995, the NEP currently supports 28 estuary projects (see Figure ES-19). These 28 estuaries are nationally significant in their economic value as well as in their ability to support living resources. The project sites also represent a broad range of environmental conditions in estuaries throughout the United States and its Territories so that the lessons learned through the NEP can be applied to other estuaries.

Shortly after coming into office, the Clinton Administration convened an interagency working group to address concerns with Federal wetlands policy. After hearing from States, developers, farmers, environmental interests, members of Congress, and scientists, the working group developed a comprehensive 40-point plan for wetlands protection to make wetlands programs more fair, flexible, and effective. This plan was issued on August 24, 1993.

The Administration's Wetlands Plan emphasizes improving Federal wetlands policy by

- Streamlining wetlands permitting programs
- Increasing cooperation with private landowners to protect and restore wetlands
- Basing wetlands protection on good science and sound judgment
- Increasing participation by States, Tribes, local governments, and the public in wetlands protection.

Protecting Wetlands

A variety of public and private programs protect wetlands. Section 404 of the CWA continues to provide the primary Federal vehicle for regulating certain activities in wetlands. Section 404 establishes a permit program for discharges of dredged or fill material into waters of the United States, including wetlands.

The U.S. Army Corps of Engineers (COE) and EPA jointly implement the Section 404 program. The COE is responsible for reviewing permit applications and making permit decisions. EPA establishes the environmental criteria for making permit decisions and has the authority to review and veto Section 404 permits proposed for issuance by the COE. EPA is also responsible for determining geographic jurisdiction of the Section 404 permit program, interpreting statutory exemptions, and overseeing Section 404 permit programs assumed by individual States. To date, only two States (Michigan and New Jersey) have assumed the Section 404 permit program from the COE. The COE and EPA share responsibility for enforcing Section 404 requirements.

The COE issues individual Section 404 permits for specific projects or general permits (Table ES-5). Applications for individual permits go through a review process that includes opportunities for EPA, other Federal agencies (such as the U.S. Fish and Wildlife Service and the National Marine Fisheries Service), State agencies, and the public to comment. However, the vast majority of activities proposed in wetlands are covered by Section 404 general permits. For example, in FY94, over 48,000 people applied to the COE for a Section 404 permit. Eighty-two percent of these applications were covered by general permits and were processed in an average of 16 days. It is estimated that another 50,000 activities are covered by general permits that do not require notification of the COE at all.

General permits allow the COE to permit certain activities without performing a separate individual

Table ES-5 Federal Section 404 Permits

General Permits (streamlined permit review procedures)				Individual Permits
Nationwide Permits	Regional Permits	Programmatic Permits		
		State Programmatic Permits	Others	
• Cover 36 types of activities that the COE determines to have minimal adverse impacts on the environment	• Developed by COE District Offices to cover activities in a specified region	• COE defers permit decisions to State agency while reserving authority to require an individual permit	• Special Management Agencies • Watershed Planning Commissions	• Required for major projects that have the potential to cause significant adverse impacts • Project must undergo interagency review • Opportunity for public comment • Opportunity for 401 certification review

permit review. Some general permits require notification of the COE before an activity begins. There are three types of general permits:

- Nationwide permits (NWPs) authorize specific activities across the entire Nation that the COE determines will have only minimal individual and cumulative impacts on the environment, including construction of minor road crossings and farm buildings, bank stabilization activities, and the filling of up to 10 acres of isolated or headwater wetlands.

- Regional permits authorize types of activities within a geographic area defined by a COE District Office.

- Programmatic general permits are issued to an entity that the COE determines may regulate activities within its jurisdictional wetlands. Under a programmatic general permit, the COE defers its permit decision to the regulating entity but reserves its authority to require an individual permit.

Currently, the COE and EPA are promoting the development of State programmatic general permits (SPGPs) to increase State involvement in wetlands protection and minimize duplicative State and Federal review of activities proposed in wetlands. Each SPGP is a unique arrangement developed by a State and the COE to take advantage of the strengths of the individual State wetlands program. Several States have adopted comprehensive SPGPs that replace many or all COE-issued nationwide general permits. SPGPs simplify the regulatory process and increase State control over their wetlands resources. Carefully developed SPGPs can improve wetlands protection while reducing regulatory demands on landowners.

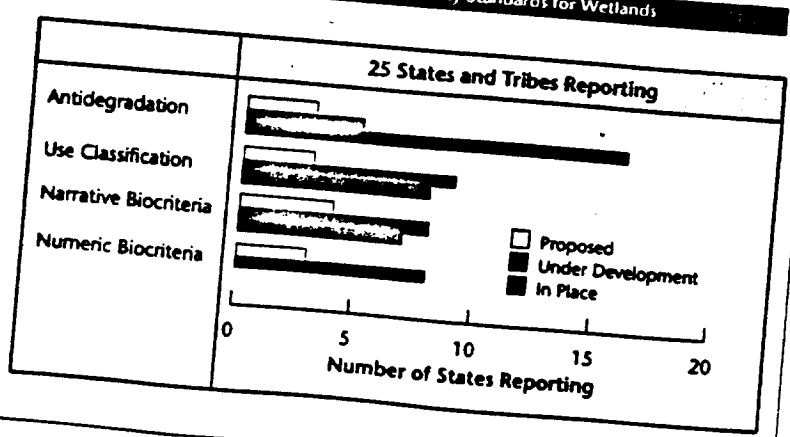
Water quality standards for wetlands ensure that the provisions of CWA Section 303 that apply to other surface waters are also applied to wetlands. In July 1990, EPA issued guidance to States for the development of wetlands water quality standards. Water quality standards consist of designated beneficial uses, numeric criteria, narrative criteria, and antidegradation statements. Figure ES-20 indicates the State's progress in developing these standards.

Standards provide the foundation for a broad range of water quality management activities under the CWA including, but not limited to, monitoring for the Section 305(b) report, permitting under Section 402 and 404, water quality certification under Section 401, and the control of nonpoint source pollution under Section 319.

States, Territories, and Tribes are well positioned between Federal and local government to take the lead in integrating and expanding wetlands protection and management programs. They are experienced in managing federally mandated environmental programs, and they are uniquely equipped to help resolve local and regional conflicts and identify the local economic and geographic factors that may influence wetlands protection.

Section 401 of the CWA gives States and eligible American Indian Tribes the authority to grant, condition, or deny certification of federally permitted or licensed activities that may result in a discharge to U.S. waters, including wetlands. Such activities include discharge of dredged or fill material permitted under CWA Section 404, point source discharges permitted under CWA Section 402, and Federal Energy Regulatory Commission's

Figure ES-20. Development of State Water Quality Standards for Wetlands



hydropower licenses. States review these permits to ensure that they meet State water quality standards.

Section 401 certification can be a powerful tool for protecting wetlands from unacceptable degradation or destruction especially when implemented in conjunction with wetlands-specific water quality standards. If a State or an eligible Tribe denies Section 401 certification, the Federal permitting or licensing agency cannot issue the permit or license.

Until recently, many States waived their right to review and certify Section 404 permits because these States had not defined water quality standards for wetlands or codified regulations for implementing their 401 certification program into State law. Now, most States report that they use the Section 401 certification process to review Section 404 projects and to require mitigation if there is no alternative to degradation of wetlands. Ideally, 401 certification should be used to augment State programs because activities that do not require Federal permits or licenses, such as some ground water withdrawals, are not covered.

State Wetlands Conservation Plans (SWCPs) are strategies that integrate regulatory and cooperative approaches to achieve State wetlands management goals, such as no overall net loss of wetlands. SWCPs are not meant to create a new level of bureaucracy. Instead, SWCPs improve government and private-sector effectiveness and efficiency by identifying gaps in wetlands protection programs and identifying opportunities to improve wetlands programs.

States, Tribes, and other jurisdictions protect their wetlands with a variety of other approaches, including permitting programs, coastal management programs, wetlands acquisition programs, natural heritage programs, and integration with other programs. The following trends emerged from individual State and Tribal reporting:

- Most States have defined wetlands as waters of the State, which offers general protection through antidegradation clauses and designated uses that apply to all waters of a State. However, most States have not developed specific wetlands water quality standards and designated uses that protect wetlands' unique functions, such as flood attenuation and filtration.
- Without specific wetlands uses and standards, the Section 401 certification process relies heavily on antidegradation clauses to prevent significant degradation of wetlands.
- In many cases, the States use the Section 401 certification process to add conditions to Section 404 permits that minimize the size of wetlands destroyed or degraded by proposed activities to the extent practicable. States often add conditions that require compensatory mitigation for destroyed wetlands, but the States do not have the resources to perform enforcement inspections or followup monitoring to ensure that the wetlands are constructed and functioning properly.
- More States are monitoring selected, largely unimpacted wetlands to establish baseline conditions in healthy wetlands. The States will use this information to monitor the relative performance of constructed wetlands and to help establish biocriteria and water quality standards for wetlands.

Although the States, Tribes, and other jurisdictions report that they are making progress in protecting wetlands, they also report that the pressure to develop or destroy wetlands remains high. EPA and the States, Tribes, and other jurisdictions will continue to pursue new mechanisms for protecting wetlands that rely less on regulatory tools.

Protecting the Great Lakes

Restoring and protecting the Great Lakes requires cooperation from numerous organizations because the pollutants that enter the Great Lakes originate in both the United States and Canada, as well as in other countries. The International Joint Commission (IJC), established by the 1909 Boundary Waters Treaty, provides a framework for the cooperative management of the Great Lakes. Representatives from the United States and Canada, the Province of Ontario, and the eight States bordering the Lakes sit on the IJC's Water Quality Board. The Water Quality Board recommends actions for protecting and restoring the Great Lakes and evaluates the environmental policies and actions implemented by the United States and Canada.

The EPA Great Lakes National Program Office (GLNPO) coordinates Great Lakes management

activities conducted by all levels of government within the United States. The GLNPO also works with nongovernmental organizations to protect and restore the Lakes. The GLNPO provides leadership through its annual *Great Lakes Program Priorities and Funding Guidance*. The GLNPO also serves as a liaison to the Canadian members of the IJC and the Canadian environmental agencies.

The 1978 Great Lakes Water Quality Agreement (as amended in 1987) lay the foundation for ongoing efforts to restore and protect the Great Lakes. The Agreement committed the United States and Canada to developing Remedial Action Plans (RAPs) for Areas of Concern and Lakewide Management Plans (LaMPs) for each Lake. Areas of Concern are specially designated waterbodies around the Great Lakes that show symptoms of serious water quality degradation. Most of the 42 Areas of Concern are located in harbors, bays, or river mouths entering the Great Lakes. RAPs identify impaired uses and examine management options for addressing degradation in an Area of Concern. LaMPs use an ecosystem approach to examine water quality issues that have more widespread impacts within each Great Lake. Public involvement is a critical component of both LaMP development and RAP development.

EPA advocates pollution prevention as the most effective approach for achieving the virtual elimination of persistent toxic discharges into the Great Lakes. The GLNPO has funded numerous pollution prevention grants throughout the Great

Julie Fountain, Youngsville, NC

Lakes Basin during the past 3 years. EPA and the States also implemented the 33/50 Program in the Great Lakes Basin, under which EPA received voluntary commitments from industry to reduce the emission of 17 priority pollutants by 50% by the end of 1995. In addition, EPA, the States, and Canada are implementing a virtual elimination initiative for Lake Superior. The first phase of the initiative seeks to eliminate new contributions of mercury.

The Great Lakes Water Quality Initiative is a key element of the environmental protection efforts undertaken by the United States in the Great Lakes Basin. The purpose of the Initiative is to provide a consistent level of protection in the Basin from the effects of toxic pollutants. In 1989, the Initiative was organized by EPA at the request of the Great Lakes States to promote consistency in their environmental programs in the Great Lakes Basin with minimum requirements.

Initiative efforts were well under way when Congress enacted the Great Lakes Critical Programs Act of 1990. The Act requires EPA to publish proposed and final water quality guidance that specifies minimum water quality criteria for the Great Lakes System. The Act also requires the Great Lakes States to adopt provisions that are consistent with the EPA final guidance within 2 years of EPA's publication. In addition, Indian Tribes authorized to administer an NPDES program in the Great Lakes Basin must also adopt provisions consistent with EPA's final guidance.

To carry out the Act, EPA proposed regulations for implementing the guidance on April 16, 1993, and invited the public to comment. The States and EPA conducted public meetings in all of the Great Lakes States during the comment period. As a result, EPA received over 26,500 pages of comments from over 6,000 commenters. EPA reviewed all of the comments and published the final guidance in March of 1995.

The final guidance prioritizes control of long-lasting pollutants that accumulate in the food web—bioaccumulative chemicals of concern (BCCs). The final guidance includes provisions to phase out mixing zones for BCCs (except in limited circumstances), more extensive data requirements to ensure that BCCs are not underregulated due to a lack of data, and water quality criteria to protect wildlife that feed on aquatic prey.

Publication of the final guidance is a milestone in EPA's move toward increasing stakeholder participation in the development of innovative and comprehensive programs for protecting and restoring our natural resources.

The Chesapeake Bay Program

In many areas of the Chesapeake Bay, the quality is not sufficient to support living resources year round. In the warmer months, large portions of the Bay contain little or no dissolved oxygen. Low oxygen conditions may cause fish eggs and larvae to die. The growth and reproduction of oysters, clams, and other bottom-dwelling animals are impaired. Adult fish find their habitat reduced and their feeding inhibited.

Many areas of the Bay also have cloudy water from excess sediment in the water or an overgrowth of algae (stimulated by excessive nutrients in the water). Turbid waters block the sunlight needed to support the growth and survival of Bay grasses, also known as submerged aquatic vegetation (SAV). Without SAV, critical habitat for fish and crabs is lost. Although there has been a recent resurgence of SAV in some areas of the Bay, most areas still do not support abundant populations as they once did.

The main causes of the Bay's poor water quality and aquatic habitat loss are elevated levels of the nutrients nitrogen and phosphorus. Both are natural fertilizers found in animal wastes, soil, and the atmosphere. These nutrients have always existed in the Bay, but not at the present elevated concentrations. When the Bay was surrounded primarily by forests and wetlands, very little nitrogen and phosphorus ran off the land into the water. Most of it was absorbed or held in place by the natural vegetation. As the use of the land has changed and the watershed's population has grown, the amount of nutrients entering the Bay has increased tremendously.

Now in its twelfth year, the Chesapeake Bay Program is a regional partnership of Federal, State, and local participants that has directed and coordinated restoration of the Bay since the signing of the historic 1983 Chesapeake Bay Agreement. Maryland, Pennsylvania, Virginia, the District of Columbia, the Chesapeake Bay Commission, EPA, and advisory groups form the partnership. The Chesapeake Executive Council provides leadership for the Bay Program and establishes program policies to restore and protect the Bay and its living resources. The Council consists of the governors of Maryland, Virginia, and Pennsylvania, the mayor of the District of Columbia, the administrator of EPA, and the chairperson of the Chesapeake Bay Commission.

Considered a national and international model for estuarine restoration and protection programs, the Chesapeake Bay Program is still a "work in progress." Since 1983, milestones in the evolution of the program include the 1987 Chesapeake Bay Agreement and the 1992 amendments to the Agreement. The 1987 Agreement set a goal to reduce the quantity of nutrients entering the Bay by 40% by the year 2000. In the 1992 amendments to the Agreement, the partners reaffirmed the 40% nutrient reduction goal, agreed to cap nutrient loadings beyond the year 2000, and agreed to attack nutrients at their source by applying the 40% reduction goal to the 10 major tributaries of the Bay. The amendments also stressed managing the Bay as a whole ecosystem. The amendments also spell out the importance of reducing atmospheric sources of nutrients and broadening regional interstate cooperation.

Protection and restoration of forests is a critical component of the Chesapeake Bay Program because scientific data clearly show that forests are the most beneficial land cover for maintaining clean water, especially forests alongside waterbodies in the riparian zone. Through the Chesapeake Bay Program, unique partnerships have been formed among the Bay region's forestry agencies, forest managers, and interested citizen groups. Since 1990, the U.S. Forest Service has assigned a Forestry Program Coordinator to the Chesapeake Bay Program to assist both the EPA and Bay Program committees in developing strategies and projects that will contribute to the Bay restoration goals. A Forestry Work Group, formed under the Nonpoint Source Subcommittee, raises and addresses issues related to forests and the practice of forestry in the watershed.

In addition, State foresters and local governments have developed and implemented numerous programs and projects aimed at the protection and restoration of forests.

Forestry incentive programs in all of the Bay States have resulted in the planting of millions of trees, the restoration of nearly 50 miles of riparian forest, the development of stewardship plans, and forest enhancement projects on thousands of acres within the Bay watershed.

On the positive side, the extent of Bay grasses has increased by 75% since 1978. The current extent of SAV attains 64% of the goal established by the Chesapeake Bay Program. Striped bass, or rockfish, have made a remarkable recovery over the past decade due to improved reproduction and better control of the harvest. There has been a modest increase in the number of American shad returning to the Bay to spawn. Controls on the harvest of American shad, creation of fish passages at blockages, stocking programs, and habitat restoration are expected to yield increases in the American shad population and similar fish species that inhabit the Bay during part of their life cycle.

Phosphorus levels continue to decline and, after many years of increasing nitrogen concentrations, most of the Bay's tributaries are showing a leveling off of this trend. Some tributaries are showing declining trends in nitrogen concentrations. These trends indicate that both point and nonpoint source pollution abatement programs are working.

Despite the promising trends in nutrient concentrations, oxygen concentrations are still low enough to cause severe impacts or stressful conditions in the mainstem of the Bay and several larger tributaries. Prospects for the Bay's oyster populations remain poor. Overharvesting, habitat loss, and disease have severely depleted oyster stocks. New management efforts have been developed to improve this situation.

Chesapeake Bay Foundation, Richmond, VA

The blue crab is currently the most important commercial and recreational fishery in the Bay. There is growing concern about the health of the blue crab population due to increasing harvesting pressures and relatively low harvests in recent years. Both Maryland and Virginia have recently implemented new regulations on commercial and recreational crabbers to protect this important resource.

Overall, the Chesapeake Bay still shows symptoms of stress from an expanding population and changes in land use. However, conditions in the Chesapeake Bay have improved since the Chesapeake Bay Program was launched, and continuation of the Program promises an even brighter future for the Bay.

The Gulf of Mexico Program

The Gulf of Mexico Program (GMP) was established in 1988 with EPA as the lead Federal agency in response to signs of long-term environmental damage throughout the Gulf's coastal and marine ecosystem. The main purpose of the GMP is to develop and help implement a strategy to protect, restore, and maintain the health and productivity of the Gulf. The GMP is a grass roots program that serves as a catalyst to promote sharing of information, pooling of resources, and coordination of efforts to restore and reclaim wetlands and wildlife habitat, clean up existing pollution, and prevent future contamination and destruction of the Gulf. The GMP mobilizes State, Federal, and local government; business and industry; academia; and the community at

large through public awareness and information dissemination programs, forum discussions, citizen committees, and technology applications.

A Policy Review Board and the Management Committee determine the scope and focus of GMP activities. The program also receives input from a Technical Advisory Committee and a Citizen's Advisory Committee. The GMP Office, eight technical issue committees, and the operations and support committees coordinate the collection, integration, and reporting of pertinent data and information. The issue committees are composed of individuals from Federal, State, and local agencies and from industry, science, education, business, citizen groups, and private organizations.

The issue committees are responsible for documenting environmental problems and management goals, available resources, and potential solutions for a broad range of issues, including habitat degradation, public health, freshwater inflow, marine debris, shoreline erosion, nutrient enrichment, toxic pollutants, and living aquatic resources. The issue committees publish their findings in Action Agendas.

On December 10, 1992, the Governors of Alabama, Florida, Louisiana, Mississippi, and Texas; EPA; the Chair of the Citizen's Advisory Committee; and representatives of 10 other Federal agencies signed the Gulf of Mexico Program Partnership for Action agreement for protecting, restoring, and enhancing the Gulf of Mexico and adjacent lands. The agreement committed the signatory agencies to pledge their efforts, over 5 years, to obtain the knowledge and resources to:

- Significantly reduce the rate of loss of coastal wetlands
- Achieve an increase in Gulf Coast seagrass beds
- Enhance the sustainability of Gulf commercial and recreational fisheries
- Protect human health and food supply by reducing input of nutrients, toxic substances, and pathogens to the Gulf
- Increase Gulf shellfish beds available for safe harvesting by 10%
- Ensure that all Gulf beaches are safe for swimming and recreational uses
- Reduce by at least 10% the amount of trash on beaches
- Improve and expand coastal habitats that support migratory birds, fish, and other living resources
- Expand public education/outreach tailored for each Gulf Coast county or parish
- Reduce critical coastal and shoreline erosion.

Beginning in 1992, the GMP also launched Take-Action Projects in each of the five Gulf States to demonstrate that program strategies and methods could achieve rapid results. The Take-Action Projects primarily address inadequate sewage treatment, pollution prevention, and habitat protection and restoration. Several projects aim to demonstrate the effectiveness of innovative sewage treatment technologies to control pathogenic contamination of shellfish harvesting areas. Other projects aim to restore wetlands, sea grass beds, and oyster reefs. The Take-Action Projects are designed to have Gulf-wide application.

Take-Action Projects in the five Gulf States primarily address sewage treatment, pollution prevention, and habitat protection and restoration.

Since 1992, EPA has streamlined and restructured its management scheme for the GMP to increase Regional involvement and better meet the needs of the 5-year environmental challenges. The GMP has also expanded efforts to integrate Mexico and the Caribbean Islands into management of the Gulf. These activities include technology transfer and development of international agreements that prohibit the discharge of ship-generated wastes and plastics into waters of the Gulf and Caribbean Sea.

Jeff Reynolds, Raleigh, NC

Ground Water Protection Programs

The sage adage that "An ounce of prevention is worth a pound of cure" is being borne out in the field of ground water protection. Studies evaluating the cost of prevention versus the cost of cleaning up contaminated ground water have found that there are real cost advantages to promoting protection of our Nation's ground water resources.

Numerous laws, regulations, and programs play a vital role in protecting ground water. The following Federal laws and programs enable, or provide incentives for, EPA and/or States to regulate or voluntarily manage and monitor sources of ground water pollution:

- The Resource Conservation and Recovery Act (RCRA) addresses the problem of safe disposal of the huge volumes of solid and hazardous waste generated nationwide each year. RCRA is part of EPA's comprehensive program to protect ground water resources through the development of regulations and methods for handling, storing, and disposing of hazardous material and through the regulation of underground storage tanks—the most frequently cited source of ground water contamination.

- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulates the restoration of contaminated ground water at abandoned hazardous waste sites.

- The Safe Drinking Water Act (SDWA) regulates subsurface injection of fluids that can contaminate ground water.

- The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) controls the use and disposal of pesticides, some of which have been detected in ground water wells in rural communities.

- The Toxic Substances Control Act (TSCA) controls the use and disposal of additional toxic substances, thereby minimizing their entry into ground water. Other Federal laws establish State grants that may be used to protect ground water.

- Clean Water Act Sections 319(h) and (i) and 518 provide funds to State agencies to implement EPA-approved nonpoint source

Comprehensive State Ground Water Protection Programs

A Comprehensive State Ground Water Protection Program (CSGWPP) is composed of six "strategic activities." They are:

- Establishing a prevention-oriented goal
- Establishing priorities, based on the characterization of the resource and identification of sources of contamination
- Defining roles, responsibilities, resources, and coordinating mechanisms
- Implementing all necessary efforts to accomplish the State's ground water protection goal
- Coordinating information collection and management to measure progress and reevaluate priorities
- Improving public education and participation.

management programs that include ground water protection activities. Several States have developed programs that focus on ground water contamination resulting from agriculture and septic tanks.

- The Pollution Prevention Act of 1990 allows grants for research projects to demonstrate agricultural practices that emphasize ground water protection and reduce the excessive use of fertilizers and pesticides.

Comprehensive State Ground Water Protection Programs (CSGWPPs) attempt to combine all of the above efforts and emphasize contamination prevention.

Bruce P. Henningsgaard, Minnesota Pollution Control Agency

Comprehensive State ground water protection programs support State-directed priorities in resource protection.

CSGWPPs improve coordination of Federal, State, Tribal, and local ground water programs and enable distribution of resources to established priorities.

Another means of protecting our Nation's ground water resources is through the implementation of Wellhead Protection Plans. EPA's Office of Ground Water and Drinking Water is supporting the development and implementation of Wellhead Protection Plans at the local level through many efforts. For example, EPA-funded support is provided through the National Rural Water Association Ground Water/Wellhead Protection programs. At the conclusion of the first 4 years of this program, over 2,000 communities in 26 States were actively involved in protecting their water supplies by implementing wellhead protection programs. These 2,000 communities represent almost 4 million people in the rural areas of the United States who will have better-protected water supplies.

Recognizing the importance and cost-effectiveness of protecting our Nation's ground water resources, States are participating in numerous activities to prevent future impairments of the resource. These activities include enacting legislation aimed at the development of comprehensive State ground water protection programs and promulgating protection regulations. More than 80% of the States indicate that they have current or pending legislation geared specifically to ground water protection. Generally, State legislation focuses on the need for program development, increased data collection, and public education programs. In addition, States also may mandate strict technical controls such as discharge permits, underground storage tank registrations, and protection standards.

All of these programs are intended to provide protection to a valuable, and often vulnerable, resource. Through the promotion of ground water protection on both State and Federal levels, our Nation's ground water resources will be safeguarded against contamination, thereby protecting human health and the environment.

What You Can Do

Federal and State programs have helped clean up many waters and slow the degradation of others. But government alone cannot solve the entire problem, and water quality concerns persist. Nonpoint source pollution, in particular, is everybody's problem, and everybody needs to solve it.

Examine your everyday activities and think about how you are contributing to the pollution problem. Here are some suggestions on how you can make a difference.

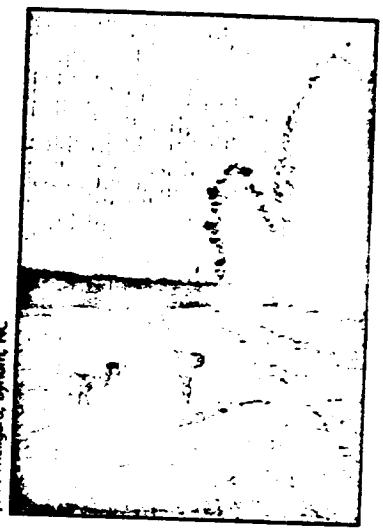
Be Informed

You should learn about water quality issues that affect the communities in which you live and work. Become familiar with your local water resources. Where does your drinking water come from? What activities in your area might affect the water you drink or the rivers, lakes, beaches, or wetlands you use for recreation?

Learn about procedures for disposing of harmful household wastes so they do not end up in sewage treatment plants that cannot handle them or in landfills not designed to receive hazardous materials.

Be Responsible

In your yard, determine whether additional nutrients are needed before you apply fertilizers, and look for alternatives where fertilizers might run off into surface waters. Consider selecting plants and grasses that have low maintenance requirements. Water your lawn conservatively. Preserve existing trees and plant new trees



John Thelgard, Bynum, NC

and shrubs to help prevent erosion and promote infiltration of water into the soil. Restore bare patches in your lawn to prevent erosion. If you own or manage land through which a stream flows, you may wish to consult your local county extension office about methods of restoring stream banks in your area by planting buffer strips of native vegetation.

Around your house, keep litter, pet waste, leaves, and grass clippings out of gutters and storm drains. Use the minimum amount of water needed when you wash your car. Never dispose of any household, automotive, or gardening wastes in a storm drain. Keep your septic tank in good working order.

Within your home, fix any dripping faucets or leaky pipes and install water-saving devices in shower heads and toilets. Always follow directions on labels for use and disposal of household chemicals. Take used motor oil, paints, and other hazardous household materials to proper disposal sites such as approved service stations or designated landfills.

Be Involved

As a citizen and a voter there is much you can do at the community level to help preserve and protect our Nation's water resources. Look around. Is soil erosion being controlled at construction sites? Is the community sewage plant being operated efficiently and correctly? Is the community trash dump in or along a stream? Is road deicing salt being stored properly?

Become involved in your community election processes. Listen and respond to candidates' views on water quality and environmental issues. Many communities have recycling programs; find out about them, learn how to recycle, and volunteer to help out if you can. One of the most important things you can do is find out how your community protects water quality, and speak out if you see problems.

Volunteer Monitoring: You Can Become Part of the Solution

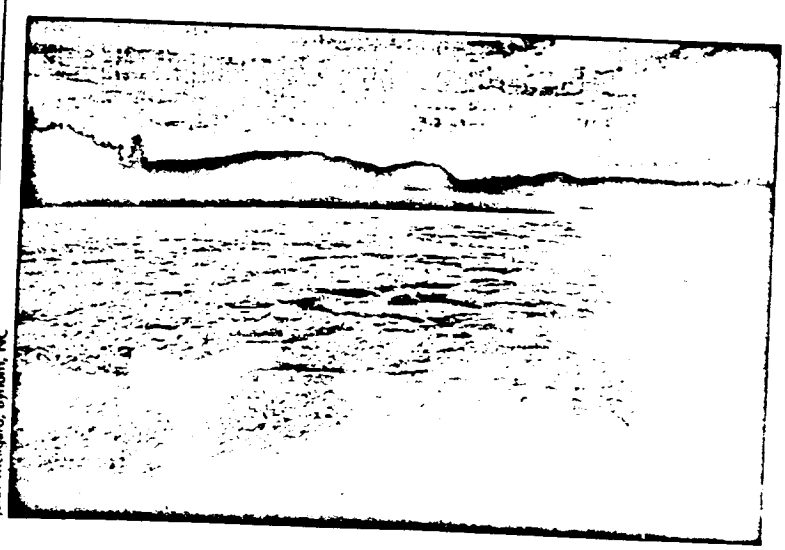
In many areas of the country, citizens are becoming personally involved in monitoring the quality of our Nation's water. As a volunteer monitor, you might be involved in taking ongoing water quality measurements, tracking the progress of protection and restoration projects, or reporting special events, such as fish kills and storm damage.

Volunteer monitoring can be of great benefit to State and local governments. Some States stretch their monitoring budgets by using data collected by volunteers, particularly in remote areas that otherwise might not be monitored at all. Because you are familiar with the water resources in your own neighborhood, you are also more likely to spot unusual occurrences such as fish kills.

The benefits to you of becoming a volunteer are also great. You will learn about your local water resources and have the opportunity to become personally involved in a nationwide campaign to protect a vital, and mutually shared, resource. If you would like to find out more about organizing or joining volunteer monitoring programs in your State, contact your State department of environmental quality, or write to:

Alice Mayio
Volunteer Monitoring
Coordinator
U.S. EPA (4503F)
401 M St. SW
Washington, DC 20460
(202) 260-7018

For further information on water quality in your State or other jurisdiction, contact your Section 305(b) coordinator listed in Chapters 9, 10, and 11. Additional water quality information may be obtained from the Regional offices of the U.S. Environmental Protection Agency (see inside front cover).



John Thelgard, Bynum, NC

For Further Reading

Volunteer Monitoring. EPA-800-F-93-008. September 1993. A brief fact sheet about volunteer monitoring, including examples of how volunteers have improved the environment.

Starting Out in Volunteer Water Monitoring. EPA-841-B-92-002. August 1992. A brief fact sheet about how to become involved in volunteer monitoring.

National Directory of Citizen Volunteer Environmental Monitoring Programs, Fourth Edition. EPA-841-B-94-001. January 1994. Contains information about 519 volunteer monitoring programs across the Nation.

Volunteer Stream Monitoring: A Methods Manual. EPA-841-D-95-001. 1995. Presents information and methods for volunteer monitoring of streams.

Volunteer Estuary Monitoring: A Methods Manual. EPA-842-B-93-004. December 1993. Presents information and methods for volunteer monitoring of estuarine waters.

Volunteer Lake Monitoring: A Methods Manual. EPA-440/4-91-002. December 1991. Discusses lake water quality issues and methods for volunteer monitoring of lakes.

Many of these publications can also be accessed through EPA's Water Channel on the Internet. From the World Wide Web or Gopher, enter http://www.epa.gov/owow to enter WIN and locate documents. See page 380 for additional information about EPA's Water Channel.

Fish Consumption Advisories

States issue fish consumption advisories to protect the public from ingesting harmful quantities of toxic pollutants in contaminated fish and shellfish. Fish may accumulate dangerous quantities of pollutants in their tissues by ingesting many smaller organisms, each contaminated with a small quantity of pollutant. This process is called bioaccumulation or biomagnification. Pollutants also enter fish and shellfish tissues through the gills or skin.

Fish consumption advisories recommend that the public limit the quantity and frequency of consumption of fish caught in specific waterbodies. The States tailor individual advisories to minimize health risks based on contaminant data collected in their fish tissue sampling programs. Advisories may completely ban fish consumption in severely polluted waters, or limit fish consumption to several meals per month or year in cases of less severe contamination. Advisories may target a subpopulation at risk (such as children, pregnant women, and nursing mothers), specific fish species, or larger fish that may have accumulated high concentrations of a pollutant over a longer lifetime than a smaller, younger fish.

The EPA fish consumption advisory database tracks advisories issued by each State. For 1994, the database listed 1,531 fish consumption advisories in effect in 49 States. Fish consumption advisories are unevenly distributed among the States because the States use their own criteria to determine if fish tissue concentrations of toxics pose a health risk that justifies an advisory. States also vary the amount of fish tissue monitoring they conduct and the number of pollutants analyzed. States that conduct more monitoring and use strict criteria will issue more advisories than States that conduct less monitoring and use weaker criteria. For example, 62% of the advisories active in 1994 were issued by the States surrounding the Great Lakes, which support extensive fish sampling programs and follow strict criteria for issuing advisories.


Chesapeake Bay Foundation, Richmond, VA

Most of the fish consumption advisories (73%) are due to mercury. The other pollutants most commonly detected in elevated concentrations in fish tissue samples are polychlorinated biphenyls (PCBs), chlordane, dioxins, and DDT (with its byproducts).

Many coastal States report restrictions on shellfish harvesting in estuarine waters. Shellfish–particularly oysters, clams, and mussels–are filter-feeders that extract their food from water. Waterborne bacteria and viruses may also accumulate on their gills and mantles and in their digestive systems. Shellfish contaminated by these microorganisms are a serious human health concern, particularly if consumed raw.

States currently sample water from shellfish harvesting areas to measure indicator bacteria, such as total coliform and fecal coliform bacteria. These bacteria serve as indicators of the presence of potentially pathogenic microorganisms associated with untreated or undertreated sewage. States restrict shellfish harvesting to areas that maintain these bacteria at concentrations in sea water below established health limits.

In 1994, 15 States reported that shellfish harvesting restrictions were in effect for more than 6,052 square miles of estuarine and coastal waters during the 1992-1994 reporting period. Six States reported that urban runoff and storm sewers, municipal wastewater treatment facilities, nonpoint sources, marinas, industrial discharges, CSOs, and septic tanks restricted shellfish harvesting.

State of California

Memorandum

To : Catherine Tyrrell,
Xavier Swamikannu,
Carlos Urrunaga,
Los Angeles Regional Board

Date January 10, 1996

Jorge A. León, Senior Staff Counsel

From : STATE WATER RESOURCES CONTROL BOARD

Subject: Legal Issues Raised in Draft Storm Water WDRs/NPDES Permit for LA County, et al.

You have asked for responses to questions raised by the Principal Permittee, CoPermittees, and parties during the development of the current draft of Waste Discharge Requirements/NPDES Permit ("Permit") for LA County and the CoPermittee Cities. Below, I have paraphrased the comments raising each issue, followed by my evaluation of the issue.

1. Under the terms of the current draft, the Executive Advisory Committee ("EAC")could be held legally responsible for compliance with the provisions of the permit.

The previous draft provided that the EAC would implement certain permit requirements. As we discussed previously, the current (December 18, 1995) draft is revised to clarify that the EAC provides direction to the County and the Cities, who are the actual dischargers under the permit. The Regional Board's authority is limited to requiring implementation of the permit by the County and the Cities, as permittees. The EAC members themselves, in their role as members of the EAC, are neither permittees nor dischargers. As such, they cannot personally or as a group be required to do anything under the permit. The legal responsibility for implementation of the permit requirements remains with the County and the Cities. In my view, the individual EAC members are liable only to their respective employers or constituent groups. No new liability is created as a result of serving on the EAC.

2. The draft permit unjustifiably imposes an unnecessary burden by requiring that the cities conduct inspections of industrial/commercial facilities and to determine whether an NOI has been submitted to the State Board, whether a SWPPP is available on-site, and to notify the Regional Board staff of

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noncompliance with these and any other requirements as determined appropriate by the Permittee.

This provision is not intended to unreasonably burden Permittees. Rather, the Regional Board staff seeks cooperation of the Permittees in identifying and reporting to the Regional Board staff those facilities that may need additional assistance in complying with storm water requirements. The intent is that -- as part of the inspection and enforcement process which the Permittees are already required to implement pursuant to guidelines issued pursuant to CWA Section 402(p) -- inspection staff merely make additional notes and share appropriate information with the Regional Board staff.

3. The draft permit exceeds State and Federal requirements for storm water programs. Required programs should be limited to those required under the Clean Water Act.

The State of California has been given delegated authority to implement the NPDES Program. The stormwater program is a component of the NPDES Program. Under its own terms, the Clean Water Act sets "bottom line" standards. State law and policy, however, may require more stringent requirements as necessary to implement State Plans. Furthermore, Regional Boards within the State may require more specific requirements as necessary to implement regional water quality control plans. The federal law acknowledges that by accepting delegated authority, the states do not relinquish the ability to impose more stringent requirements than provided pursuant to the Clean Water Act. (CWA Section 510, at 33 USC Section 1370; 40 CFR, Part 123.25.)

The Regional Board staff has endeavored to minimize the burden on the dischargers, and believes that the requirements set forth in the current draft are not in excess of the CWA standards, but rather, are consistent with its requirements. To the extent that such requirements, in fact, exceed federal requirements, as noted above, under State authority, the Regional Board is authorized to adopt requirements that are more stringent.

4. The NRDC and other entities should be required to participate in the Administrative Review process to resolve differences and be bound by the results.

To the extent that the NRDC and other nondischarging observers agree to be so bound, they are free to negotiate a document memorializing that agreement with the dischargers. However, the Regional Board does not possess any authority over nondischarging entities. The Regional Board's authority in issuing the permit is limited to controlling the conduct of dischargers which affects water quality. It does not extend to the conduct of nondischargers. Thus, the Regional Board cannot require that the NRDC or other be bound by the Administrative Review process.

5. Who determines what is the "maximum extent practicable?"

It is up to the Principal Permittee and the CoPermittees to determine initially what actions implement best management practices to reduce pollutants to the maximum extent practicable. The Regional Board will evaluate the proposed programs using appropriate guidance. At present, the most applicable guidance is the Court's decision in NRDC, et al. v. California Department of Transportation, Federal District Court, Central District of California (1994) which provides that a permittee must evaluate and implement best management practices, except where (1) other effective BMPs will achieve greater or substantially similar pollution control benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits.

6. Why are non-storm water discharges exempted from the permit provisions?

Federal regulations promulgated pursuant to CWA Section 402(p) require permittees to "effectively prohibit" all non-storm water discharges to the MS4 except those that have been issued a separate NPDES permit. However, the regulations do not require Permittees to prohibit non-storm water discharges listed under "Exempted Discharges." In order to assist the permittees, the Regional Board staff have included a second category, "Conditionally Exempted Discharges," which Permittees need not prohibit unless information becomes available in the future to indicate that these discharges are sources of pollutants to receiving waters. A "Procedures for Exemption" has been included to allow for the possibility of expanding the list of exempt non-storm water discharges in the future, if permittees deem it necessary.

7. The legal authority requirements are unclear.

The current draft attempts to clarify the requirements. In summary, each permittee must demonstrate to the Regional Board that it possesses the legal authority to implement the required actions provided in 40 CFR 122.26(d)(2)(i)A-F. The Regional Board staff requests that each permittee's municipal attorney provide a statement that he/she has reviewed the City's ordinances and has determined that they provide the necessary authority. If the permittee does not currently have an effective ordinance(s) that provides the required authority, it must provide a schedule setting forth when it will adopt or amend its ordinances to provide the necessary authority.

Once each permittee has so demonstrated, it is required to enforce those ordinances to the extent required to effectively control discharges to and from those portions of the MS4 over which it has jurisdiction, as required by the permit. This is

not to say that it must uncover every violation, regardless of the seriousness, and to seek the maximum punishment in every case. Rather, the responsibility is to demonstrate a good faith effort toward controlling discharges.

8. The stated goals of the Countywide Guidelines would unrealistically and unlawfully target new development to improve existing conditions, rather than preventing water pollution by storm water discharges.

The current draft has been modified to clarify that the requirement is to preserve -- rather than create -- existing beneficial uses. As a practical matter, the opportunities to control pollutants in storm water from land development occur during the following three stages: (1) the siting and design phase, (2) the construction phase, and (3) the post-development phase. The Countywide guidelines in the draft permit promote consideration of water quality protection and pollution prevention strategies during the siting and design phase of development. After development occurs, these options may no longer be practicable or cost-effective. As such, the guidelines are consistent with the requirements of CZARA and CWA.

9. The Regional Board does not have authority to adopt wastershed management plans that effectively preempt local land use control.

It is not the intent to preempt local land use control. Rather, the intent has been to facilitate smooth implementation of applicable provisions of the CWA and the Coastal Zone Act Reauthorization Amendments ("CZARA"). Under CZARA, management measures have been prescribed by the U.S. EPA and National Oceanic and Atmospheric Administration ("NOAA") applicable to construction activity regardless of land size.

10. The Clean Water Act does not regulate "parking lot pollution."

Recent studies have confirmed that facilities connected with automobiles, including parking lots, are a significant source of pollutants. While the CWA does not explicitly require control of parking lots, it does require pollutant control from all significant sources. The permit seeks to address the need to implement BMPs to control pollution from parking lots.

If you have comments or questions, please contact me at (916) 657-2428.

March 25, 1996

VOL 23

0970

COMPARISON OF LOS ANGELES COUNTY DRAFT STORM WATER PERMIT WITH SIMILAR PERMITS IN ORANGE AND SANTA CLARA COUNTIES EPA, Region 9

The California Regional Water Quality Control Boards (RWQCBs) are in the process of reissuing the "early" municipal storm water permits which were originally issued in 1990. The permits are considered "early" because they were issued prior to the final EPA storm water regulations of November, 1990. "Early" permit were issued in San Diego, Orange, Riverside, San Bernardino, Los Angeles, Santa Clara and Sacramento Counties. Final permits have now been reissued for Santa Clara, Orange, Riverside and San Bernardino Counties. Draft permits have been prepared for Los Angeles, San Diego and Sacramento Counties.

Los Angeles County and many of its 86 co-permittees have argued that the draft permit which has been prepared by the Los Angeles RWQCB is too detailed and contains excessive requirements. To evaluate this claim, EPA, Region 9 has prepared this comparison of the more controversial requirements of the Los Angeles County permit with the corresponding requirements of the Santa Clara County and Orange County permits. The Santa Clara County program is an outstanding program and was the winner of EPA's 1993 national award for excellence in storm water quality management. The Orange County program would be considered at least a representative, if not above average program.

Table 1 summarizes the principal requirements of concern in the Los Angeles County permit in comparison with the permits for Santa Clara County and Orange County. Appendix 1 discusses these requirements in more detail. Appendix 2 highlights principal areas where the Los Angeles County permit appears to be more stringent or more detailed than one or the other of the Santa Clara County or Orange County permits. The differences do not seem to be especially significant in most cases, however.

It should also be noted that the Los Angeles County permit does not reference the storm water program proposals in the permit applications as is done for the permits for Santa Clara County and Orange County. The Los Angeles RWQCB found the Los Angeles County permit application deficient in many respects and elected to write all the requirements into the permit. This factor contributes substantially to the length and detail of the Los Angeles County permit as compared to the other two permits.

TABLE 1 - SUMMARY PERMIT COMPARISON

Permit Requirements	Los Angeles	Santa Clara	Orange County
Receiving Water Limitations	Compliance Via BMPs	Compliance Via BMPs	Compliance Via BMPs[1]
Program Management	Implement Permittee Proposal[2]	Implement Permittee Proposal	Implement Permittee Proposal
Illicit Discharges	Inspection Schedule Developed By Permittees	Inspection Schedule Developed By Permittees	Inspection Schedule Developed By Permittees
	BMPs Required For Street and Sidewalk Washing	BMPs Required For Street and Sidewalk Washing Plus Review of 12 Other Discharges	
Industrial/ Commercial a) Inspections[3]	Specifies Inspection Schedule Plus Types Of Facilities To Be Inspected	Inspection Schedule Proposed By Permittees	Inspection Schedule Based On Other Insp. Programs
b) Specific BMPs	Includes Specific BMPs	Developed By Permittees	Developed By Permittees
New Developments[4]	Storm Water BMPs Required	Storm Water BMPs Required	Storm Water BMPs Required
Monitoring Requirements	Basic Program Plus Critical Source Monitoring	Basic Program Plus Pilot Projects	Basic Program Plus Upgrades To Meet Permit Goals
Street Sweeping	Once/Month Or More	Once/Month Or More	Once/Month Or More

[1] Includes provision that permittees would not be violation of receiving water limitations if they implement required BMPs.

[2] More complicated due to 6 watersheds; an overall Executive Advisory Committee and individual Watershed Management Committees are required. Los Angeles RWQCB would delete proposed membership requirement.

[3] Inspections slightly more frequent in the Los Angeles County permit than in a proposal from the Santa Clara County permittees. For Orange County, the inspection frequency of the other programs (e.g. hazardous wastes) is slightly greater than the requirements of the Los Angeles permit. However, Orange County is still in the process of incorporating storm water into the other inspection programs and no specific schedule is included in the permit for this task.

[4] Slightly differing requirements on applicability and BMPs.

APPENDIX 1 - COMPARISON OF PERMIT CONDITIONS OF PRINCIPAL CONCERN

1) Receiving Water Limitations:

The RWQCBs are attempting to standardize the language in all the State's municipal storm water permits concerning receiving water limitations. A workgroup was formed and model permit language was developed which appears to be close to being acceptable to all municipalities.

The model permit language essentially requires compliance with receiving water limitations via implementation of storm water BMPs. Storm water monitoring is required with additional BMPs as necessary to ensure compliance with the receiving water limitations. The model language also states that permittees will not be in violation of the permit provision requiring compliance with the receiving water limitations as long as they implement the required BMPs.

The model language was incorporated into the final permit for Orange County which was issued on March 8, 1996 by the Santa Ana RWQCB. The Santa Clara County permit and the draft Los Angeles County permit include similar language without, however, the provision that the permittees would be in compliance with the receiving water limitations if they implement the required BMPs. The Orange County permittees appear to be generally comfortable with the language in their permit.

EPA's National Urban Wet Weather Flows Advisory Committee met in March, 1996 to discuss a draft policy developed by EPA that addresses storm water permits and receiving water limitations. Under the draft policy, permittees would be presumed to comply with receiving water limitations as long as they implement required BMPs (provided this appears reasonable to the permitting authority). EPA is redrafting this policy in response to comments received in March from the State of California and others. EPA's Office of Water expects to provide its revised draft to interested persons by April 3, 1996. The redraft will likely include revised statements related to BMPs and presumptions regarding compliance with receiving water limitations. The Advisory Committee will consider the redrafted policy in April and May, after which EPA's Office of Water expects to issue its final policy.

2) Program Management

Several Los Angeles County co-permittees have objected to the permit requirements for program management and coordination. In particular, the draft permit requires the establishment of an

Executive Advisory Committee (EAC) and also specifies the membership. In addition, Watershed Management Committees (WMCs) are mandated by the permit. A couple of co-permittees have argued that the EAC should not be required and that they should be allowed to choose their own organizational structure. A more common complaint pertains to the specification of the membership on the EAC.

The permit application submitted by Los Angeles County on behalf of the co-permittees proposed the same basic program management requirements as in the draft permit, including the establishment of the EAC and the WMCs. As such, it is not clear why any co-permittees would object to this structure, and it would seem likely that this issue would be easily resolvable. The draft permit does require, however, that each WMC's representative on the EAC come from the co-permittee with the largest population. This was not in the County's proposal and co-permittees feel that they should be allowed to select their own representatives. The Los Angeles RWQCB has agreed to this minor change.

Both the Santa Clara County and Orange County co-permittees voluntarily developed suitable implementation agreements to coordinate the individual storm water programs of the various permittees. The permits for these Counties simply require that the permittees follow through with their own proposals. With the above change, the Los Angeles County permit would in effect be comparable to the Santa Clara County and Orange County permits since all co-permittees would basically be implementing their own proposals.

In response to those co-permittees who have argued that the requirement for the EAC is illegal and not mandated by the CWA, we would point to NPDES regulations at 40 CFR 122.26(d)(2)(iv) which require "where necessary intergovernmental coordination" in developing and implementing a storm water management program. The EAC could be considered an appropriate means of ensuring the necessary coordination.

3) Illicit Discharges

The Los Angeles, Santa Clara and Orange County permits all require programs to prevent illicit discharges which are based on the requirements of the EPA regulations. The Santa Clara County permit requires that the co-permittees develop performance standards to set forth the level of activity (e.g., number of inspections) of the program. The Orange County permit requires submittal of a schedule for periodic inspections to be approved

by the Santa Ana RWQCB. The Los Angeles County permit requires the development of a program which presumably would be similar to those developed in Santa Clara County and Orange County.

The Los Angeles County permit does go beyond the Orange County permit in the area of non-storm water discharges. The Los Angeles County permit specifically requires that BMPs must be developed for street and sidewalk washing. The Orange County permit provides that the permittees need not prohibit these discharges unless they are determined to be a source of pollutants.

The Santa Clara County permit also requires that BMPs be developed and implemented to reduce pollutants from street and sidewalk washing operations. In addition, the Santa Clara County permit requires that permittees evaluate a list of 12 other non-storm water discharges and consider the need for additional BMPs. Overall, in the area of illicit discharges, the Los Angeles County permit would seem to be midway in stringency between the Orange County and Santa Clara County permits.

4) Controls for Industrial/Commercial Sources

a) Inspections

The Los Angeles County permit sets forth the specific types of facilities which must be inspected and the inspection frequencies. In this regard the permit goes beyond the requirements of both the Orange County and Santa Clara County permits. The Santa Clara County permit requires that the co-permittees develop a performance standard for the industrial/commercial runoff control program including an appropriate inspection program. The Orange County permit requires that co-permittees incorporate storm water inspections into previously existing inspection programs (e.g., hazardous waste, pretreatment), and thus the inspection frequency and types of facilities which are inspected depend on the nature of these other inspection programs.

The Santa Clara County permittees have submitted their proposal for a performance standard for inspections to the San Francisco Bay RWQCB. The types of facilities which would be inspected are similar to the requirements of the Los Angeles County permit; however, the proposed inspections are slightly less frequent. For example:

Facility Type	Santa Clara	Los Angeles
Vehicle Repair Facility	once/2 years	three/5 years
Restaurants	once/3 years	twice/5 years
Facility with Pretreatment Permit	once/2 years	once/year

As noted above, the types of facilities to be inspected in the Orange County program depend on the types already being inspected under the existing inspection programs. However, these types of facilities are similar to the facilities which would be inspected in the other Counties. The number of inspections conducted annually by the Orange County Health Care Agency is 5,500; another 7,000 inspections are conducted annually by Orange County fire departments. The City of Los Angeles has estimated that 12,000 inspections would be required per year under the proposed permit for the City alone. Given that the population of the City of Los Angeles is about 3.5 million (vs. 2.6 million for Orange County), the inspection frequency in the proposed Los Angeles County permit is slightly less than the Orange County permit. It should also be noted, however, that Orange County is still in process of incorporating storm water into the other inspection programs. No specific schedule is included in the Orange County permit to complete this task.

b) Specific BMPs

Many Los Angeles County co-permittees have objected to the highly specific BMPs which the draft permit requires for industrial and commercial facilities. Examples cited by the City of Long Beach include the requirement for regular sweeping of parking lots with more than 25 spaces, and the prohibition on the repair of machinery or vehicles in areas exposed to storm water, if they are visibly leaking oil or other fluids.

The Santa Clara County program is currently conducting a study of parking lot runoff, and the co-permittees have committed to consider appropriate parking lot BMPs after the study has been completed. The nature of the BMPs and the size of the affected facilities remain to be determined. The Orange County permit requires inspections of commercial and industrial facilities and general pollution prevention would be required (which could include regular sweeping). In addition, for new developments with a property owners association, sweeping of parking lots is required prior to the wet season.

With regards to the other issue involving the repair of machinery or vehicles, the Santa Clara County and Orange County permits are less precise than the Los Angeles County permit. The Santa Clara County permit requires a performance standard for industrial/commercial runoff control. The draft performance standard which has been submitted by the co-permittees would not necessarily prohibit outdoor repairs, but would require appropriate BMPs for such activities. The Orange County permit would essentially require BMPs based on the judgment of the co-permittees. Overall, the Orange County and Santa Clara County permits are less specific than the Los Angeles permit.

5) Controls for New Developments

The Los Angeles County co-permittees have expressed various concerns regarding the proposed requirements for storm water controls for new developments. In particular, co-permittees object to the classification scheme for prioritizing projects. Projects are classified as high priority, priority or limited priority depending on detailed criteria in the permit. In addition, objections have been raised regarding the requirement for a storm water mitigation plan for priority and high priority projects.

The requirement for a storm water mitigation plan does not seem to be excessive considering the requirements of the Santa Clara County and Orange County permits. The Santa Clara County permit requires the development of a performance standard by co-permittees by September 1, 1996. Co-permittees would develop and then require specific BMPs to be included in development projects which are proposed. The equivalent of a storm water mitigation plan would be required to be submitted by a developer for review by the appropriate municipality. The specific BMPs remain to be developed, but would be based on a 1994 guidance memorandum from the San Francisco Bay RWQCB. In as in the proposed Los Angeles County permit, the guidance includes a 3-tier scheme for project prioritization.

The Orange County permit also requires the equivalent of a storm water mitigation plan to be submitted by developers for review. Orange County has also developed detailed guidance for developers regarding appropriate storm water BMPs. BMPs are required "in keeping the size and type of development."

Overall, the Los Angeles County permit requirements do not seem excessive in comparison to the Santa Clara County and Orange County permits.

6) Monitoring Requirements

In most respects, the monitoring requirements of the Los Angeles County permit are similar to the requirements of the Orange County and Santa Clara County permits. Few adverse comments were received. One particular requirement in the Los Angeles County permit which did generated concerns is the requirement for critical source/BMP monitoring. Los Angeles County would be required to monitor runoff from 5 (and possibly 3 more) particular types of sources (industrial, commercial, or construction sites), and subsequently test appropriate BMPs at the sites. Other co-permittees would monitor and evaluate BMPs for 5 more critical sources. Los Angeles County noted that in its recent settlement agreement with NRDC, the County has agreed to implement this type of project; however, the County suggested certain changes to the program set forth in the draft permit. Other co-permittees argued that this type of research is excessive as a permit condition.

The Santa Clara County permit requires the submittal of an annual monitoring program proposal, and also sets forth the general objectives of the monitoring program. Special studies or pilot projects are expected to be part of the proposal in order for the proposal to be approvable, and several such studies are underway or planned by the co-permittees. Examples include a brake pad study and several other metals reductions studies, a parking lot study, a street sweeping study and others.

The Orange County permit establishes various goals for the monitoring program (which include research concerning pollutant sources and BMPs) and requires the submittal of a upgraded monitoring program in 1997. However, the permit also recognizes that the goals may not be achievable in this permit term. It is unclear but probably doubtful that research at the level required by the Los Angeles County permit would be required. Nevertheless, it should also be pointed out that the Orange County program did conduct some pilot projects in the first permit term including monitoring of golf course runoff and runoff from new developments.

Overall, the permit requirements of the Los Angeles County permit related to critical source monitoring would exceed the requirements of the Orange County permit. The source identification and control program required by the Santa Clara County permit, however, would seem comparable to the requirements of the Los Angeles County permit.

7) Street Sweeping

In a cost analysis prepared by the Los Angeles County co-permittees, street sweeping was cited as a particularly high cost item. The cost specifically attributable to the storm water permit was not estimated, however. In comparison with the Santa Clara County and Orange County permits, the requirements of the Los Angeles County permit regarding street sweeping are not excessive.

The Los Angeles County permit requires sweeping of curbed streets at least monthly, and more frequently where feasible for areas which generate high levels of refuse. In Santa Clara County, the sweeping frequency varies among cities, but generally exceeds once/month. Examples are: Palo Alto, once/week or more; Mountain View, once or twice/month; San Jose, weekly to monthly. In addition, a study is required to investigate improved street sweeping methods with revisions in sweeping programs to be implemented based on the results of the study. In Orange County, sweeping frequencies are also on the order of monthly or more frequent.

The street sweeping requirements of the Los Angeles County permit were not among the more controversial aspects of the permit (the City of Los Angeles did recommend that the monthly frequency be considered a target rather than a requirement). However, the costs associated with the Los Angeles County street sweeping should be comparable to the programs of the other Counties.

APPENDIX 2 - KEY LOS ANGELES COUNTY PERMIT REQUIREMENTS WHICH ARE MORE DETAILED OR EXCEED THE REQUIREMENTS OF THE SANTA CLARA COUNTY AND/OR ORANGE COUNTY PERMITS

- *Receiving water limitations* - the Los Angeles County permit omits the provision in the Orange County permit that the permittees would not be in violation of receiving water limitations if they implement the required BMPs.

- *BMPs for street and sidewalk washing* - specifically included in the Santa Clara County permit, but not Orange County. The Santa Clara County permit also requires review of 12 other types of non-storm water discharges for possible BMP requirements.

- *Specific inspection program for industrial/commercial businesses* - inspection program is developed by the Santa Clara and Orange County permittees, rather than specified by the permit. The proposed Los Angeles County inspection frequency is slightly greater than a proposal from Santa Clara County, but slightly less than Orange County's frequency. Orange County plans to incorporate storm water inspections into other inspection programs (e.g., hazardous waste). However, Orange County is still in the process of incorporating storm water into the other inspection programs and no specific schedule is included in the permit to complete this task.

- *Specific BMPs for industrial/commercial businesses* - these requirements are developed by the Santa Clara County and and Orange County permittees rather than specified by the permit. Similar BMPs are likely to be required by Santa Clara and Orange County, but more flexibility is provided.

- *Critical source monitoring* - comparable requirements are found in the Santa Clara County permit, but the Los Angeles County permit generally exceeds Orange County requirements in this area.

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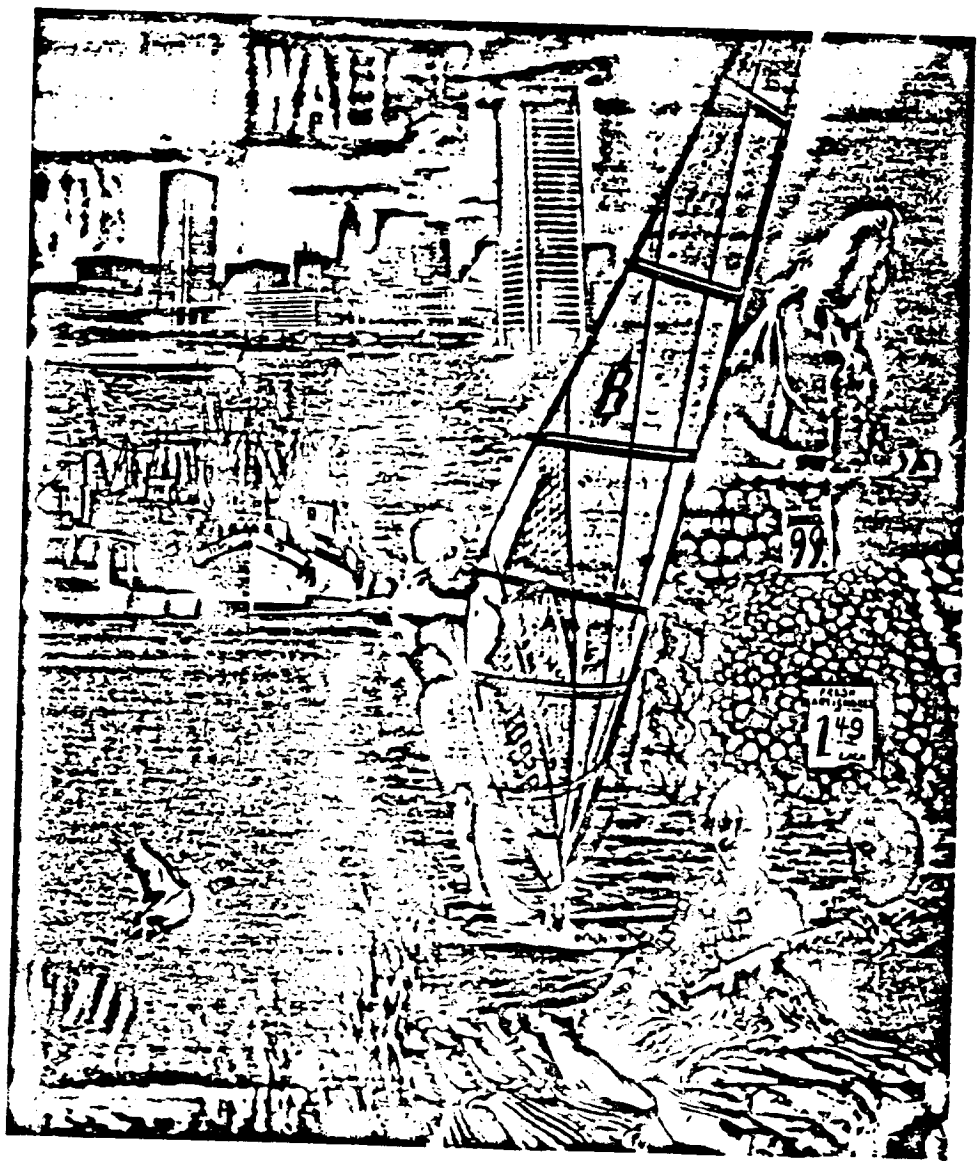
EPA

Liquid Assets:

A Summertime Perspective on the Importance of Clean Water to the Nation's Economy



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

May 24, 1996

Dear Reader:

THE ADMINISTRATOR

As another summer vacation season gets underway this Memorial Day weekend, many American families will be heading for the water. In fact, beaches, rivers and lakes are the number one vacation choice -- every year, Americans take more than 1.8 billion trips to go fishing, swimming, boating or to just relax around a favorite water destination.

But while Americans are seeking the water for recreation, clean water is working for them -- as a vital resource that keeps our communities and our economy healthy and thriving. The attached national report, titled *Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation's Economy*, demonstrates the value of clean water to our nation. The report also underscores the challenges the nation still faces in its efforts to clean up and protect America's lakes, rivers and beaches.

The report highlights how clean water benefits five key industry sectors -- recreation and tourism, agriculture, commercial fishing, real estate and manufacturing -- by boosting jobs, profits and economic growth around the nation. The recreation and tourism sector alone -- which relies on clean water to attract visitors -- is the nation's second largest employer, after health care, providing jobs for over 6 million Americans and generating over $380 billion in sales.

The report also reminds us that clean water is not a resource to be taken for granted. One out of five drinking water systems reports violations of the safety standards. Forty percent of our rivers, lakes and streams are still too polluted for safe fishing or swimming. And in 1994, more than 2,000 beaches were closed to protect public health from bacteria and other pollutants in the water.

The Clinton Administration is at the forefront of efforts to provide safe, clean water for the benefit of all Americans. President Clinton proposed the first-ever state loan fund to ensure that communities have the resources to provide safe, clean drinking water. We issued strong national guidance to keep raw sewage out of rivers and off of beaches. Further, the Clinton Administration has broken the gridlock of previous decades by crafting common-sense, consensus-based plans to control pollution and protect water resources in the San Francisco Bay-Delta, the Everglades and the Great Lakes.

Let us remember that protecting America's water is good for our health, good for our environment, and good for our economy.

Sincerely,

Carol M. Browner

In Memory...

Edmund S. Muskie
1914-1996

This report is dedicated to the memory of Edmund Muskie, an American statesman from Maine who served our nation as a Secretary of State, as a United States Senator, and as a strong advocate for the environment.

The following observation, which captures the central theme of this report, was made by Mr. Muskie during a speech in 1966.

> *"High quality water is more than the dream of conservationists, more than a political slogan; high quality water in the right quantity at the right place at the right time, is essential to health, recreation, and economic growth"*

Thirty years later, it still holds true.

VOL 23

Liquid Assets:

A Summertime Perspective on the Importance of Clean Water to the Nation's Economy

0983

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Executive Summary

Each year, the Memorial Day weekend launches a busy season of recreational activity around America's rivers, lakes, and beaches. In addition to providing fun and relaxation, these activities also provide a major boost for our nation's economy. Billions of dollars are spent on food, lodging, gas, special equipment, licenses, and services, all so people can enjoy themselves on and around the water.

But, the dividends from clean water are not limited to just the recreation and tourism industry. From Main Street to Wall Street to the family farm, clean water affects the profits and growth potential of many other economic sectors, including agriculture, commercial fishing, real estate, and manufacturing. This report, *Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation's Economy*, provides a snapshot of these sectors to highlight how and why clean water and a safe, clean environment are so important to economic prosperity and healthy, thriving communities.

Clean water is a vital commodity for major sectors of the U.S. economy.

- **Beaches, rivers, and lakes are the number one vacation choice for Americans**, helping to support a flourishing recreation and tourism industry. Each year, Americans take over 1.8 billion trips to go fishing, swimming, boating, or to just relax around favorite water destinations.

- **About 15 percent of American farm lands use irrigation** to support operations—and maintain our lucrative position as "breadbasket to the world." Crops grown on irrigated lands are valued at nearly $70 billion a year—about 40 percent of the total value of all crops sold.

- **The $45 billion commercial fishing and shellfishing industry needs clean water in order to deliver products safe for us to eat.** Americans now eat 15 pounds of fish and shellfish per person a year.

- **On average, the value of real estate along desirable water areas is nearly 30 percent greater than similar properties located inland.** A *Money* magazine survey found that clean water and clean air are the two most important factors Americans consider in choosing a place to live.

- **Manufacturers use about 13 trillion gallons of water every year—more** than 9 times the volume that flows through the Mississippi River into the Gulf of Mexico every day. The soft drink manufacturing industry alone uses over 12 billion gallons of water a year to produce products valued at more than $50 billion.

Clean water means jobs.

- **The recreation and tourism industry is the second largest employer in the country** after health care, providing jobs for over 6 million Americans.

- **Agriculture, which relies on clean water for livestock and crops, provides jobs for over 3 million people** or 17% of the U.S. labor market. The largest agricultural sector, cattle production, employs over 186,000 people on the farm and over a million more in other areas of the economy.

- **The environmental technology industry is creating jobs at twice the rate of the U.S. economy as a whole,** now employing over one million people.

- **Over a quarter of a million people work to harvest fish and shellfish** from the Great Lakes, the Gulf of Mexico, and other waterbodies that serve as "protein factories" around the country.

Clean water means profits.

- With sales of more than $380 billion, **the recreation and tourism industry provides a $22 billion trade surplus, the highest of all economic sectors.** Annual sales for just three activities—fishing, boating, and viewing and hunting ducks and other birds—**is estimated at nearly $45 billion.**

- Using clean water for irrigation and raising animals, American farmers produce and sell over **$174 billion worth of food and fiber products** every year. The cattle industry, with sales of more than $40 billion, provides one-fourth of the world's beef.

- Our fleet of commercial fishing vessels delivers **fish and shellfish products worth $3.5 billion a year, a value that increases by more than tenfold in the commercial marketplace.** In Puget Sound, an acre of shellfishing beds produces oysters, mussels, and other products worth between $40,000 and $60,000 every three years.

- **The clean water technology industry has sales of over $64 billion a year here in the U.S. and over $170 billion abroad.** With an international environmental market expected to double by the turn of the century, the forecast for future earnings looks promising.

Clean water provides a major stimulus for healthy, thriving local economies.

In communities across the country, clean water is often a critical factor in determining economic conditions.

- In rural West Virginia, white water rivers attract 200,000 people a year for rafting trips, and helps support the State's $2.5 billion recreation and tourism industry.
- In South Florida, the total value of all uses of the Indian River Estuary is estimated at over $700 million a year.
- In the west, recreational activity around Lake Mead National Park generates spending of nearly $940 million a year.

These profiles show that for businesses and communities throughout the country, clean water can mean the difference between economic decline and a bright, prosperous future. They also show just why clean water needs such special care and attention.

The national portfolio of water resources is large and diverse...


3.5 million miles of rivers and streams


41 million acres of lakes


58,000 miles of shoreline


34,400 square miles of estuaries (excludes Alaska)


278 million acres of wetlands


33,000 trillion gallons of ground water

...but so are the challenges of managing it.

While seemingly plentiful, clean water is a resource at risk.

- Our drinking water supply is one of the safest in the world, but one out of every 5 systems reports a violation of a national safety requirement.
- Our rivers, lakes, and coastal waters are cleaner today than 25 years ago, yet nearly 40 percent are still too polluted for safe swimming or fishing.
- Wetland losses have been significantly reduced, but between 70,000 and 90,000 acres are still lost every year.
- Advisories or bans have been issued for more than 1,500 waterbodies to protect the public from eating chemically-contaminated fish.
- One out of every three shellfishing beds is closed for harvest.
- More than 2,000 beaches were closed in 1994 to protect the public from harmful bacteria and other pollutants found in the water.

These problems represent major challenges that defy quick and easy solutions. Firm commitment and strong partnerships involving individuals and organizations from the public and private sectors offer the greatest promise for ensuring clean water in the future.

Under the Clinton Administration, EPA has led and supported multiple partnerships to provide safe, clean water for our communities.

- A national drinking water loan program was proposed to help communities meet their drinking water needs. This program, which establishes a powerful financial partnership between EPA and the States, marks the first time ever that ensuring safe drinking water has been made a federal investment priority.
- National guidance was issued to better control raw sewage spills—spills that can cause beach and shellfishing bed closures—in more than 1,000 communities. This consensus product, developed with State and local governments, industry and environmentalists, provides for sound environmental management at one-fourth the cost of previous proposals.
- An historic, consensus agreement on water allocation was negotiated among multiple parties, including farmers, urban users and environmentalists in California's Bay-Delta region. The common sense agreement broke a ten-year deadlock on one of the area's most difficult issues.
- Following extensive negotiations with the States, industries and other interested parties, national guidance was issued to reduce the flow of toxic pollution into the Great Lakes. By ensuring more consistent standards of performance, the guidance provides for a safer, cleaner environment and a more level economic playing field among competitors.
- One of America's most unique ecosystems—the Florida Everglades— is being restored. A comprehensive approach, including $1.5 billion in federal funding, is helping to speed up the restoration process.

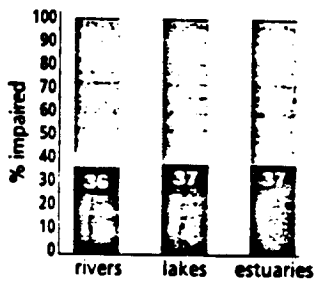
Good News, Bad News

The Current Condition of Our Nation's Water Resources

Our drinking water supply is one of the safest in the world, but...

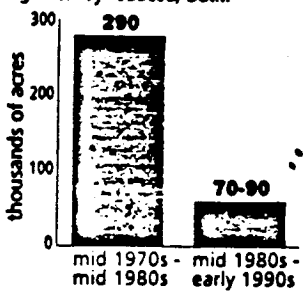
...one out of every five systems reports a violation of a national safety requirement.

Our rivers, lakes and coastal waters are cleaner today than 25 years ago, but...

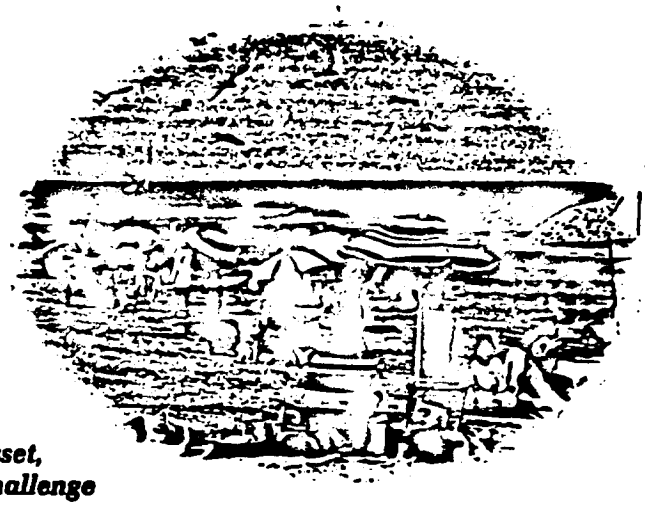


...nearly 40 percent of those surveyed are still too polluted for safe fishing or swimming.

Wetland losses have been significantly reduced, but...



...between 70,000 and 90,000 acres are still lost every year.



Clean Water:

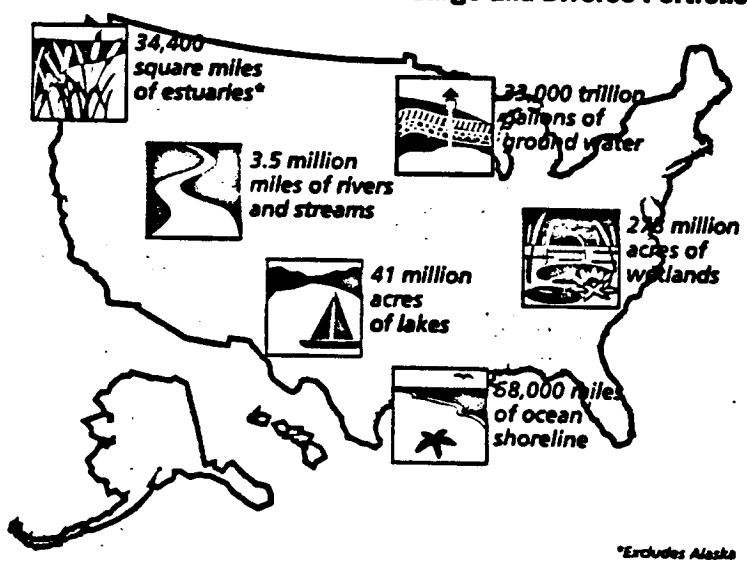
A National Asset, A National Challenge

Each year, the Memorial Day weekend launches a busy season of recreational activity around America's beaches, lakes, and streams. In fact, these areas are our number one vacation choice. In addition to providing relaxation and family fun, travel to these areas also provides a boost to our national economy. Billions of dollars are spent each year for food, lodging, gas, as well as special equipment, licenses, and services, all so people can enjoy themselves on and around the water.

The impact of clean water on the recreation and tourism industry is profound. But, the same is true for many other sectors of our economy. In many ways, clean water is the fuel that powers the nation's economic engine. Commercial fishing, agriculture, real estate, and manufacturing are just a few of the sectors which rely on clean water to operate and ensure productivity.

Despite the many benefits that water provides for society and our economy, some communities are unable to use local water resources to their full advantage. Contaminated drinking water supplies, fish kills, and beach closures are just a few of the problems that communities can face. These problems, which can have far-reaching consequences, call for continued environmental vigilance.

America's Water Resources: A Large and Diverse Portfolio



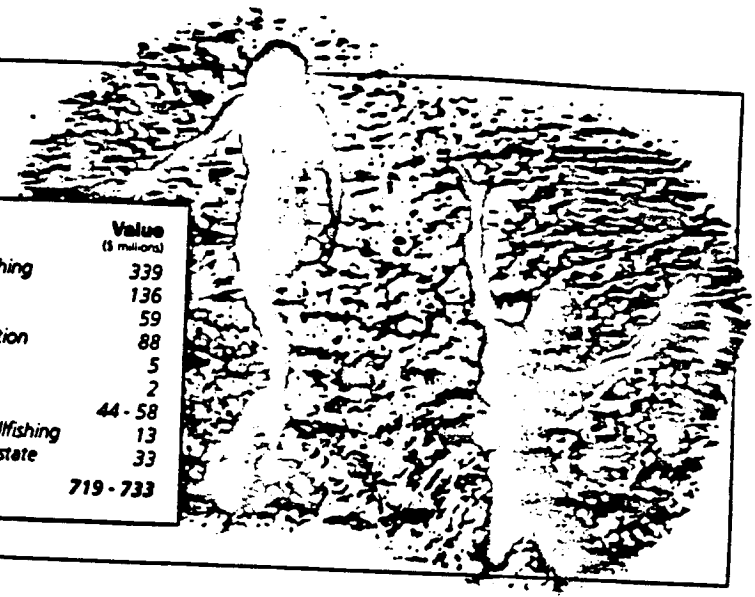
*Excludes Alaska

Profile

What is Water Worth?

The answer is over $700 million a year for the waters of Indian River Lagoon, an estuary along South Florida's Atlantic coast. An economic evaluation was undertaken to support development of a comprehensive plan for managing the estuary. The results, based on a number of uses by those living in the area, show that the people there are wise to invest in its protection.

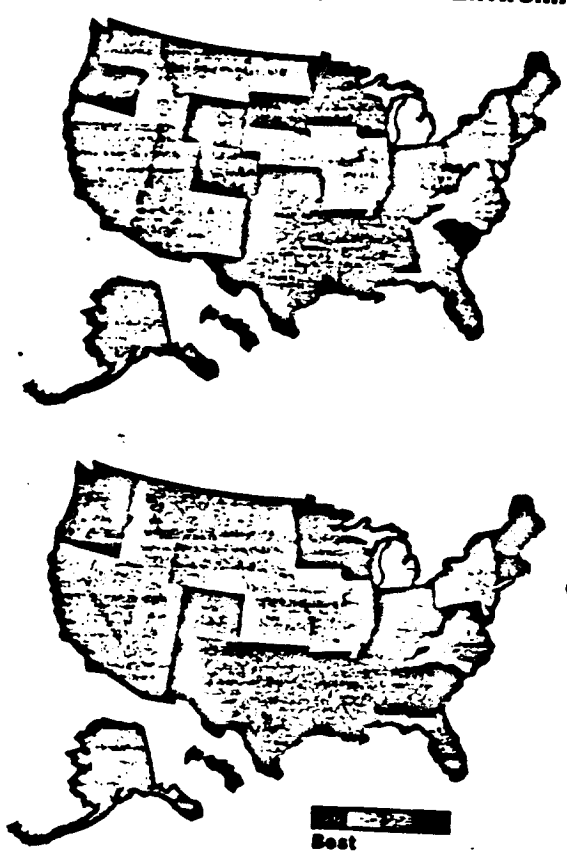
Use	Value ($ millions)
Recreational Fishing	339
Swimming	136
Boating	59
Nature Observation	88
Water Sports	5
Hunting	2
Passive Use	44 - 58
Commercial Shellfishing	13
Riverfront Real Estate	33
Total Value	**719 - 733**



Increasingly, the evidence shows that strong environmental protection and a strong, healthy economy go hand in hand. A study by the Institute for Southern Studies showed that states with the best environmental records also offered the best job opportunities and climate for economic development. Similarly, a study out of the Massachusetts Institute of Technology found that States with stronger environmental standards outperformed those with weaker standards on all economic measures.

This report, *Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation's Economy*, demonstrates the linkage between a strong economy and clean water by focusing on specific sectors. Sector profiles were developed using statistical data from federal agencies, or using appropriate information from other relevant sources, such as trade organizations or individuals working in a particular business. In addition, the report provides information on our nations's clean water laws, on the many efforts underway to help improve water quality in communities throughout the country, and on the many challenges that still lie ahead.

The Economy and the Environment

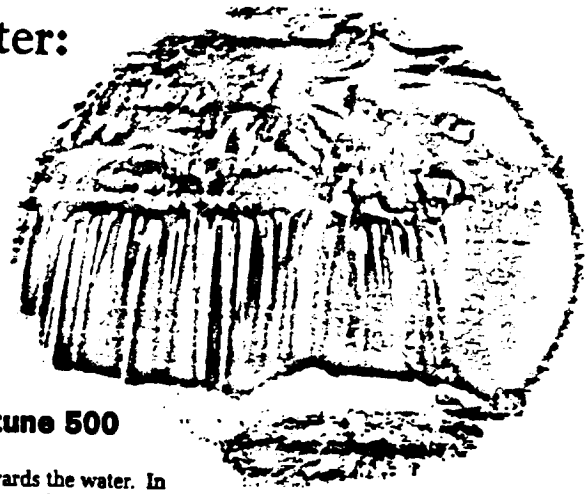


Source: The Institute for Southern Studies

The Business of Clean Water:

A Look at How Water Quality Affects Major Economic Sectors

What do soft drink manufacturing, river rafting companies, and the commercial fishing industry have in common? They all have a basic need for clean water. Day in and day out, these and other sectors of the U.S. economy rely on clean water to grow, process or deliver their products and services. In various ways, water quality can either help or hurt productivity. Take a look at a few sectors for which clean water is a vital commodity.



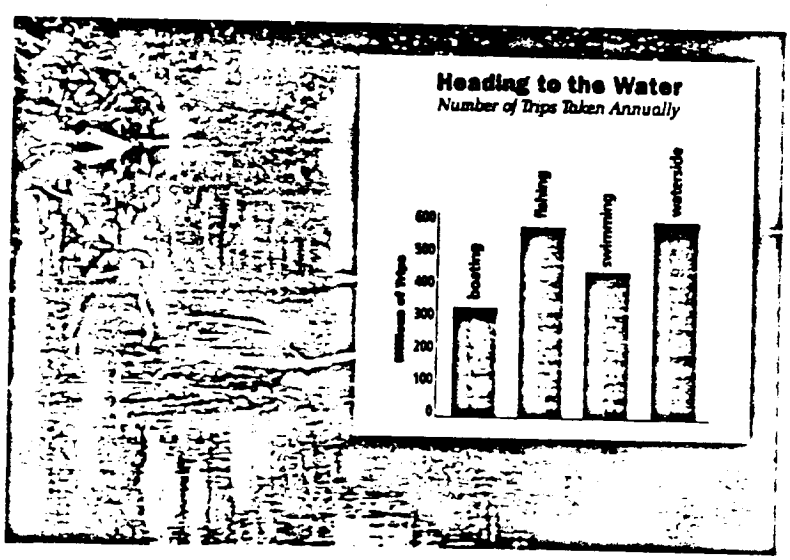
Recreation and Tourism: Rivaling the Fortune 500

An abundance of beautiful beaches, white water rivers, and calm, cool lakes is one of the factors contributing to a flourishing recreation and tourism industry in this country. Water has a powerful attraction for people, one that is translating into jobs and profits for our economy. In 1993, recreation and tourism was the second largest employer in the nation behind only the health care industry. It provided jobs for over 6 million people, and generated sales of over $380 billion, nearly three times the amount of farm products. The industry has a $22 billion trade surplus, the largest of any sector in the U.S. economy.

When people decide to plan vacations and travel for pleasure, there is a strong tendency to head towards the water. In fact, a 1994 Roper Survey found that beaches, rivers, and lakes are Americans' top vacation choices followed by federal and state parks. About a fourth of the population goes swimming every year, making it our second most popular recreational activity behind walking. All total, Americans make an estimated 1.8 billion trips a year to enjoy boating, fishing, swimming or just relaxing around the water.

"beaches, rivers, and lakes are Americans' top vacation choices"

About 300 million trips are made every year to go boating. Over half of these trips involve power boating, but sailing and paddle sports, such as kayaking, canoeing, and rafting are popular, too. Boating sales are estimated at over $14 billion a year, and over 6,000 companies are involved in manufacturing boats, trailers, motors and accessory items. The recreational marine boating industry alone employs about 600,000 people.



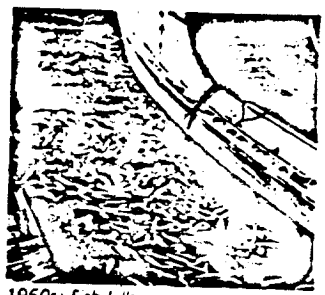
A significant portion of recreational spending is tied to fish and wildlife, both of which require high quality water and habitat, such as wetlands, for survival. Nearly 49 million American anglers spend $24 billion a year pursuing their sport, ultimately generating $69 billion for our economy. If sportfishing were incorporated as a single business, it would rank 27th on the Fortune 500 List of top sales producers, surpassing such giants as Coca-Cola, GTE, and Dow Chemical.

Ducks and other birds that depend on clean water also generate economic activity for the recreation and tourism industry. In 1991, nearly 3 million people spent about $544 million hunting migratory waterfowl. And even more Americans watch and photograph them. Over 19 million people participate every year, spending over $3 billion, and generating nearly $10 billion in total economic activity. When all birds, not just waterfowl, are factored in, the impact is even more significant. The

Profile

The Return of Recreation on the Potomac

The Potomac River, which flows through the nation's capital, provides one of the best examples of how water quality can limit or enhance recreational opportunities for people living or visiting an area. For decades the Potomac suffered from the harmful effects of water pollution. As early as 1894, the U.S. Public Health Service declared, "At certain times of the year, the Potomac River is so loaded with sediments as to be unfit for bathing as well as for drinking and cooking purposes." In 1965, President Lyndon Johnson called the Potomac a "national disgrace" and promised to have "clean water by 1975."



1960s: Fish kills were commonplace.

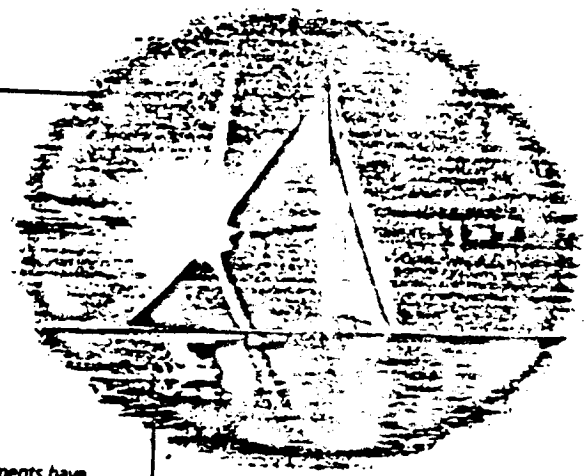
Over time, dramatic improvements have been made, largely as a result of the Clean Water Act of 1972. The legislation was the foundation for stronger environmental performance standards and federal funding. These funds helped to build a state-of-the-art sewage treatment plant which now treats over 70 percent of the region's waste before discharging it into the Potomac. Improved sewage treatment is recognized as the single biggest factor in the Potomac's restoration.

With improvements made in sewage treatment, more recent efforts have focused on reducing another major pollution source—polluted runoff from urban and rural areas. In 1987, a landmark agreement was reached between Federal, State, and local governments in the region which called for reducing nutrient loadings, such as fertilizers, by 40 percent by the year 2000. The agreement focused on the Chesapeake Bay, but as a major bay tributary, it also applies to the Potomac.

Today, the Potomac River is a much cleaner and safer body of water. Restaurants and shops line the river in Georgetown and Old Town Alexandria. A bass fishing industry has been established, and the river has been the sight of national and regional fishing tournaments. In total, the economic benefit of recreation and other uses of the river is estimated at about $120 million a year for Maryland, Virginia, West Virginia, and Washington, D.C.

Nina Wilson, owner of Potomac River Cruises since the late 1970s, offers a glimpse of how water quality has improved over the years, and what these improvements have meant for her business. Speaking of earlier conditions, she said "I was ashamed of the unsightly, filthy, smelly water of the Potomac. In particular, luncheon business suffered as a result of noticeably poor water quality in the light of day." Today, her business thrives, and annual revenues have increased by tens of thousands of dollars. These increases are clearly linked to a cleaner environment. According to Ms. Wilson, "the Potomac is much, much cleaner and more inviting".

1950s: A fishing guide at work.



U.S. Fish and Wildlife Service estimates that nearly 30 million people participate, and the total economic impact is nearly $20 billion. Birdwatching, in particular, is a high growth sport. In just the past 5 years, the American Birding Association has seen its membership nearly triple.

Water-based recreation can have significant impacts for local, State, or regional economies. Tony Fedler of the Sport Fishing Institute commented in *Fisheries Magazine* that, "Many state governments are beginning to recognize the economic payoffs of helping attract more fishers and increasing good fishing opportunities. By investing in boat ramps, fishing piers, aquatic habitat, angler education, fish stocking, and similar programs, communities are helping their economy by attracting more anglers."

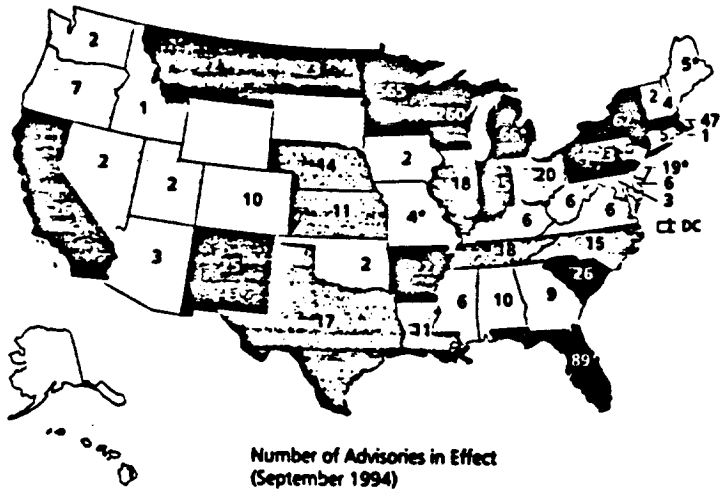
West Virginia is just one State that has recognized and moved to capitalize on its ecological riches. With over 29,000 miles of rivers, West Virginia offers some of the country's best white water rafting. In 1994, over 200,000 people enjoyed rafting trips on five commercially regulated rivers. The State now brings in over $2.5 billion a year from all tourism activities, and business continues to grow.

In the western United States, recreational use of the Colorado River is valued at about $100 million a year. Lake Mead National Park provides another major economic stimulus for the region. The park is visited by over 9 million people, and collectively, these visitors spend nearly $940 million.

Given the strong attraction of water as a recreational choice, the future growth and prosperity of the tourism industry is certain to be affected by water quality conditions. Commenting on the medical waste wash-ups that closed New York and New Jersey beaches in 1988, real estate agent Jack McHugh stated, "No one came back in 1989. We are usually completely booked-up by March. That year, we sat around waiting for the phone to ring." Economic losses to the region were estimated at more than $4 billion. In 1994, sewage and health concerns about other pollutants led States to close nearly 2,300 beaches to the public.

Economic losses also result when recreational fisheries are placed off limits. In 1995, States issued fish consumption advisories or bans for over 1,500 rivers and lakes where the fish were too contaminated to eat. Mercury is the toxic pollutant most often causing these advisories. While specific data regarding the impact of these advisories on recreational fishing do not exist, warning signs along a river clearly diminish the joy of the fishing experience—and quite possibly, economic opportunity for the local community.

Fish Consumption Advisories in the United States

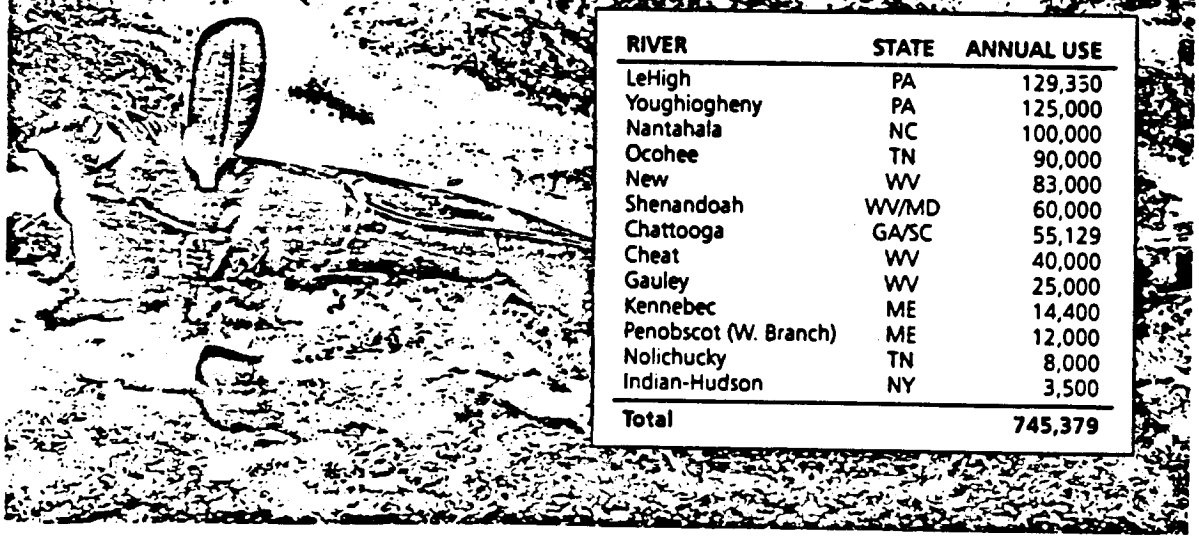


Number of Advisories in Effect (September 1994)

- 0
- 1-10
- 11-20
- 21-30
- 31-50
- 51-100
- >100

* Statewide Advisory

Major Eastern Whitewater Rivers Ranked by Annual User Days



RIVER	STATE	ANNUAL USE
LeHigh	PA	129,350
Youghiogheny	PA	125,000
Nantahala	NC	100,000
Ocohee	TN	90,000
New	WV	83,000
Shenandoah	WV/MD	60,000
Chattooga	GA/SC	55,129
Cheat	WV	40,000
Gauley	WV	25,000
Kennebec	ME	14,400
Penobscot (W. Branch)	ME	12,000
Nolichucky	TN	8,000
Indian-Hudson	NY	3,500
Total		**745,379**

Profile

Reopening of Shellfishing Beds in Puget Sound

Thanks to the effort of scores of people, from public officials to farmers to homeowners to volunteers, clam and oyster harvesting has recently been allowed again in at least four areas of Puget Sound. Although more than 20,000 acres of Washington's commercial shellfish beds still remain closed, there has been success in reducing pollution that had caused some beds to be closed for as long as 12 years. "The oyster industry is more prosperous than ever," says Tim Smith of the Pacific Coast Oyster Growers Association. "It also has a more uncertain future. It's all about the water."

The revival of the half shell trade, coupled with a booming Asian market, has helped turn Washington's $40 million a year oyster industry into the nation's largest. Mussels and clams, produced almost exclusively in Puget Sound, generate an additional $18 million annually. An acre of oyster tidelands can yield about $40,000 to $60,000 every three years, depending on the location and oceanic conditions.

Since 1986, the State has prohibited or restricted oyster harvesting on nearly 45,000 acres of shellfish beds – a quarter of all available grounds in Puget Sound. The culprit is usually poorly treated waste contaminating the waters. A number of steps have helped reduce this contamination. For example, about 100 farmers in the Burley Lagoon watershed have cooperated with the Kitsap Conservation District to cover manure piles, construct fences along streams to keep animals out, and rotate grazing areas to reduce runoff from erosion. Also, a major campaign was launched to identify and upgrade failing septic systems in the watershed.

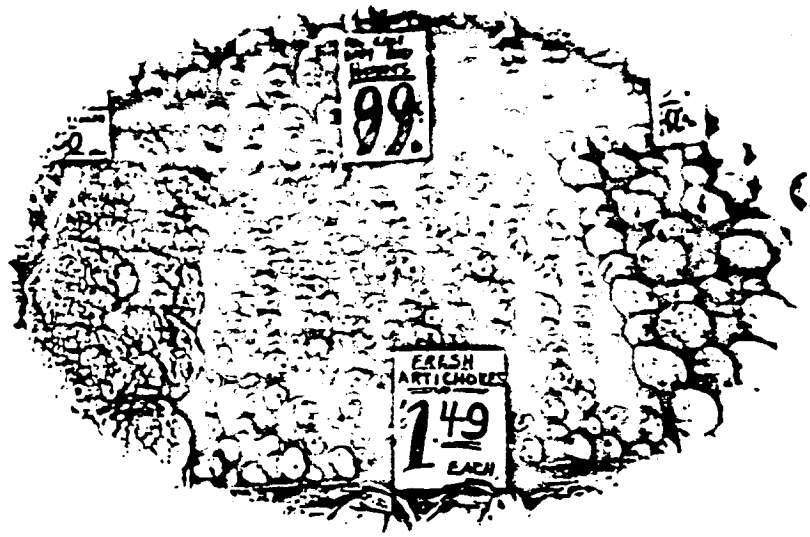
"Homeowners and farmers have worked hard to improve their sewage systems, farm management practices, and to stop the pollution that was damaging Burley Lagoon," stated Eric Slagle, an Assistant Secretary of the State Department of Health. "It's great to see that effort pay off."

Commercial Fishing: What a Catch

H.L. Mencken, an American journalist, once compared the Chesapeake Bay to a giant protein factory. Every year, our nation's protein factories—the Great Lakes, the Gulf of Mexico, and other coastal areas—produce over 10 billion pounds of fish and shellfish. Sold for consumption and industrial uses, these fisheries are valued at $3.5 billion. However, once they enter the retail market, the value increases more than tenfold. Americans now eat an average of 15 pounds of fish a year, collectively spending $35 billion. An additional $7 billion is sold every year to our trading partners.

The vessels and ports which support the commercial fishing industry generate additional revenues for the economy. Our commercial fishing fleet includes nearly 70,000 vessels and boats, and employs 250,000 people. But, there is reason to be worried about this industry's future.

Data from the National Marine Fisheries Service show declining populations for many species, including salmon, bluefin tuna, cod, haddock, and flounder. These declines can be linked to a number of factors, most notably overfishing. But environmental degradation is a key factor, too. Wetlands, for example, provide critical habitat during various life cycle phases for about 70 percent of all commercial fish species. While wetland losses have been significantly reduced in recent years, about 70,000 - 90,000 acres are still lost annually. Polluted runoff from urban and rural areas, and impacts from poorly treated sewage, represent additional stressors. Shellfish, such as oysters, clams, and mussels, extract their food by filtering water over their gills. If these waters are contaminated, the shellfish can become contaminated too. To protect the public from eating unsafe products, States may restrict or close shellfishing beds. The result can be a significant loss of revenue. In 1994, nearly one out of every three shellfish beds were closed or placed under special restrictions by States.



Agriculture: A Bountiful Market

Water is an absolute necessity for ensuring agricultural productivity. Without water, there would be no farming in this country—no fruits, no vegetables, no grain, and no livestock. The loss would be seen on the dinner table—and nationally, in the gross domestic product.

American farmers produce food and fiber products worth $174 billion a year. In 1994, the industry provided jobs for about 3 million people—17 percent of the U.S. labor market. The cattle industry represents the largest sector of the agricultural economy. With sales of over $40 billion a year, this industry supports about 186,000 farm jobs and over a million more jobs in other areas of the economy.

Other products, not always recognized as part of the agricultural industry, contribute, too. For example, those poinsettias purchased by so many Americans during the holidays generate over $170 million a year. Farm-raised fish are another agricultural product, and as an industry, aquaculture continues to grow strongly. The U.S. Department of Agriculture reports the industry has grown by 20 percent per year since 1980.

Agriculture is an important industry in every state. From cranberry bogs in Massachusetts, to corn fields in Kansas, to potato farms in Idaho, agriculture provides jobs and helps boost our economy. All together, American farmers produce over 165 different agricultural products, making this nation the "breadbasket to the world." In 1994, the U.S. exported over $45 billion in products. Record sales of $60 billion are forecast for 1996.

Water, in combination with rich agricultural lands and technological advancements, helps make all this productivity possible. Irrigation for agriculture represents our nation's single largest use of fresh water—about 40 percent. An estimated 136 billion gallons are used daily to irrigate crops. About 4.5 billion gallons are used to raise livestock, including horses and farm-raised fish, as well as other animals raised for meat, eggs, dairy products, wool, and fur.

Having sufficient quantity is the most important water issue for farmers. But quality matters, too. Today many farmers are working hard to manage their operations in a more environmentally sound manner.

Did You Know....

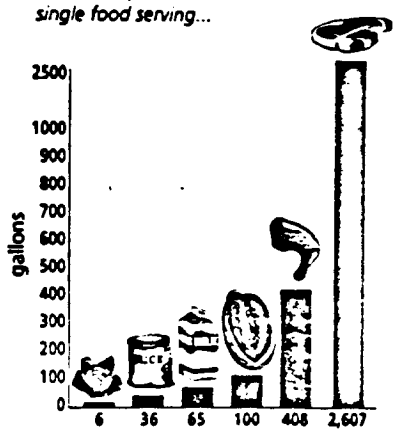
Each year, one American farmer provides food and fiber for 129 people—97 in the U.S. and 32 abroad.

One-fourth of the world's beef and nearly one-fifth of the world's grain, milk, and eggs are produced in the U.S.

About 15 percent of America's 2 million farms use irrigation.

Oh, How Does Your Garden Grow?

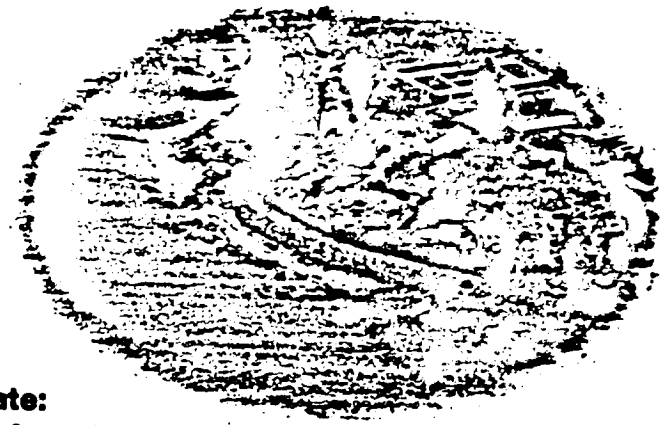
Gallons of water needed to produce a single food serving...



Profile

Wisconsin Farmers Save Money and Protect Water Quality

Farmers all over the country are finding it makes good environmental and economic sense to cut down on the amount of fertilizers and pesticides that are wasted when rain washes them off farmland. Farmers in Wisconsin's Lake Mendota watershed, for example, took the guesswork out of nutrient application, basing their fertilizer rates on soil test results. They reduced phosphorus application by more than 50 percent on more than 30,000 acres and saved $200,000 dollars in the process.



Profile

Real Estate Values Around Lake Champlain

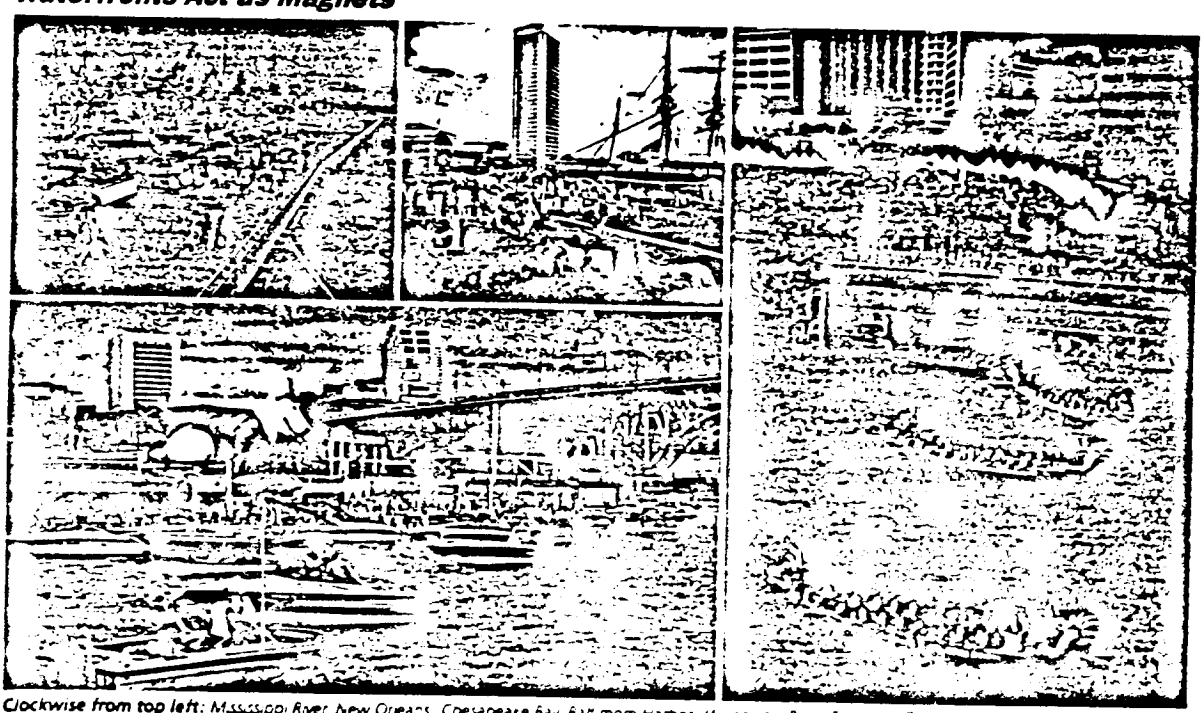
A study of real estate values around Lake Champlain in the mid-80s demonstrated the real world effect that pollution can have in a community and on peoples' pocketbooks. Property values in an area of the lake with good water quality were compared to those in an area of poorer water quality. On average, houses in the better quality areas were worth about 20% more—a $4,500 difference for these homeowners.

Real Estate: Location, Location, Location

When it comes to real estate, a waterfront view is a prime selling feature—as long as the water is clean. Ocean, lake, or riverfront properties often sell or rent for several times the value of similar properties located inland. In fact, according to the National Association of Home Builders, proximity to water raises the value of a home by about 28 percent. Similarly, a 1991 American Housing Survey found that "when all else is equal, the price of a home located within 300 feet from a body of water increases by up to 28 percent."

Community and business leaders also understand the potential value of waterfront locations. Today, waterfronts are often a focal point for urban renewal in many cities. These opportunities are due, in part, to the federal Clean Water Act. Prior to passage, many of our rivers and waterfronts were so polluted that no one wanted to go near them, much less invest in new development. As an example, the Nashua River in New Hampshire was reported to be so degraded that some property along the

Waterfronts Act as Magnets



Clockwise from top left: Mississippi River, New Orleans, Chesapeake Bay, Baltimore Harbor, Willamette River, Portland, Cuyahoga River, Cleveland

river was actually assessed as "worthless" because of the poor conditions. Today, because of cleaner water and revitalization efforts along the Nashua River and in other communities, waterfront areas are often considered "priceless" by those who enjoy them. They act as a strong magnet for business, tourists, and local residents. Restaurants, shops, and aquariums are springing up in areas that were once no more than dilapidated urban wastelands.

Many communities now hold festivals and other special events to celebrate the beauty and bounty of their waters. These events are held because people recognize and value the contribution that a river or lake or beach can have in enhancing their overall quality of life. Clean water consistently ranks as a leading quality of life indicator. Each year, *Money* magazine conducts a "Best Places To Live" survey, and in 1995, clean water and air were the two most important factors for choosing a place to live, over low crime rates, plentiful doctors or hospitals, or low taxes.

Profile

The Change in Chattanooga

What happens when a city receives the title of most polluted city in the country? This label, attached by the U.S. Department of Health, Education, and Welfare in 1970, served as a wake-up call for Chattanooga, Tennessee, a city of 150,000 which sits on a bend of the Tennessee River in the southeastern corner of the State. Chattanooga has transformed itself with a major focus on cleaner water, and today, it receives international recognition as a model of sustainable development. In fact, it was recently chosen as one of 21 areas selected for study by President Clinton's Council on Sustainable Development.

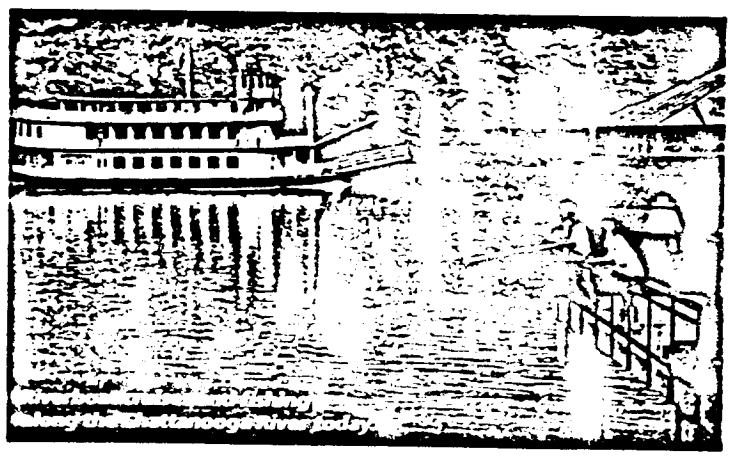
Over the years, easy access to transportation by railway and the river helped Chattanooga grow into a small industrial city. With this growth came pollution, and by the 1960s, the haze in the air was so thick that headlights were sometimes necessary at midday, and the river was unsafe for fishing or swimming.

In 1984, after years of decay, concerned citizens and members of the business community established "Chattanooga Venture" to tackle the city's problems. A group of over 1,700 community members reached consensus on 40 goals that included water quality, air quality, economic development, transportation, education, and housing. Together, they showed a desire for a strong local economy, but also clean air, recreational use of their river, and locally caught fish that were safe to eat.

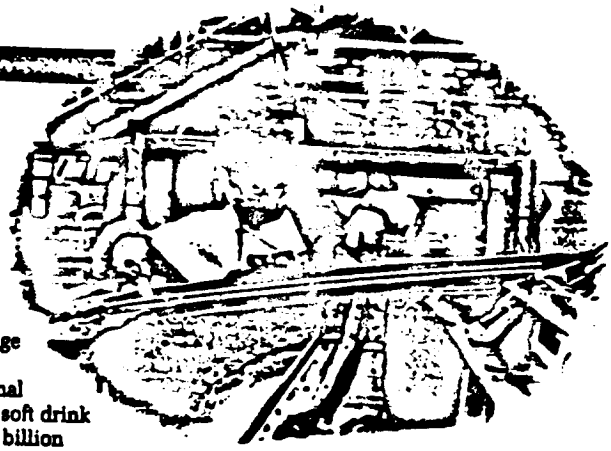
Restoration of the waterfront was a top priority, and over the next 10 years, deteriorating warehouses and piers were removed to open up access and views of the river. In 1992, the Tennessee Aquarium opened with a focus on freshwater fish and their river and lake habitats. Built at a cost of $45 million, it generated $133 million during its first year of operation. About 1.3 million people now visit every year.

Waterfront space was also revitalized for a new four-acre park and plaza area, known as Ross's Landing. Today, the area provides residents and visitors with open space as well as shopping and restaurants. In addition, about 2 miles of a planned 22 mile-long park along the eastern shore have been completed, providing recreational benefits for cyclists, pedestrians, skaters, and anglers. Mixed commercial and residential buildings are also planned along this greenway.

The improvements that have been made to Chattanooga's waterfront led James Yenckel, writer for the Washington Post *Sunday Travel Section to write, "By reinvesting in its river heritage, Chattanooga seems to have restored its faith in itself, and it appears—at least to my eyes—to be well on its way to becoming one of the prettiest cities for its size in America."*



Manufacturing: The Universal Solvent is Also a Key Ingredient



The size and nature of American industries varies widely, and yet, in one way or another, nearly all of them share a common need—a reliable source of water to support operations. In some cases, water is needed primarily for production purposes, such as in the manufacturing of computer chips or steel. In others, clean water is an essential ingredient in the final product, such as soft drinks and pharmaceuticals.

"My company requires high quality water to produce a high quality product."

The most recent data on water used in all manufacturing was last gathered by the Bureau of the Census over a decade ago. At that time, manufacturing companies used over 13 trillion gallons of water a year—more than 9 times the volume that flows from the Mississippi River into the Gulf of Mexico every day. About 84% of total use was attributed to four major industries—chemicals, metals, paper products, and petroleum.

More recent data on water is available from specific industries. For example, water is clearly vital to beverage manufacturers, and according to its national trade association, the soft drink industry uses over 12 billion gallons of water a year. Use is also high for malt beverage producers—it takes about 10 barrels of water to produce a single barrel of beer. These are highly lucrative industries, with each generating about $50 billion a year in sales. Together, they support about 3.5 million jobs and generate $270 billion in total economic activity. In sum, all manufacturing contributes about $1 trillion a year to the U.S. gross domestic product.

Increasingly, companies are choosing to become directly involved in community programs to protect the local water source. The Hershey Foods Corporation is working with its local water company in Pennsylvania to ensure that their water stays clean. And Coors Brewing Company in Colorado is working to prevent pollution of the local aquifer.

"Water is a fundamental input to our production process. My company requires high quality water to produce a high quality product. We must support protection of the community's ground water supply not only to protect our employees, but also to keep production costs down," says Jack Huggins, President and Chief Executive Officer of an ethanol and agricultural feed producing company in Pekin, Illinois. This reliance has not been lost on the local Chamber of Commerce. "We are going to use the Pekin protected water supply as a marketing tool for the community to expand business and attract companies," said Charles Renner, the Chamber of Commerce Executive Director. Indeed, if the water supply can be protected, the water supplier can avoid having to install expensive treatment technology. The result is a lower water bill for manufacturers and other customers in the community, as well as a higher level of confidence in the local drinking water supply.

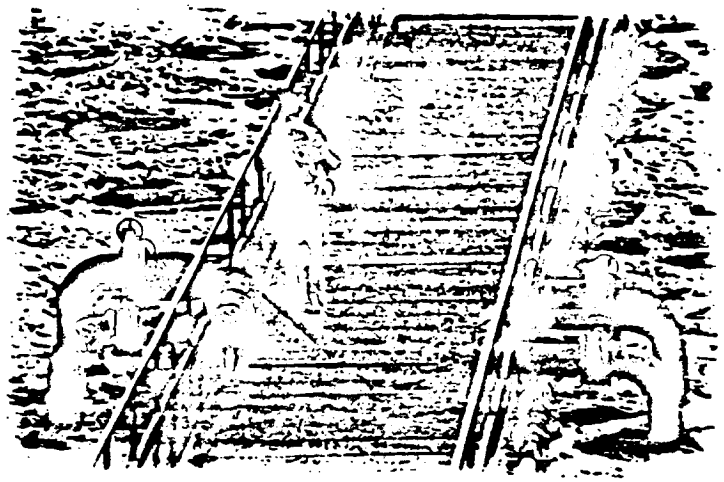
Clean water often plays a role in corporate marketing campaigns. Several national companies use powerful images of water to convey qualities of freshness and purity. For example, Olympia Brewing Company in Washington has adopted the motto "It's the water" as their marketing slogan. As Samuel Rowse, President of juice manufacturer Veryfine Products, noted, "The integrity of a town's water reflects upon the integrity of the companies within that town."

Latest Estimate:

Manufacturing companies use over 13 trillion gallons of water a year—more than 9 times the volume that flows from the Mississippi River into the Gulf of Mexico every day.

Bringing Products to Market: How Many Gallons of Water are Used...?

To process a quarter pound of hamburger?	*1*
To make one board foot of lumber?	*5*
To process one can of fruit or vegetables?	*9*
To process one chicken?	*12*
To make one pound of plastic?	*24*
To make one pound of wool or cotton?	*101*
To refine one barrel of crude oil?	*1,851*
To make four new tires?	*2,072*
To manufacture a new car, including tires?	*39,090*
To produce one ton of steel?	*62,600*



Environmental Technology: New Products, New Markets

The future of the environmental technology industry depends not so much on *using* clean water, but on *delivering* it as a final product. Water companies treat water from local water sources, such as a river, an aquifer, or reservoir, and provide a product safe for drinking. Similarly, sewage plants treat wastewater from our homes and industries before releasing it to local rivers and streams. In 1994, the market for water related equipment, chemicals, and services was over $64 billion here in the United States and over $170 billion worldwide.

Clean Water Technology Keeps Our Communities Healthy

The United States has:

- *nearly **58,000 community water systems** providing drinking water for about 80 million households.*
- *nearly **16,000 public sewage treatment plants** providing service for about 71 million households.*

***Wastewater treatment technology** prevents over 900 million pounds of sewage and 1 billion pounds of toxic chemicals from entering our waterways every year.*

***Drinking water safety standards and technologies** help prevent over 100,000 cases of gastro-intestinal illness and reduce lead exposure for over 50 million people.*

"As we protect our environment, we must invest in the environmental technologies of the future which will create jobs."

President Clinton
State of the Union Address
January 1994

While the U.S. has traditionally represented the world's strongest environmental market because of higher standards, other countries are beginning to invest in environmental infrastructure and technologies. The international environmental market, now estimated at over $400 billion for all media (i.e., water, air, and waste) is expected to double in size by the turn of the century, and foreign shores represent major market development opportunities. In general, water-related investments are likely to be among the first made. Safe drinking water and sewage treatment are essential services that simply do not exist in some areas.

While improving the environment, U.S. and global investments in environmental technologies also create high-skill, high-wage jobs. Nearly 1.3 million Americans are employed by more than 50,000 private environmental technology companies nationwide. Thousands more work for public companies, such as sewage treatment and drinking water plants. In 1995, the Department of Labor identified environmental technology as a key growth sector for the economy, creating jobs at about twice the rate of the economy as a whole.

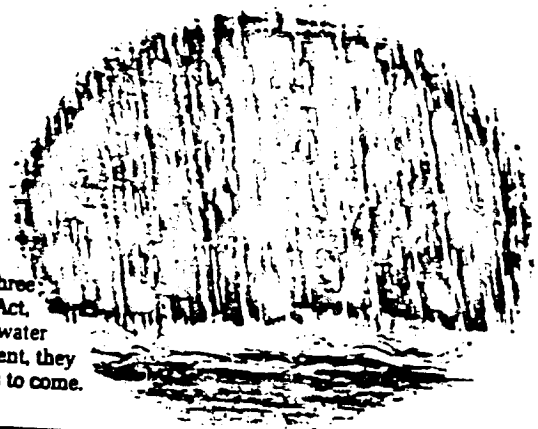
Profile

Creating Jobs *and* a Clean Environment

Environmental technology represents a major growth industry for California's economy. The State's Employment Development Department estimates that about 200,000 people work in the environmental technology sector. Revenues from this industry are expected to reach $27 billion by 1997, up from $19 billion in 1992.

Clean Water Insurance:

Our Three Major Water Laws



Over the years, major legislation has been written, debated, and signed into law to help protect the quality of America's water resources. The three most significant laws are the Clean Water Act, the Safe Drinking Water Act, and the Ocean Dumping Act. Together, they represent a national clean water insurance policy. By providing a framework for protection and investment, they offer the promise of safer, cleaner waters for all of us and for generations to come.

Clean Water Act

The Federal Water Pollution Control Act is the primary Federal legislation that protects surface waters, such as lakes, rivers, and coastal areas. Originally enacted in 1948, the legislation was significantly expanded and strengthened in 1972 in response to growing public concern for serious and widespread water pollution problems. This 1972 legislation, which became known as the Clean Water Act (CWA), provided the foundation for the dramatic progress in reducing water pollution over the past twenty years. Amendments to the 1972 Clean Water Act were made in 1977, 1981, and 1987.

The Clean Water Act focuses on improving water quality by maintaining and restoring the physical, chemical, and biological integrity of the nation's waters. It provides a comprehensive framework of standards, technical tools, and financial assistance to address the many stressors that can cause pollution and adversely affect water quality, including municipal and industrial wastewater discharges, polluted runoff from urban and rural areas, and habitat destruction.

The Clean Water Act requires national performance standards for major industries, such as iron and steel manufacturing and petroleum refining, that provide a minimum level of pollution control based on the best technologies available. These national standards result in the removal of over one billion pounds of toxic pollution from our waters every year.

In addition, the Clean Water Act establishes a framework whereby States and Tribes survey their waters, determine an appropriate use, such as recreation or water supply, and then set specific water quality criteria for various pollutants to protect those uses. These criteria, together with the national industry standards, are the basis for permits that limit the amount of pollution that can be discharged to a water body. Under the National Pollutant Discharge Elimination System, sewage treatment plants and industries that discharge wastewater are required to obtain permits and to meet the specified limits in those permits.

The Clean Water Act also provides Federal funding to help States and communities meet their clean water infrastructure needs. Since 1972, over $66 billion in Federal grants and loans have been provided, primarily for building or upgrading sewage treatment plants. Funding is also provided to address another major water quality problem—polluted runoff from urban and rural areas.

Protecting valuable aquatic habitat, such as wetlands, is another important component of this law. Filling wetlands with dredged or fill material can destroy or degrade these important aquatic areas and have a profound impact on water quality. To minimize impacts, the Clean Water Act establishes a permitting program to ensure that these types of activities are conducted in an environmentally sound manner.

Safe Drinking Water Act

The Safe Drinking Water Act was passed in 1974 following public concern over findings of harmful chemicals in drinking water supplies. The law established the basic Federal-State partnership for drinking water used today. It focuses on ensuring safe water from public water supplies and on protecting the nation's aquifers from contamination.

To ensure the safety of public water supplies, the law requires EPA to set safety standards for drinking water.

Standards are now in place for over 80 different contaminants. EPA sets a maximum level for each contaminant; however, in cases where it is not economically or technologically feasible to make this distinction, EPA specifies an appropriate treatment technology instead. Water suppliers are required to test their drinking water supplies and maintain records to ensure quality and safety. Most States have the responsibility for ensuring that their public water supplies are in compliance with the national safety standards.

Provisions also authorize EPA to conduct basic research on drinking water contamination, to provide technical assistance to States and municipalities, and to provide grants to States to help them manage their drinking water programs.

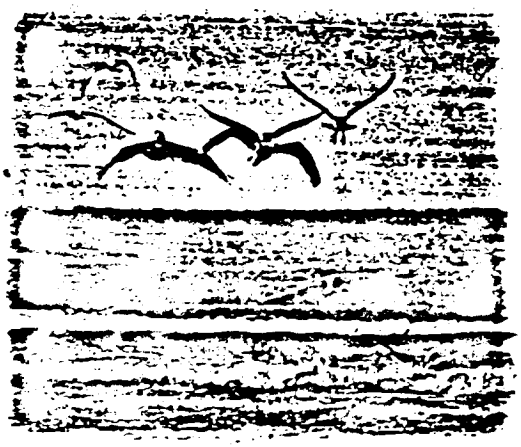
To protect ground water supplies, the law provides a framework for managing underground injection of wastes. EPA has responsibility for issuing permits for these operations and ensuring compliance. EPA also has the authority to prohibit new wells in areas that depend on a single aquifer for their drinking water.

Ocean Dumping Act

Also passed in 1972, the Ocean Dumping Act provides a framework for managing ocean dumping activities and for conducting basic oceanic research. The law bans ocean dumping of radiological, chemical, and biological warfare agents and high-level radioactive waste. Amendments in 1988 extended this ban to sewage sludge, industrial waste, and medical wastes.

The law provides a mechanism for meeting U.S. commitments under the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters, an international ocean dumping treaty signed by 80 countries.

It also authorizes research on the effects of ocean dumping, pollution, over-fishing, and other human-induced stressors, including oil spills. Provisions added in 1992 establish a national coastal water quality monitoring program to evaluate the health and quality of ocean waters and the pollution sources that affect them.



Joint Ventures:

How EPA Works in Partnership to Improve our Waters and Protect Public Health

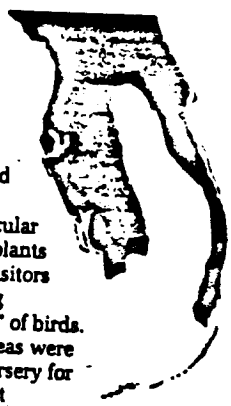
"Waste not, want not," a common American adage, should be considered as a national motto for managing our nation's water resources. Indeed, because our rivers, lakes, and coastal waters are so vital to our economy, our health, and our overall quality of life, they must be treated as a national treasure of the very highest priority.

EPA has a major role in managing this national treasure, acting as the nation's clean water guardian. But, the job of protecting and improving our waters cannot be done by just one government agency. Today, EPA is working hard to build and nurture partnerships with other federal agencies, citizens, industry and business leaders, and State, local and Tribal governments, all of which have important contributions to make in keeping our waters safe and clean. By leveraging resources and targeting actions to those problems in need of attention, EPA and its partners are helping to make safe, clean water and stronger economies a reality for all of us.

Restoring Valuable Ecosystems

EPA and its partners are involved in clean up and protection efforts in hundreds of watersheds throughout the country, but a few areas are getting special attention. Nationally, these areas represent some of our most important waters—ecologically and economically.

The Everglades



One hundred years ago, this unique ecosystem of water and land provided a home to spectacular populations of plants and animals. Visitors described seeing literally "clouds" of birds. Rich wetland areas were the principal nursery for the State's robust commercial and sport fishing industries. Today, while still a major tourist attraction, the Everglades are recognized as being on the verge of collapse. Ninety percent of the wading birds are gone, the estuarine fisheries have declined, and dozens of species are listed as endangered or threatened.

How did this happen? In the 1940s, intense flooding in South Florida took lives and damaged property. A complex system of public canals, levees, pumping stations and other structures was built to control the water and make the land more suitable for farming and urban development. The system worked—too well. Half of the Everglades' wetlands were drained and converted to agriculture or urban developments.

Over time, the impact of these conversions has become obvious, and a series of actions has been taken to restore the natural ecosystem. In 1993, Florida and the U.S. Army Corps of Engineers began the task of converting the Kissimmee River from an "engineered" channel back into its more natural, riverine form. In addition, a special federal task force on South Florida ecosystem restoration was established to improve coordination among the Federal, State, and Tribal interests in the area. A milestone was reached when the State and the sugar industry agreed to work together to reduce phosphorous loadings by 75 percent. This past January, the Clinton Administration announced a comprehensive restoration approach, including a $1.5 billion federal assistance package, to speed up the restoration process. Among other things, the funding is to be used to acquire, in partnership with Florida, enough land to make restoration a reality, including the purchase and reconversion of over 100,000 acres of farm lands. The funding is also to be used to continue work on the Kissimmee River, to construct wetlands to serve as natural filters for phosphorous and other pollutants, and to develop a multi-species recovery plan. Most recently, in April 1996, Congress passed and the President signed into law a new Federal Agriculture Improvement and Reform Act, otherwise known as the Farm Bill, which provides up to $300 million for Everglades restoration.

Together, these and other investments have the potential to make an enormous difference in the health of this great ecosystem, and future generations may very well look back and point to the 1990s as the turning point in Everglades history. A Save Our Everglades campaign has helped to acquire and protect over 326,000 acres of land in the area. Hydrologic improvements have helped rid the ecosystem of exotic species that invade and disrupt the area's natural vegetation and habitat. And, in just the last three years, phosphorous levels in water discharged from farm lands north of the Everglades have been cut by about 30 percent.

But while signs of improvement can be seen, the ecosystem remains in critical condition. The road to recovery will require continued vigilance and commitment to addressing the many stressors that threaten this fragile ecosystem and the many species that live there.

The Great Lakes

Considering that about 95 percent of all fresh water above ground in the U.S. is in the Great Lakes, it is pretty clear why water quality there is so important. Over 23 million people living in the region depend on these magnificent lakes to provide their drinking water and to support other uses. Not surprisingly, a study by the Health Education Research organization found that over 80 percent of those surveyed wanted to see more done to protect the Great Lakes environment.

And more is being done. In just the past two years, toxic pollution from a wide variety of sources, including manufacturing and sewage treatment plants, has been significantly reduced. PCB emissions have been virtually eliminated and levels of mercury, the pollutant most often found in contaminated fish, have been cut by over 60 percent.

The eight States which border the Great Lakes have long recognized the need to work together on common-sense, cost-effective solutions to reduce the harmful effects of toxic pollution. In the late 1980s, the States asked EPA to help develop a consistent approach for achieving these reductions. In 1994, a major milestone was reached. After working closely with the States, industry, and other interested parties, EPA issued guidance that goes a long way towards reducing toxic pollution. Known as the Great Lakes Water Quality Initiative, this guidance will help ensure a consistent level of environmental protection throughout the region. In addition to providing a cleaner, healthier environment, the guidance will also help to level the economic playing field among corporate competitors. Companies in similar industries throughout the region will be held to the same performance standard, eliminating economic advantages that might occur as a result of lower standards in some areas.

Other efforts are also underway to help protect the Great Lakes from toxic pollution. DDT and other pesticides have been banned for use in this country, and yet they can still pose a powerful threat if old supplies are forgotten or disposed of improperly. Several States in the Region now host agricultural "clean sweeps" to gather and arrange proper disposal of these and other pesticides. EPA has helped States and counties sponsor these events, and many individuals have volunteered their time to help organize and manage them. Between 1992 and 1994, community clean sweep events helped remove nearly 20,000 pounds of toxic material from around Lake Superior.

The medical industry is another active partner, helping to reduce one of region's most serious toxic problems – mercury. The majority of mercury pollution in the Great Lakes comes from air pollution generated by coal-burning utilities and incinerators. However, mercury is also found in many medical products, and unless these products are disposed of properly, the very products designed to improve public health can cause serious harm. To reduce this risk, EPA supports a partnership between regional doctors, nurses, hospitals, local governments and the National Wildlife Federation aimed at educating those working in the industry about proper disposal and product alternatives. The goal is to reduce mercury, and if possible, to eliminate the use of mercury-containing products altogether.

"Many hospitals and health care facilities throughout Michigan are already taking steps to eliminate as much of the mercury we use as posssible. In keeping with our mission of providing quality health care and promoting a healthy environment, we're looking forward to spreading this information across the Michigan health care community," said David Seaman, Executive Vice-President of the State Health and Hospital Association.

While the amount of toxic pollution being released into the Great Lakes is being reduced, the problem is not completely solved. Toxic chemicals from the air, from contaminated bottom sediments, from agricultural and urban runoff and from Superfund sites still pose a threat to the environment and the people who live there. These sources present a management challenge, and they call for a continued strong emphasis on pollution prevention and toxics control throughout the region.

Profile

Action by the Auto Industry

The American Automobile Manufacturers Association, on behalf of Chrysler Corporation, Ford Motor Company and General Motors Corporation, worked with the Michigan Department of Natural Resources to establish an automobile pollution prevention project. Launched in 1991, the manufacturers agreed to voluntary actions to help reduce emissions of over 65 toxic chemicals in the Great Lakes area. Since that time, toxic emissions have been cut by 15 percent. If zinc emissions from two plants are excluded, the rate of total toxic reduction is over 50 percent. Because of its success, the program is now being expanded to automobile manufacturers in other parts of the country.

San Francisco Bay-Delta

The San Francisco Bay-Delta is another area getting special attention. Comprising more than 1,650 square miles—an area about the size of Rhode Island—the estuary is a source of drinking water for 20 million people, provides irrigation for over 4.5 million acres of farmland, supports more than 120 species of fish, and is an internationally important waterfowl migration area. It also drains nearly 40 percent of California's land area. Over the years, water diversion, loss of wetlands, and polluted runoff from urban and rural areas have seriously impacted the health of the ecosystem.

Today, multiple government agencies, groups, and individuals are working to stop the pollution and repair the damage. One of the most important efforts to date occurred in 1994. The Clinton Administration worked with

Profile

Volunteers Make a Difference

Increasingly, private citizens are turning their concern for their local environment into action by volunteering to monitor water quality in lakes, rivers, or coastal areas. In the Bay-Delta area, hundreds of people, young and old, have received training and begun to collect and report important water quality information. Mike Rigney, who works at the Coyote Creek Riparian Station, has trained nearly 200 people in the last few years. When asked whether these volunteers really provide reliable data, Mike was quick to answer "yes!". Indeed, these individuals are making a valiant and valuable contribution, doing what they can to help improve conditions in their community.

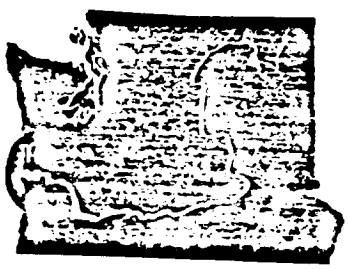
industry, farmers, environmentalists, state officials, and others to craft an historic consensus-based agreement on actions to improve the Bay-Delta environment while providing more certainty in water supplies for the State's future. The common sense strategy allocates water use among the estuary, farmers, and urban users, breaking gridlock on a decade-long water war in the region.

The North Bay Initiative is another important component in the ecosystem's restoration. The North Bay is known for vast ranch lands, rich aquatic habitats, and some of the most productive vineyards in the world. EPA and other Federal, State, and local governments are working together and with landowners in the area to promote common-sense land use management.

The San Francisco Bay National Estuary Program has provided a major platform for planning, coordinating, and managing many restoration activities. The National Estuary Program, which includes 27 other high priority estuaries in addition to the Bay-Delta, brings together multiple stakeholders, including government, business interests, and private citizens to set priorities and find practical solutions for the problems threatening their estuary. Mapping the distribution of native fish species and streamside forests, preserving wetlands, and monitoring water quality are just a few of the activities that have been conducted since the San Francisco Bay Delta program was established in 1987.

Work to restore the Bay-Delta is also being done by the academic community. For example, Professor Robert Twiss of the University of California at Berkeley's Center for Environmental Design and Research is building an extensive geographic information system (GIS), an electronic tool that can map and compare different environmental and land use factors. With more than 50 data sources, the GIS system will be able to show everything from streams and wetlands to urban growth scenarios. To Twiss, GIS and advanced telecommunications have the power to assure wide public access to information. Rather than having one centralized government repository, Twiss envisions a large number of information suppliers (universities, government agencies, volunteer groups) and users (libraries, schools, homes, private firms) connected by a network. "Demystifying and de-professionalizing this kind of information is a very important democratic principle," says Twiss. "It's enormously empowering. It's a way for the estuary project to connect at the grassroots level."

These and other efforts are helping to improve conditions in one of the country's most productive areas. In particular, the Bay-Delta accord addressing water allocation shows that progress can be made on even the most complex and contentious issues. Remaining challenges, as well as emerging ones, such as the rapid introduction and growth of exotic species, will require a similar level of resolve and commitment to finding workable, common-sense solutions.



The Columbia River

As the second largest river in the U.S., the Columbia River is a resource of national and regional significance. This mighty river drains seven states before emptying into the Pacific Ocean, where the mixing of fresh water with salt water provides important estuarine habitat for fish, other aquatic species and wildlife. The river also helps to support agriculture, forestry, commercial and sport fisheries, hydropower generation, and recreation and tourism industries.

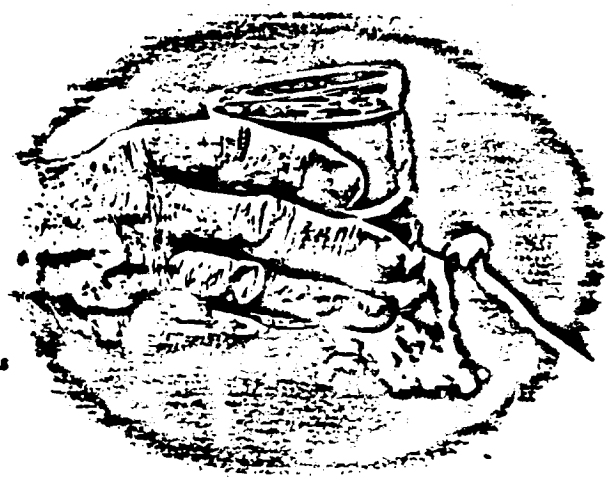
Despite its many uses and benefits for the region, evidence continues to show that this great river is at risk. High concentrations of PCBs, dioxin and other toxic pollutants have been found in sediment and fish tissue in the lower river. Reproductive success for salmon and other species is being affected, and fish consumption advisories are now in place throughout the region. Dam operations, along with habitat loss and pollution, have hurt fisheries. Some salmon species are threatened, endangered, or already extinct. These impacts represent quite a loss in a river that was once passageway for over 15 million salmon a year.

Recognizing the significance of the resource and the need to ensure its protection and restoration, the Lower Columbia River was selected as a site for inclusion in the National Estuary Program in 1995. A team of concerned citizens along with representatives from Federal, State, and local government agencies, environmental groups, and industry is being established to plan and guide priority actions. In addition, in 1994, President Clinton announced a Pacific Northwest Forest Plan to improve management of over 25 million acres of

federally owned forests in the region. Improving forest management will involve protecting streamside areas and reducing polluted runoff from harvest areas, both of which should help to improve water quality and habitat for salmon and other fisheries. One of the largest-scale ecosystem management efforts ever undertaken, the plan will maintain and restore old growth forests, water quality, fish and wildlife habitat, and allow sustainable timber harvests of over 1 billion board feet per year. It calls for over 2.6 million acres to be set aside along streams and wetlands to provide clean water and habitat for fish and wildlife. It provides a stronger scientific basis for managing the area's resources by increasing monitoring and data analyses, and provides funding for education and training to help counter any potential job losses related to timber harvesting restrictions. To date, more than 500 watershed restoration projects have been initiated or completed to improve ecological conditions.

The comprehensive management plan being developed through the National Estuary Program and the Forest Plan provide a strong basis for addressing some of the highest priority problems facing the region. But, they represent only a beginning. Remaining challenges, such as how to best reduce toxic pollution, call for continued action and attention.

Targeting High Priority Problems



As a result of public and private sector investments in infrastructure and technologies and a commitment to preventing pollution and improving overall environmental performance, our waters are much cleaner today compared to twenty five years ago. But, we still have areas where the water is too polluted to safely swim or eat the fish. And Americans are increasingly worried about the safety of their drinking water. The problems that still plague our waters do not have fast and easy fixes. To a great extent, our abilty to find and apply workable solutions will depend on strong, highly commited partnerships involving individuals as well as the public and private sectors.

Drinking Water Contamination

In 1993, a drinking water crisis in Milwaukee sounded a national alarm on drinking water safety. The contaminant, *Cryptosporidium*, shut down the city's water supply, costing businesses and commercial establishments over $50 million in lost economic activity. Even more importantly, it left over 400,000 people sick, and was attributed as the cause of over 100 deaths.

Unlike many microorganisms, *Cryptosporidium* cannot be eliminated with normal disinfection processes, but contamination can be reduced through careful filtration. Recognizing the need to protect people from this and other microbial contaminants, public water suppliers and EPA developed the "Partnership for Safe Water." Under this voluntary program, suppliers that use surface waters carefully survey their filtration systems, operating and maintenance procedures, and other management activities to determine whether action is needed to reduce the risk of contamination occurring. To date, 140 water companies serving more than 74 million Americans have joined up and committed to take action, if needed.

The Groundwater Guardian Program is another voluntary way to improve drinking water safety. Established and managed by a nonprofit organization in the midwest, and strongly promoted by EPA, this program focuses on communities that rely on ground water for their drinking water. It provides special recognition and technical assistance to help communities protect their groundwater from contamination. Since beginning in 1994, Groundwater Guardian programs have been established in nearly 100 communities in 31 States.

These voluntary efforts represent practical approaches to help ensure safe drinking water. But for some risks, stronger safeguards are needed. For example, to better protect the public against *Cryptosporidium*, EPA recently began requiring the nation's largest water suppliers to monitor for signs of contamination. The data will be used to clarify current scientific uncertainties and allow EPA to move forward on setting an appropriate safety standard for all systems in the future.

Profile

Guarding Ground Water in Oklahoma

Ada, Oklahoma is a small town of 15,000 people which relies on a single aquifer for its drinking water. Eight people there have formed a Groundwater Guardian team and are now volunteering their time and energy to keep their ground water clean. To accomplish this goal, the team focuses on education. In the past year, they have developed and widely distributed an information brochure to the local citizens. They have also made numerous presentations to local service clubs and held public meetings to inform local residents about drinking water issues.

Profile

Rochester Takes Action

Rochester, New York is one city that has already acted to address its combined sewer overflow problems. Using an approach similar to the national combined sewer overflow policy, Rochester's sewer system now captures and treats more than 3 billion gallons of combined sewage annually. Automated rainfall monitoring and computerized "smart" controls help the system optimize its response to a variety of rainfall and flow conditions. As a result, combined sewer overflows discharge to the Genesee River only about twice a year, and they have been virtually eliminated as a cause of beach closures on Lake Ontario. An increase in real estate values along Irondequoit Bay has been directly linked to the recent water quality improvements.

Raw Sewage Spills

For the most part, raw sewage is no longer routinely dumped into our nation's waters. Sewage treatment plants are very effective at treating wastewater so that it can be safely discharged to local waterbodies. In fact, the amount of pollution being discharged from these plants has been cut by over one-third during the past twenty years, even as the number of people being served has doubled.

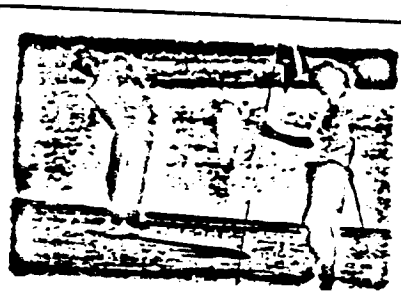
Yet, in some communities, raw sewage spills still occur. Sometimes spills occur because a sewer line is blocked, broken or too small. Spills can also occur during periods of heavy rainfall when the capacity of the sewer line or sewage treatment plant becomes overloaded and overflows into city streets or streams. In many older cities, sewers were designed to carry storm-water runoff along with sewage, and to overflow if a heavy rain exceeded the capacity of the system. These combined sewer overflows or "CSOs" as they are often called, occur in about 1,000 cities around the country.

In addition to spilling raw sewage, CSOs can also release untreated industrial wastewater and street debris. The result can be a real menace to public health, recreational uses, and commercial fishing. In fact, CSOs are a leading cause of beach closures and shellfishing restrictions around the country.

While the local impacts of CSOs can be significant, so is the cost of fixing them. For years, many cities were too daunted by the financial considerations to take action. But in 1994, a breakthrough occurred. Working closely with the States, affected cities, and environmental groups, EPA helped develop a consensus policy to guide action on CSOs. It encourages cities to pursue certain minimum, low-cost controls and to develop a full understanding of local CSO occurrences and impacts before making longer-term investments in additional wastewater treatment, temporary storage capacity, and sewer rehabilitation. The policy balances the need to protect the environment and the public with the need for reasonable cost-effective controls tailored to local environmental and financial conditions. This departure from a one-size-fits-all regulatory approach is expected to provide sound environmental protection at one-fourth the cost of previous proposals.

Profile

Golf Goes Green



For years, the golf industry and the environmental community have been at odds over environmental benefits of golf courses. Golf course architects, superintendents, and owners have always considered themselves stewards of the land. In contrast, the environmental community viewed the use of pesticides and other golf course management practices as damaging to habitat and water quality. With little actual contact, neither constituency had a clear grasp of the other's ideas and the distance between the two camps continued to grow.

In January 1995, however, a new relationship was established. At that time, EPA helped convene the first ever national meeting between the golf industry and the environmental community. A diverse group of 75 participants met to consider, "Is golf as environmentally safe and sensitive as it can be?", and "How can we make it more so?". The conference opened a long-overdue dialogue that has led to an agreed-upon set of principles for managing golf courses in an environmentally sound manner. They are not rules, but rather a set of voluntary guidelines for golf course developers, architects, superintendents, owners, and individual golfers. The principles have been very well received, earning endorsements from the American Society of Golf Course Architects, the Ladies Professional Golf Association, the Southern Environmental Law Center, and the National Wildlife Federation.

Polluted Runoff

Rain, sleet, and snowmelt washes off the land into streams, lakes, and bays or seeps into ground water. Moving across farm fields, city streets, or suburban backyards, this runoff picks up soil particles, pesticides, fertilizers, animal wastes and other pollutants. Because it comes from so many areas and sources, polluted runoff is much more difficult to quantify and to control compared to pollution from industry and municipal wastewater outfalls. Yet, State and Tribal water quality agencies now estimate that it is the leading cause of water pollution.

To deal with the problem, EPA is emphasizing voluntary, cooperative management approaches designed to create greater awareness about how our waters can become polluted from everyday activities or lifestyle choices. Many businesses now understand how their operations can affect water quality, and they are willing to work with EPA to find common-sense, practical solutions.

EPA's Partners in Prevention program has helped bring many of these partners

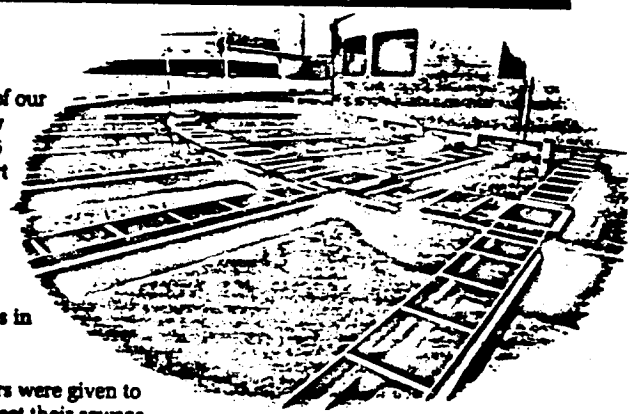
to the table. Through this program, EPA is working with national associations to accelerate voluntary adoption by their members of modern, economical management practices that reduce polluted runoff while maintaining or even enhancing production.

One partner that is very active and providing leadership for the entire livestock industry is the National Pork Producers Council (Pork Council), an organization that represents over 90,000 pork producers in all 50 States. If not managed properly, waste from hog farms can have a devastating impact on water quality. To improve overall environmental performance, the Pork Council produced and distributed to its members a "Guide to Environmental Quality in Pork Production," a "plain-English" handbook describing sound management practices that should be followed. Since publication in 1993, the Pork Council has been working in partnership with EPA, the U.S. Department of Agriculture, and State water quality agencies, to hold workshops designed to deliver hands-on, practical advice for putting these practices into place. Over 65 workshops have been conducted in 14 States. The next step is an Environmental Assurance Program which will promote on-the-farm self-assessments to identify potentially needed environmental improvements. Most recently, the Pork Council held a national summit on environmental issues to continue to improve the industry's commitment and response to ongoing concerns, including proper management and design of hog waste lagoons.

In the summer of 1995, a hog waste spill along the New River in North Carolina killed thousands of fish and resulted in a health warning to protect public health. This incident, which serves as an example of why environmental performance standards are needed, was followed by national guidance from EPA in 1996 which clarifies how large livestock operations should be managed to ensure compliance with national water pollution control requirements.

Investing in Technology and Infrastructure

Since 1972, the Federal government has invested over $66 billion in municipal wastewater treatment. Millions more have been invested by State and local governments to help meet the service needs of a constantly growing population. And these investments have paid off.



The fact that so many of our nation's waters are now cleaner compared to 25 years ago is in large part due to better sewage treatment. Today, the U.S. enjoys what is probably the most advanced network of sewage treatment plants in the world.

For years, Federal dollars were given to communities to help meet their sewage treatment needs through the Clean Water Act Construction Grants Program. However, in 1987, Congress replaced the grants program with a revolving loan program, known as the State Revolving Fund. Under this program, EPA provides grants to the States, and the States then make loans to communities. As the money is paid back, new loans are given to other communities also needing help.

This program represents a powerful financial partnership between EPA and the States, allowing the States to fund their highest priority needs. While traditionally used to build or improve wastewater plants, the State Revolving Fund is also being used to address other water quality problems, such as polluted runoff and sewer overflows.

The program is also a model of efficiency, allowing Federal, State, and local government agencies to leverage limited dollars. Because of the revolving nature, over a twenty year period, an initial federal investment can result in the construction of up to 4 times as many projects compared to a one-time federal grant. And because of new streamlined requirements, State Revolving Fund projects are completed about 30 percent faster compared to those funded with grants. Local governments can benefit by saving a great deal of money. The typical cost of a project funded with a State Revolving Fund loan is about 30 percent to 50 percent less compared to the cost of a project funded through the commercial bond market.

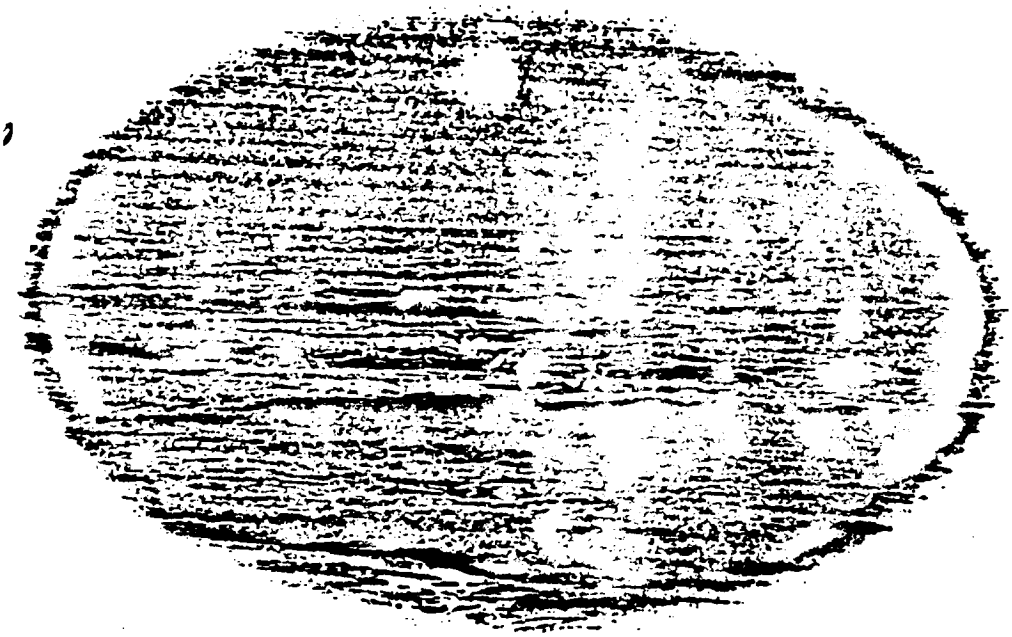
Because of its efficiency and importance in helping communities meet their clean water goals, in 1994, the Clinton Administration recommended a similar program to help communities provide an equally important service—safe drinking water. A total of $1.8 billion has been proposed since then, marking the first time ever that funds to ensure safe drinking water have been made a federal investment priority.

Profile

Sewage Solutions in Indiana

Two small towns in Indiana, Wanatah and Lake of the Woods, received loans from the State Revolving Fund to help replace septic tanks and construct badly needed sewage collection and treatment systems. In both cases, the septic tanks were not functioning properly because of inadequate lot sizes and unsuitable soils. The result was sewage contamination in local streams and lakes. The centralized treatment systems allowed each town to eliminate a major source of water pollution, restoring recreational opportunities for local citizens.

The new sewage systems also helped restore economic opportunity. "In Wanatah, growth was at a standstill due to the septic tank moratorium" said Chuck Mack, the town utility supervisor. The SRF loan allowe dthe community to lift the moratorium, and begin providing service to commercial and private residents. Because of the loan's lower interest rates, these services are provided at a lower monthly cost. According to Mr. Mack, "We see the loan as a real benefit to our community."



Conclusion

Clean water has irreplaceable value and enormous potential for affecting many sectors of the economy. A full spectrum of industries and commercial businesses are at stake as well as the livelihoods of real people. Real estate agents in the northeast, commercial fishermen in the Gulf of Mexico, charterboat captains in the Great Lakes, and hotel owners along Southern California beaches are just a few of the people that depend on clean water to deliver their products and services.

Investing in clean water is a common sense way to protect these businesses and ensure healthy, thriving communities. And many people and organizations are making that investment by joining in partnership with EPA, States, Tribes, and others to help clean up and protect our waters. These partnerships are encouraging as they demonstrate a willingness to invest both time and resources in order to receive the most important of all dividends—the assurance of safe, clean water for use today and tomorrow. In the short-term and long-term, for communities and for the nation, it is hard to imagine a sounder investment opportunity.

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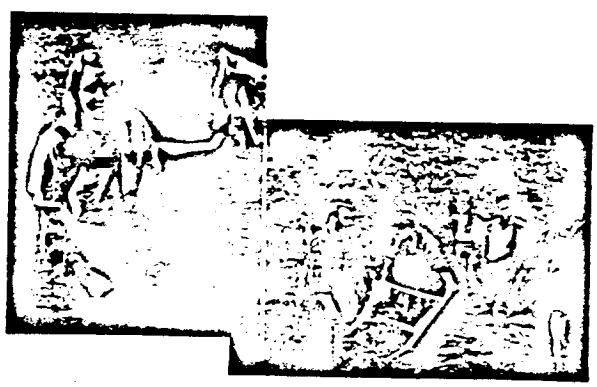
A Final Footnote

How You Can Help Keep Our Waters Clean

If you would like to find out more about water issues, contact EPA at the following address.

U.S. Environmental Protection Agency
Office of Water Communications Staff
Mail Code 4102
401 M Street, SW
Washington, DC 20460
(202) 260-3881

Information is also available on the Internet. Visit EPA's world wide web site at "http://www.epa.gov/OW" or send an electronic message to "OW-GENERAL@epamail.epa.gov".



Bibliography

Clean Water: A National Asset, A National Challenge

Apogee Research, Inc. 1996. *Economic Assessment and Analysis of the Indian River Lagoon.* Prepared by Apogee Research, Inc., Bethesda, MD, in association with Resource Economics Consultants, Inc., Gainesville, FL.

California Senate Office of Research. March 1936. *Myths of Jobs versus Resources: Environmental Protection and Economic Growth.* Sacramento, California

Hall, Bob for the Institute for Southern Studies. Fall 1994. *Gold and Green – Can we have good jobs and a healthy environment?.* Southern Exposure Magazine.

National Geographic Society. 1993. *National Geographic Special Edition: Water – The Power, Promise, and Turmoil of North America's Fresh Water.* Washington, D.C.

U.S. Environmental Protection Agency. cember 1995. *National Water Quality ventory Report to Congress.* EPA-841-R-95-005. Washington, D.C.

U.S. Environmental Protection Agency. 1996. *Environmental Indicators of Water Quality in the United States.* Prepublication copy. Washington, D.C.

U.S. Fish and Wildlife Service. 1991. *Status and Trends of Wetlands in the Conterminous United States, Mid-1970s to Mid-1980's.*

The Business of Clean Water

Recreation and Tourism

America Outdoors. 1994. Personal Communication with David Brown, Executive Director.

Coast Alliance. June 1995. *State of the Coasts.*

Fisheries Magazine. April 1994. *U.S. ...lers Add $69 Billion to Economy, Says ...dy.* Volume 19, Number 4.

Fortune Magazine. April 29, 1996. *The Largest U.S. Industrial and Service Corporations.* F-1.

Harrison, Roger. Spring 1995. *Rivers are Magnets for Tourism* in River Voices. River Network. Portland, Oregon.

Interstate Commission on the Potomac River Basin. 1991. *Healing a River – The Potomac: 1940-1990.*

Kealey, M.J., M. Needelman, G. Parsons, and T. Bondelid. 1996. *An Original Benefit Transfer Model of Water-based Recreation: The Ohio Pilot Study.* Draft transcript. U.S. Environmental Protection Agency, Office of Policy, Planning and Evaluation, Washington, D.C.

National Marine Manufacturers Association. 1990. *Boating 1990: A Statistical report on America's Top Family Sport.*

National Marine Manufacturers Association. 1990. *The Importance of the Recreational Marine Industry.*

Sport Fishing Institute and North American Fishing Club. April 1994. *Economic Impact of Sport Fishing in the United States.* Washington, D.C.

Tourism Policy Council. June 1995. *Tourism: Putting the Pieces Together.* Prepared in cooperation with the National Performance Review Team. Washington, D.C.

U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census. 1994. *Statistical Abstract of the United States: 1994* (114th edition). Washington, D.C.

U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, Bureau of the Census. *1991 National Survey of Fishing, Hunting and Wildlife-related Recreation.* Washington, D.C.

World Almanac Books. *The World Almanac and Book of Facts: 1996.* The Funk and Wagnalls Corporation. Mahway, New Jersey.

Commercial Fishing

Heimlich, Ralph and Jeanne Melanson. May - June 1995. *Wetlands Lost, Wetlands Gained.* National Wetlands Newsletter 17:3. Environmental Law Institute.

Pacific Coast Federation of Fishermen's Associations, Atlantic States Marine Fisheries Commission, Southeastern Fisheries Association, East Coast Fisheries Federation, and Ocean Trust. March 1994. *Fisheries, Wetlands and Jobs: The Value of Wetlands to America's Fisheries.* Report prepared for the Campaign to Save California Wetlands.

Agriculture

Conservation Technology Information Center. February/March 1996. *CTIC Partners Newsletter.*

IMC Fertilizer Corporation. *Farm-Raised Fish on American Tables* in *Across the Table.* Mundelein, Illinois.

National Cattlemen's Association. 1995. *Cattle and Beef Handbook.*

National Drinking Water Week Organization. 1995. *Drinking Water: On Top for the Future.* Factsheet.

U.S. Department of Agriculture, Economic Research Service. December 1994. *Agricultural Resources and Environmental Indicators.* Agricultural Handbook 705. Washington, D.C.

U.S. Department of Agriculture, Office of Communications. 1996. *1996 Agriculture Fact Book.*

Real Estate

Frenay, Robert. January/February 1996. *Chattanooga Turnaround.* Audubon.

Glick, Daniel. February/March 1996. *Cinderella Storie.* National Wildlife 34:2.

Showstack, Randy. December 1988. *Nashua Reborn* in Sanctuary (The Journal of the Massachusetts Audubon Society).

Smith, Margurite and Sheryl Nance-Nash. September 1995. *The Best Places to Live in America*. Money 24:9.

U.S. Environmental Protection Agency. September 1995. *Economic Benefits of Runoff Controls*. EPA 841-S-95-002. Washington, D.C.

Yenckel, James T. June 7, 1992. *Chattanooga and the Tennessee River Country. The Washington Post*, Sunday Travel Section.

Young, C. Edwin. 1984. *Perceived Water Quality and the Value of Seasonal Homes*. Water Resources Bulletin 20:2.

Manufacturing

Beer Institute. 1995. *Brewing: A Story of Economic Impact*. Washington, D.C.

Bergman, Ronald. 1996. Personal communication with Samuel Rowse, President of Veryfine Products.

National Drinking Water Week Organization. 1995. *Drinking Water: On Tap for the Future*. Factsheet.

National Soft Drink Association. 1995. *Soft Drink Facts at a Glance*. Factsheet. Washington, D.C.

U.S. Department of Commerce, Bureau of the Census. March 1986. *Water Use in Manufacturing*. 1982 Census of Manufacturers. Washington, D.C.

U.S. Environmental Protection Agency. March 1996. *Business Benefits of Wellhead Protection—Case Studies*. EPA 813-B-95-004. Washington, D.C.

Environmental Technology

California Senate Office of Research. March 1996. *Myths of Jobs versus Resources: Environmental Protection and Economic Growth*. Sacramento, California.

Environmental Business Institute. August 1995. *Small is Big*. Environmental Business Journal 8:8.

Johnson, Jeff. June 1995. *Selling Blue Skies, Clean Water*. Environmental Science and Technology 29:6.

Parks, Peter. April 1994. *Pollution Abatement Leads Job Market*. Environmental Protection Magazine 5:4.

U.S. Department of Labor, National Commission for Employment Policy. April 1995. *Promoting Growth and Job Creation Through Emerging Environmental Technologies*. Research Report No. 95-03. Washington, D.C.

Clean Water Legislation

Congressional Research Service. January 1995. *Summaries of Environmental Laws Administered by the Environmental Protection Agency*. CRS Report for Congress. 95-59 ENR. Washington, D.C.

Joint Ventures

Freshwater Foundation. December 1994. *Cryptosporidium and Public Health* in Health and Environment Digest 8:8. Wayzata, MN.

Naar, Jon and Alex J. Naar. 1992. *This Land is Your Land: A Guide to North America's Endangered Ecosystems*. Harper Perennial.

National Pork Producers Council. 1996. Personal Communication with Jeff Gabriel, Environmental Director.

South Florida Water Management District. 1996. *Everglades Annual Status Report*.

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Washington, DC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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MAY 17 1996

QUALITY CONTROL BOARD
LOS ANGELES REGION

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Interpretative Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems

FROM: Robert Perciasepe
Assistant Administrator

TO: EPA Water Management Division Directors

The purpose of this memorandum is to transmit to you a final policy which outlines the reapplication requirements for operators of municipal separate storm sewer systems (MS4s). This policy sets forth a streamlined approach for reapplication for MS4 permits. It allows municipalities to use recommended changes submitted in their fourth annual report as the principal component of their reapplication package. It also encourages changes to monitoring programs to make them appropriate and useful to storm water management decisions. With this policy, the Office of Water is seeking to improve municipal storm water management efforts by allowing municipalities to target their resources for the greatest environmental benefit. We encourage authorized NPDES States to consider this approach.

Numerous parties were involved in preparing this policy. These included State and Regional Water Management Directors, State and Regional Storm Water Coordinators, members of the Urban Wet Weather FACA committee, members of the National Association of Flood and Storm Water Management Agencies, and Tribal Operations Committee members.

If you have questions regarding this policy, please contact William F. Swietlik at (202) 260-9529 or Marilyn Fonseca at (202) 260-0592. I thank you for your assistance.

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 17 1996

OFFICE OF
WATER

Dear State Water Program Directors:

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If you have questions regarding this policy, please contact William F. Swietlik at (202) 260-9529 or Marilyn Fonseca at (202) 260-0592. I thank you for your assistance.

Sincerely,

Bob Perciasepe

Robert Perciasepe
Assistant Administrator

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MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT REAPPLICATION POLICY

The 1987 amendments to the Clean Water Act added Section 402(p) which directed the Environmental Protection Agency to establish regulations governing storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Early in the program, Congress specifically required NPDES permits for municipal separate storm sewer systems (MS4s) serving populations over 100,000. In response, EPA promulgated regulations in 1990 that established permit application requirements for MS4s that serve populations over 100,000. MS4 permits have since been drafted and finalized for many municipal systems. A number of MS4 permits are due to expire and must be reissued.

EPA is providing this policy memorandum to outline permit reapplication requirements for regulated MS4s. There are three components to EPA's reapplication policy. First, EPA is not requiring that the process used for part 1 and 2 of the initial permit application be repeated in full. Second, EPA has identified basic information that should be included in every reapplication package. Finally, EPA is seeking to improve existing MS4 storm water management programs by using information and experience municipalities have gained during the previous permit term.

<u>Is a permit reapplication necessary?</u>

Yes. The requirement that all point source discharges authorized by a NPDES permit must reapply is well established at 40 CFR sections 122.41(b) and 122.46(a):

> " *Duty to reapply*. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit."
>
> " *Duration of permits*. NPDES permits shall be effective for a fixed term not to exceed 5 years."

The reapplication requirement is also found at 40 CFR Section 122.21(d):

> " *Duty to reapply*. ... All other permittees with currently effective permits shall submit a new application 180 days before the existing permit expires.."

Therefore, all regulated Phase I MS4s need to participate in a permit reapplication process.

Where a complete reapplication package has been submitted as

technical contacts for the municipal permittee(s).

In addition, in the reapplication, municipalities should identify any proposed changes or improvements to the storm water management program and monitoring activities for the upcoming five year term of the permit, if those proposed changes have not already been submitted pursuant to 40 CFR 122.42(c). [A requirement to submit proposed changes to the storm water management program is specified in the annual reporting requirements in 40 CFR Section 122.42(c)(2).] EPA encourages permitting authorities to make use of the fourth year annual report as the basic permit reapplication package.

Changes to the storm water management program may be justified due to the availability of new information on the relative magnitude of a problem or new data on water quality impacts of the storm water discharges. Municipalities may also propose to de-emphasize some program components and strengthen others, based on the experience gained under the first permit. Proposed elimination of a program component might be justified upon permit renewal; for example, when a component is no longer a problem area (i.e., all detention basins have been retrofitted) or when a different water quality program would serve the same goals.

The components of the original storm water management program which are found to be effective should be continued and made an ongoing part of the proposed new storm water management program. Such components may include:

- continued emphasis on public education programs, particularly programs on proper disposal of waste oil and household hazardous waste and pesticide application;
- continued, if not greater, emphasis on addressing impacts of new development/construction;
- proper storm design criteria for all new developments;
- retrofitting and/or upgrading of the existing storm sewer system according to a priority system;
- more frequent maintenance of storm sewer systems and storm water treatment systems;
- coordination with adjacent MS4s on monitoring or other efforts; and
- using a watershed approach to storm water management.

The accumulated annual report information as outlined in 40 CFR 122.42(c) should be evaluated and, to the extent applicable, be incorporated by reference into the reapplication package.

To reiterate, MS4s may use the fourth year annual report,

DRAFT

June 10, 1996
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DRAFT INTERIM PERMITTING APPROACH FOR WATER QUALITY-BASED EFFLUENT LIMITATIONS IN STORM WATER PERMITS

In response to recent questions regarding the type of water quality-based effluent limitations that are most appropriate for National Pollutant Discharge Elimination System (NPDES) storm water permits, the Environmental Protection Agency (EPA) is adopting an interim permitting approach for regulating wet weather storm water discharges. Due to the nature of storm water discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations (expressed as concentration and mass), EPA will use an interim permitting approach for NPDES storm water permits.

The interim permitting approach uses best management practices (BMPs) as water quality-based effluent limitations in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate. This interim permitting approach is not intended to affect those storm water permits that already include appropriately derived numeric water quality-based effluent limitations or technology-based effluent limitations such as those based on effluent limitations guidelines or developed using best professional judgement (BPJ).

In order to gather necessary information about storm water discharges, storm water permits should include coordinated and cost-effective monitoring programs, such as ambient monitoring, receiving water assessment, discharge monitoring (as needed), or a combination of monitoring procedures designed to gather necessary information.

This interim permitting approach applies only to EPA; however, EPA also encourages authorized States to adopt similar policies for storm water permits. This interim permitting approach provides time, where necessary, to more fully assess the range of issues inherent in the control of storm water discharges for the protection of water quality. This interim permitting approach may be modified as a result of the ongoing Urban Wet Weather Flows Advisory Committee policy dialogue on this subject.

1014

DRAFT

June 10, 1996
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VOL 23

DRAFT Qs & As FOR INTERIM PERMITTING APPROACH FOR WATER QUALITY-BASED EFFLUENT LIMITATIONS IN STORM WATER PERMITS

Question 1: Must EPA require that storm water dischargers, industrial or municipal, be subject to numeric water quality-based effluent limitations (expressed as concentration and mass) in order to attain water quality standards (WQS)?

Answer 1: No, although National Pollutant Discharge Elimination System (NPDES) permits must contain conditions to ensure that water quality standards are met, this does not mandate the use of numeric water quality-based effluent limitations. Under the Clean Water Act (CWA) and NPDES regulations, permitting authorities may employ a variety of controls and limitations in storm water permits, including best management practices, performance objectives, narrative standards, monitoring triggers, action levels (monitoring benchmarks, toxicity reduction evaluation action levels, etc.), etc., as the necessary technology-based or water quality-based controls, where numeric water quality-based effluent limitations are determined to be infeasible.

Analysis:

A. The statute does not require numeric effluent limitations.

Section 301 of the statute requires that dischargers comply with effluent limitations necessary to meet State WQS. Section 502 defines "effluent limitation" to mean any restriction on quantities, rates, and concentrations of constituents discharged from point sources. Nowhere does the CWA say that effluent limitations need be numeric. As a result, EPA has broad flexibility in terms of how to define effluent limitations.

B. EPA's regulations do not require numeric effluent limitations.

EPA has, through regulation, interpreted the statute to allow for non-numeric limitations (e.g., "best management practices" or BMPs, see 40 CFR 122.2) to supplement or replace numeric limitations in specific instances that meet the criteria specified at 40 CFR 122.44(k). This regulation essentially codifies a court case addressing storm water discharges. NRDC v. Costle, 568 F.2d 1369 (D.C. Cir. 1977). In that case, the Court stated that EPA need not establish numeric effluent limitations where such limitations were infeasible.

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C. EPA has interpreted the statute and regulations to allow BMPs in lieu of numeric standards.

EPA has defended use of BMPs as a substitute for numeric limitations in litigation involving storm water discharges (CBE v. EPA, 91-70056 (9th Cir.)(brief on merits)) and in correspondence (Letter from Michael Cook, EPA, to Peter Lehner, NRDC, May 31, 1995). EPA has found that numeric limitations for storm water permits can be very difficult to develop at this time because of the existing state of knowledge about the intermittent and variable nature of these types of discharges, their effects on receiving waters, and the effectiveness of control measures in achieving numeric effluent limitations and improving water quality. Some storm water permits, however, currently do contain numeric water quality-based effluent limitations where adequate information exists to derive such limitations.

Question 2: Has EPA provided guidance on a methodology for deriving numeric water quality-based effluent limitations?

Answer 2: Yes, but primarily for continuous wastewater discharges at low flow conditions in the receiving water, not intermittent wet weather discharges during high flow conditions. Regulations at 40 CFR 122.44(d) specify the requirements under which permitting authorities establish water quality-based effluent limitations when a facility has the "reasonable potential" to cause or contribute to an excursion of a numeric or narrative water quality standard. In addition, EPA guidance in the Technical Support Document for Water Quality-Based Toxics Control (TSD) and the NPDES Permit Writers Training Manual, supplemented with total maximum daily load (TMDL) and modeling guidance, supports issuing permits consistent with the regulation and CWA. This guidance was based on crafting numeric water quality-based effluent limitations using TMDLs, or calculations similar to those used in developing TMDLs and wasteload allocations (WLAs), derived through modeling. EPA expects the Urban Wet Weather Flows Advisory Committee (60 FR 21189, May 1, 1995) will review this issue to provide recommendations on how to proceed.

Question 3: Why can numeric water quality-based effluent limitations be difficult to derive for storm water permits?

Answer 3: Storm water discharges are highly variable, and the relationships between discharges, controls and water quality can be complex. The water quality impacts of storm water discharges are related to the uses designated by States and Tribes in their WQS, the quality (e.g., conventional and toxic pollutants conveyed to the receiving water) and quantity (e.g., erosion and loss of habitat caused by increased flows and velocity) of the discharges. Uses may be affected by both water quality and water quantity impacts. Depending on site-specific considerations, some of the water quality impacts of storm water discharges may actually be more related to the physical effects (e.g. stream bank erosion, streambed scouring, extreme temperature variations, sediment smothering) than the pollutants present in the discharge. Although many of the typically used storm water control measures (source controls, traditional structural controls, and other BMPs) will contribute to ensuring that storm water discharges meet WQS, it is currently difficult and resource intensive to accurately quantify the effect of specific BMPs or the cumulative effect of a complex storm water control plan on attaining the numeric pollutant criteria or the designated uses in State or Tribal standards. For municipal storm water permits in particular, the current form of system-wide permits and a variety of jurisdiction-wide BMPs, including programmatic BMPs, does not easily lend itself to the existing procedures for deriving numeric water quality-based effluent limitations. These limitations typically are derived for each specific outfall in consideration of low flows of the receiving water. Because of this, permit writers have not made wide-spread use of existing methodologies and models for municipal storm water discharge permits. Wet weather modeling is technically more difficult and expensive than the simple dilution models generally used in the permitting process. These methodologies were designed primarily for process wastewater (dry weather) discharges which occur at predictable rates with predictable pollutant loadings under low flow conditions in receiving waters.

Question 4: Where has EPA recognized the technical difficulty in deriving numeric water quality-based effluent limitations for wet weather discharges?

Answer 4: EPA recognized the technical difficulty in deriving numeric water quality-based effluent limitations for wet weather discharges in its brief on the merits in Citizens for a Better Environment (CBE) v. United States Environmental Protection Agency, 91-70056 (9th Cir.) and in the Great Lakes Water Quality Guidance (58 FR 20841, April 16, 1993).

In the CBE case, EPA claimed that it was technically infeasible to derive numeric water quality-based effluent limitations for the discharge of metals in storm water into South San Francisco Bay and asserted that a water quality-based effluent limitation could take the form of a narrative statement, such as a BMP, if it was infeasible to derive a numeric limitation. In explaining its arguments in the CBE case, EPA cited 40 CFR 122.44(k)(2), which provides that BMPs may be imposed in NPDES permits "to control or abate the discharge of pollutants when ... (2) [n]umeric effluent limitations are infeasible."

In the Great Lakes Water Quality Guidance, EPA did not extend the method for calculating wasteload allocations, the basis for numeric water quality-based effluent limitations, to storm water or combined sewer overflow (CSO) discharges because the varying nature of these discharges is inconsistent with the assumptions used in developing the guidance. The Great Lakes Water Quality Guidance defers to national guidance and policy on wet weather and does not seek to establish a separate and distinct set of wet weather requirements. EPA expects the Urban Wet Weather Flows Advisory Committee (60 FR 21189, May 1, 1995) to provide recommendations about how to address the broader technical issues involved in achieving compliance with WQS in a wet weather context.

Question 5: What are the potential problems of using standard methodologies to derive numeric water quality-based effluent limitations for storm water permits?

Answer 5: Correctly derived numeric water quality-based effluent limitations provide a greater degree of confidence that a permittee is in compliance with WQS, because numeric water quality-based effluent limitations are derived directly from the numeric component of those standards. In addition, numeric water quality-based effluent limitations can avoid the expense associated with overly protective

treatment technologies, because numeric water quality-based effluent limitations provide a precise quantifiable target for permittees. Potential problems of incorporating numeric water quality-based effluent limitations rather than BMPs in storm water permits at this time are significant in some cases. Deriving numeric water quality-based effluent limitations for any NPDES permit without an adequate effluent characterization, or an adequate receiving water exposure assessment (which could include the use of dynamic modeling or continuous simulations) may result in the imposition of inappropriate numeric limitations on a discharge. Examples of this include the imposition of numeric water quality criteria as limitations without properly accounting for the receiving water assimilation of the pollutant or failure to account for a mixing zone (if allowed by applicable State WQS). This could lead to overly stringent permit requirements, and excessive and expensive controls on storm water discharges, not necessary to achieve compliance with WQS. Conversely, an inadequate effluent characterization could lead to water quality-based effluent limitations that are not stringent enough to protect designated uses in WQS. This could result because effluent characterization and exposure assessments for discharges with high variability of pollutant concentrations, loadings, and flow are more difficult than with process wastewater discharges at low flows.

Question 6: Should numeric water quality-based effluent limitations be developed for combined sewer overflow (CSO) discharges?

Answer 6: Applying numeric water quality-based effluent limitations to CSOs is also difficult, but does not present all of the same challenges as storm water discharges. In general, more information is available to permit writers about CSOs and their impacts.

These concepts are reflected in the CSO Control Policy issued by EPA on April 19, 1994 (59 FR 18688), which provides direction on compliance with the technology-based and water quality-based requirements of the CWA for communities with combined sewer systems. The CSO Policy provides for implementation of technology-based requirements (expressed as "nine minimum controls") by January 1, 1997.

In addition, under the CSO Policy, communities are also expected to develop long-term control plans that will provide for attainment of WQS through either the "presumption approach" or the "demonstration approach." Under the presumption approach, CSO controls would be

presumed to attain WQS if certain performance criteria are met. A program that meets the criteria specified in the CSO policy is presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the permitting authority determines that such presumption is reasonable based on characterization, monitoring, and modeling of the system, including consideration of sensitive areas. Under the demonstration approach, the permittee would demonstrate that the selected CSO controls, when implemented, will be adequate to meet the water quality-based requirements of the CWA.

The CSO Policy anticipates that it will be difficult in the early stages of permitting to determine whether numeric water quality-based effluent limitations are necessary for CSOs, and, if so, what the limitations should be. For that reason, in the absence of sufficient data to evaluate the need for numeric water quality-based effluent limitations, the Policy recommends that the first phase of CSO permits ("Phase I") contain a narrative limitation to comply with WQS. Further, so-called "Phase II" permits would contain water quality-based effluent limitations, as provided in 40 CFR 122.44(d)(1) and 122.44(k) that may take the form of numeric performance or design standards, such as a certain number of overflow events or a certain percent volume capture. Generally, only after the long-term control plan is in place and after collection of sufficient water quality data (including applicable wasteload allocations developed during a TMDL process) would numeric water quality-based effluent limitations be included in the permit. This would likely occur only after several permitting cycles.

Question 7: If BMPs alone are demonstrated to provide adequate water quality protection, are additional controls necessary?

Answer 7: No. If the permitting authority determines that, through implementation of appropriate BMPs required by the NPDES storm water permit, the discharges have achieved compliance with WQS and technology-based requirements, additional controls need not be included in the permit. Conversely, if a discharger (municipal or industrial) fails to adopt and implement adequate BMPs as intended, the permitting authority may have to consider more traditional permit controls for water quality protection.

If, however, the permitting authority or States conducting 401 certifications have adequate information on which to base more specific controls or limitations, such limitations are to be incorporated into storm water permits, as necessary and appropriate. Such controls or limitations may

include an integrated suite of BMPs, performance objectives, narrative standards, monitoring triggers, numeric water quality-based effluent limitations, action levels, etc.

Question 8: What is EPA doing to develop information about the linkage between BMPs and water quality?

Answer 8: The Agency is currently working with WERF (Water Environment Research Foundation) and ASCE (American Society of Civil Engineers) to research which BMPs are most effective under which circumstances. The results of this research will provide permitting authorities and permittees with information about how to evaluate the effectiveness of different kinds of BMPs in different circumstances and to select the most appropriate controls to achieve water quality objectives. In addition, EPA is sponsoring research being conducted by the Watershed Management Institute and other organizations over the next two to four years to examine the capability of storm water BMPs to improve receiving water quality and restore/protect the biological integrity of those waters.

Question 9: The policy states that permits should incorporate cost-effective monitoring to generate necessary data for the protection of water quality. What types of monitoring should be included and how much monitoring is necessary?

Answer 9: The amount and types of monitoring necessary will vary depending on the individual circumstances of each storm water discharger. EPA encourages dischargers and permitting authorities to carefully evaluate monitoring needs and storm water program objectives so as to select useful and cost-effective monitoring approaches. For most dischargers, storm water monitoring can be conducted for two basic reasons: 1) to identify if problems are present, either in the receiving water or in the discharge, and to characterize the cause(s) of such problems; and 2) to assess the effectiveness of storm water controls in reducing contaminants and making improvements in water quality.

Under the NPDES storm water program, municipal permittees are required to conduct monitoring. EPA recommends that each municipal permittee design the monitoring effort to be supportive of the goals and objectives of its storm water management program when developing such a program for the term of its NPDES permit. To accomplish this, a municipal permittee may use a variety of storm water monitoring tools including receiving water chemistry; receiving water biological assessments (benthic invertebrate surveys, fish

surveys, habitat assessments, etc.) effluent monitoring; including chemical, whole effluent and visual examinations; illicit connections screening; and combinations thereof or other methods. Techniques that assess receiving waters will help to identify the degree to which storm water discharges are contributing to any water quality problems. Techniques that assess storm water discharge characteristics will help to identify potential causes of any identified water quality problems. The municipal permittee, in conjunction with the applicable NPDES permitting authority, should determine which monitoring approaches would be most appropriate given the objectives of the storm water management program. If municipal permittees conduct ambient monitoring, it may be most cost-effective to pool resources with other organizations (including, for example, other municipalities and States) conducting monitoring within the same watershed. This could be best accomplished through a coordinated watershed monitoring strategy.

For industrial storm water dischargers, monitoring may be required under the terms of NPDES permits for storm water discharges. For those industrial storm water permits that do require monitoring, this is typically done to characterize storm water contaminants that might be found in the industrial runoff and/or to assess the effectiveness of the industrial storm water pollution prevention plan in reducing these contaminants. This typically involves end-of-pipe chemical-specific monitoring. End-of-pipe monitoring may be more appropriate for an industrial facility than for a municipal permittee, given the industrial facility's more discrete site characteristics, which make management strategies such as collection and treatment more feasible. Industries for the most part, have readily defined storm water conveyances into which runoff flows from discrete drainage areas. Industries may more readily identify and control existing on-site sources of storm water contamination or provide collection and treatment within these discrete drainage areas to control pollutant concentrations in their storm water discharges.

EPA and other organizations are currently working to improve approaches for monitoring storm water and the potential effects upon water quality. These new approaches are called storm water program "environmental indicators." Environmental indicators are designed to be more meaningful monitoring tools that storm water dischargers can use to conduct storm water monitoring for the purposes described above. A manual describing each of the recommended storm water program environmental indicators is being prepared by the Center for Watershed Protection in Silver Spring, Maryland. That manual is expected to be ready by the end of

July 1996 and should provide useful information for storm water dischargers contemplating the need to develop a cost-effective, meaningful storm water monitoring program. In addition, EPA expects the Urban Wet Weather Flows Advisory Committee (60 FR 21189, May 1, 1995) to provide recommendations on how to better monitor storm water and other wet weather discharges using a watershed approach.

Question 10: Does this policy apply to both storm water discharges associated with industrial activity and storm water discharges from municipal separate storm sewer systems?

Answer 10: Yes. This policy is applicable to both discharges from municipal separate storm sewer systems and storm water discharges associated with industrial activity regulated under CFR 122.26(b)(14). The policy would not apply, however, to industrial storm water discharges regulated under an effluent limitations guideline for which technology-based numeric effluent limitations have already been derived for those discharges. In addition, particularly for some industries, adequate information may already have been collected with which to assess the reasonable potential for a storm water discharge to cause or contribute to an excursion of a WQS, and from which a numeric water quality-based effluent limitation can be (or has been) appropriately derived. An adequate amount of storm water pollutant source information may also exist with which to assess the effectiveness of the industrial storm water control measures in complying with the limitations and in reducing storm water contaminants for protecting water quality.

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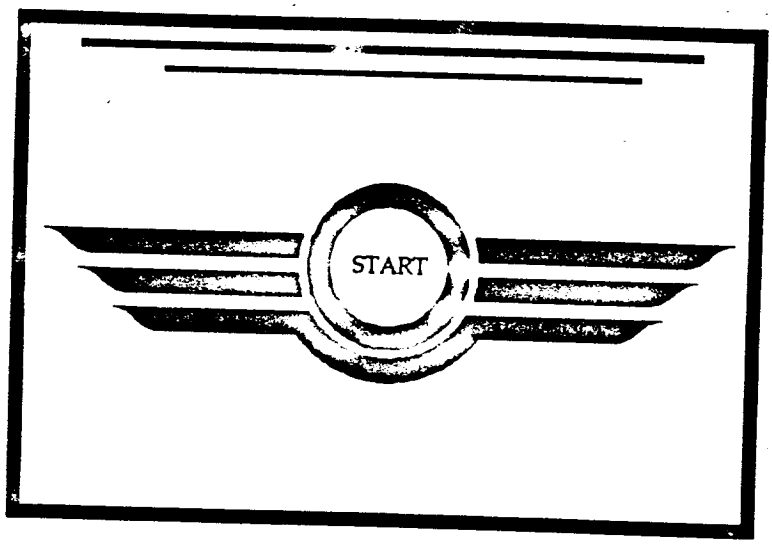

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September 27, 1995

TO: All Permittees

FROM: Gary Hildebrand 6604
Los Angeles County Department of Public Works

EXECUTIVE ADVISORY COMMITTEE COMMENTS ON DRAFT NPDES PERMIT

Attached is a copy of the draft NPDES Permit that was mailed out by the Regional Water Quality Control Board to all Permittees on September 15, 1995. This version had not been reviewed by the EAC prior to its release to the Permittees. The attached copy contains the EAC's comments on this draft from its September 25, 1995 meeting.

If you have any questions, please contact Frank Kuo at (818) 458-6989, or Menerva Daoud at (818) 458-5975, Monday through Thursday, 7:00 a.m. to 5:30 p.m.

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Attach.

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20 Sept 95
EAC comments
9/25/95

Aug 24, 1995

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

ORDER NO. 95-XXX

WASTE DISCHARGE REQUIREMENTS
FOR
STORMWATER MANAGEMENT/URBAN RUNOFF DISCHARGES
WITHIN THE COUNTY OF LOS ANGELES

(NPDES NO. CAS0061654)

The California Regional Water Quality Control Board, Los Angeles Region, finds:

1. The Regional Board recognizes that ~~the EAC assumes no responsibility for the adequacy or inadequacy of any individual Permittee's efforts and is not viewed as the responsible agency in this sense.~~ Participation by any Permittee on the EAC is voluntary, and is not an obligation under the permit and shall not increase the responsibility or liability of any Permittee under any portion of the Permit

2. The EAC's main role is to facilitate programs within the six watersheds and to enhance consistency among all of the programs.

3. The Regional Board recognizes that the Principal Permittee assumes no responsibility for insuring the compliance of any individual Permittee with the requirements of this Permit

The Board has notified the interested agencies and persons of its intent to adopt waste discharge requirements for the discharge of municipal stormwater/urban runoff and has provided them with an opportunity to submit their written views and recommendations.

The Board, in a public hearing, heard and considered all comments pertaining to the tentative waste discharge requirements.

This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the federal Clean Water Act, or amendments thereto, and shall take effect at the end of ten (10) days from the date of its adoption provided the Regional Administrator, USEPA, has no objections.

IT IS HEREBY ORDERED that the County of Los Angeles and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, SanMonica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, WeHollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the California Water Code, and regulations adopted thereunder, and the provisions of the Federal Clean Water Act, and regulations and guidelines adopted thereunder, shall comply with the following for the areas under their jurisdictions within the drainage area of the County of Los Angeles:

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A. Discharge Prohibitions

1. The ~~Dischargers~~ Permittees shall, within their respective jurisdictions, effectively prohibit the discharge of non-storm water ~~(materials other than storm water)~~ into their storm drain systems and watercourses. NPDES permitted discharges are exempt from this prohibition. Compliance with this prohibition shall be demonstrated in accordance with Provisions _____ in this Order.

2. The discharge of stormwater from a facility or activity that causes or contributes to the violation of Receiving Water Limitations is prohibited.

B. Receiving Water Limitations

1. The discharge shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the State:

   a. Floating, suspended, or deposited macroscopic particulate matter, or foam;
   b. Bottom deposits or aquatic growths;
   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin; and/or
   e. Toxic or deleterious substances present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge shall not cause a violation of any applicable water quality objective for receiving waters. If applicable water quality objectives are adopted and approved by the State Board after the date of the adoption of this Order, the Regional Board may revise and modify this Order as appropriate.

to be discussed at 9/27 Permit negotiating meeting. Present form not acceptable to EAC.

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C. PROVISIONS

i. The ~~Discharger~~ Permittees shall demonstrate compliance with Discharge Prohibitions A.1 and A.2, and Receiving Water Limitations B.1, B.2, and B.3 through the timely implementation of control measures and other actions to reduce pollutants in the discharge as proposed in the Plan. The ~~Discharger~~ Permittees shall implement the thirteen baseline BMPs, in addition to all others proposed in the ROWD. As such, the Plan submitted by the Discharger is an integral and enforceable component of this Order. Any subsequent modifications, revisions, or amendments must be approved by the Executive Officer of the Regional Board. Each of the Co-Permittees need only to comply with the permit conditions (including Discharge Prohibitions A.1, A.2, and A.3, and Receiving Water Limitations B.1, B.2, and B.3) applicable to discharges from the municipal separate storm drains for which they are operators.

ii. The Discharger shall implement the Plans as proposed and amended for the Malibu Creek and rural areas, Ballona Creek and urban areas, Santa Clara River, Los Angeles River, San Gabriel River, and the Dominguez Channel Watershed Management Areas:

I. PROGRAM MANAGEMENT

A. Principal Permittee

1. The County of Los Angeles is designated as the Principal Permittee.

2. The Principal Permittee shall:

a. Coordinate permit activities and, by, _____, convene and chair the area-wide Executive Advisory Committee; ~~and the Watershed Management Committees~~;

b. Provide personnel and fiscal resources and by, _____, develop a Baseline Stormwater Management Plan (Plan) for use in developing a watershed management plan (WMP) for each watershed;

c. Provide personnel and fiscal resources for the development of the WMPs;

d. Provide personnel and fiscal resources for the updating and modification of the Plan and the WMPs;

e. Provide technical and administrative support for both the Executive Advisory and Watershed Management Committees;

f. Implement watershed water quality monitoring programs as described in Chapter _____.

g. Provide the personnel and fiscal resources to complete ~~by~~

no need for date here, will be discussed in Program Eval & Reporting Chapter

the annual reports including evaluations of monitoring program data and BMP effectiveness;

h. Coordinate the implementation of stormwater quality management activities of regional significance (this shall mean that the Principal Permittee shall identify BMPs which are applicable for implementation by permittees watershed-wide and area-wide), such as public outreach and education, pollution prevention, waste minimization, and other similar actions;

i. Act as liaison between all Permittees and the Regional Board on Permit issues; and

j. Meet all the responsibilities outlined below for a Permittee.

B. Permittees

1. The other cities and agencies are designated as Permittees.

2. Each Permittee shall:

a. Participate in the development and amendment of the Baseline Stormwater Management Plan (Plan) and by _____, jointly prepare the watershed specific management plans (WMPs) via their WMC;

b. Provide an Implementation Plan describing specific stormwater programs, projects and/or activities which are to be conducted within their jurisdictional boundaries, including the storm drainage system they own and operate, and which demonstrate compliance with the WMP(s) requirements by _____; and

c. Provide in a timely manner all information needed by the Principal Permittee for completing the annual reports.

3. The City Administrator/Public Works Director of each Permittee shall appoint a representative(s) to the WMC.

C. Agency Coordination

Each Permittee shall coordinate implementation of permit requirements and pollution prevention activities among each Permittee's internal departments and agencies (i.e. public works, planning, utilities, water supply, etc...).

D. Executive Advisory Committee

1. The EAC shall consist of a representative of the County of Los Angeles, City of Los Angeles, a representative from the Malibu Creek, Santa Clara, and Dominguez Channel Watershed Management Areas, and two

representatives from each of the San Gabriel River, Los Angeles River, and the Ballona Creek Watershed Management Areas.

a. One representative from the EAC shall chair the Watershed Management Committee for that Permittee's main watershed management area.

2. The City Administrator/Public Works Director for the County of Los Angeles and for the City of Los Angeles shall each appoint a representative to the EAC. Other members will be appointed by the WMCs.

3. The EAC shall be responsible for:

a. Making recommendations on area-wide issues to each of the Watershed Management Committees;

Previously, EAC had primarily responsibility (b.) Assisting the Principal Permittee in the development of the Baseline Storm Water Management Plan; and

c. Reviewing the Watershed Management Plans as developed by each Watershed Management Committee and provide direction and guidance on the plans for consideration by the Watershed Management Committees;

d. Preparing and forwarding unified submittals to the Regional Board upon receipt of information and materials submitted by the Watershed Management Committee in compliance with Permit requirements;

e. Mediating conflict among the Permittees; and

f. Coordinating the implementation of pilot projects to target pollutant sources, evaluate BMP appropriateness, and assess effectiveness.

E. Watershed Management Committee

1. Watershed Management Committees (WMC) shall consist of a representative of each of the Permittees for that particular watershed management area. Regular WMC meetings shall be open to attendance by the public. The WMC may hold closed sessions, at its discretion, to discuss permit related issues.

need to add language allowing the WMC to designate the Principal Permittee as chair, if the WMC so desires (2.) The Malibu Creek, Santa Clara, and Dominguez Channel WMCs shall each appoint one representative to serve on the EAC and to chair the WMC. The San Gabriel River, Los Angeles River, and the Ballona Creek WMCs shall each appoint two representative to serve on the EAC, one of whom will chair the WMC.

3. The WMC shall be responsible for:

   a. Establishing goals and objectives for the watershed;

   b. Prioritizing pollution control efforts;

   c. Participating in the development of a specific watershed management plan (WMP), based on the Baseline Stormwater Management Plan (Plan);

   d. Assessing the effectiveness of, preparing revisions for and making appropriate changes to the Plan and the WMP;

   e. Coordinating and facilitating the preparation of the annual reports on Permit activities within the watershed for submittal to the Regional Board – a draft of the annual report shall be circulated to each Permittee and the Executive Advisory Committee for their review and comments prior to submittal to the Regional Board; and

   f. Facilitating the implementation of this Order among the Permittees in the watershed.

F. Watershed Management Subcommittees

1. Subcommittees will be established where needed as determined by the WMC and/or the EAC.

2. The Subcommittees will be focused on specific program areas and can provide more specific oversight on the development, implementation, and evaluation of selected program areas.

G. Fiscal Resources

Each Permittee shall submit an annual budget for its Implementation Plan within 30 days after the budget adoption. The budget shall be summarized and put into a format which identifies the necessary capital and operation and maintenance expenditures necessary to implement the storm water management program. ~~The budget shall provide information such as funding sources, staff resources, equipment, support capabilities, contract services, and cost sharing arrangements for the storm water management programs.~~ Also included shall be a description of any funding shortfalls.

1. Area-Wide Resources - In implementing this Order and the Plan, the Permittees may elect to jointly fund a single program for certain BMPs, such as Public Education, that are area-wide in nature. ~~Funding agreements, including budgets and cost per agency, shall be developed.~~

repetitive, delete

~~2. City-Specific Resources - As stated above, each Permittee shall develop an annual budget detailing the cost of implementing Permit-related activities~~

~~within its jurisdiction.~~

H. Legal Authority

1. The legal authority that was required of each Permittee under Order No. 90-079 shall continue in effect.

2. The Co-Permittees shall exercise their legal authority and require compliance with this Order and the Plan within its jurisdiction.

What are the Regional Board expectations in complying with this? → (3)

3. Each Permittee shall certify that it has legal authority to control discharges to and from those portions of the storm drainage system over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements between permittees with adequate existing legal authority and shall, at a minimum, accomplish Items a-f below:

   a. Control the contribution of pollutants to the storm drainage system by storm water discharges associate with industrial activity and the quality of storm water discharged from sites of industrial activity;

   b. Prohibit illicit discharges and illicit connections to the storm drainage system and require removal of illicit connections;

   c. Control the discharge of spills and the dumping or disposal of materials other that storm water (e.g. industrial and commercial wastes, trash, debris, motor vehicle fluids, green waste, animal wastes, leaves, dirt, or other landscape debris etc.) to the storm drainage system;

need clarification as to what is intended by this. → (d.)

   d. Control through interagency or inter-jurisdictional agreements among permittees the contribution of pollutants from one portion of the storm drainage system to another;

   e. Require compliance with conditions in ordinances, permits, contracts or orders; and

   f. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the storm drainage system.

4. Each Permittee's legal counsel shall complete a review of its existing legal authority to ensure that its existing legal authority complies with the requirements in this Order.

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5. Upon its completion of the legal authority review, or within ~~60~~ days of permit adoption, (whichever is sooner) each Permittee shall demonstrate that it has adequate legal authority or provide a schedule for obtaining the

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adequate legal authority. Guidance for demonstrating adequate legal authority is included within the EPA document entitled *Guidance Manual For The Preparation Of Part 2 Of The NPDES Permit Applications For Discharges from Municipal Separate Storm Sewer Systems, (EPA 833-B-92-002, November 1992)*, page 3-4.

I. Administrative Review

The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the RWQCB under this Permit. In addition, it provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement actions. A Permittee shall not be in violation of any term or condition of this permit until the following administrative review process has been completed.

need to include RB obligation for timely review of permit submittals (ie: within 45 days)

1. If the Executive Officer finds that a Permittee's stormwater program is insufficient to meet the provisions of the Permit, the Executive Officer shall send a "Notice of Intent to Meet and Confer (NIMC)" to the Permittee. The NIMC shall include a date by which the Permittee must meet with RWQCB staff.

2. Upon receipt of a NIMC, the Permittee shall meet and confer with RWQCB staff to clarify the steps to be taken to completely meet the provisions of this permit. The meet and confer sessions shall be for the purpose of developing additions and enhancements to the jurisdiction's stormwater program. The meet and confer period shall conclude with the submittal to and acceptance by the Executive Officer of a written "Stormwater Program Compliance Amendment (SPCA)" which shall include implementation deadlines. The Executive Officer may terminate the meet and confer period after a reasonable period due to a lack of progress on issues and may order submittal of the ~~SPEP~~ SPCA by a specified date. Failure to submit an acceptable SPCA by the specified date shall constitute a violation of the Permit.

3. The Executive Officer will approve or reject the submitted SPCA within a reasonable amount of time. Rejection of a submitted ~~SPEP~~ by the Executive Officer shall state the reasons for the failure to approve the SPCA. A Permittee that receives a rejection of an SPCA shall have thirty (30) days to remedy the specified deficiency in the SPCA and receive administrative approval from the Executive Officer of the amended SPCA.

4. The Permittee shall comply with the terms of the SPCA. The Permittee shall submit reports to the Executive Officer of progress made under the SPCA. The frequency of progress report submittal shall be as prescribed by the Executive Officer. Failure to comply with the terms and conditions of the SPCA shall constitute a violation of the Permit and shall be cause for immediate Administrative Civil Liability as prescribed by the Executive Officer.

J Regional Board

Programs, including schedules for implementation developed under the terms of the Permit shall be submitted to the Executive Officer for approval. Programs shall be implemented upon approval of the Executive Officer. Within 45 days of program submittal, the Executive Officer shall respond with the results of the review of the program or its approval. Where no written response has been received by the Principal Permittee within 45 days, the program submittal shall be deemed approved.

II. ILLICIT DISCHARGES\DISPOSAL

A. Illicit Connections

By _____, the EAC shall develop a consistent program including investigative standard procedures to eliminate illicit connections to the storm drain system.

By _____, each Permittee shall implement a program to identify and eliminate illicit connections to the maximum extent practicable.

1. The program shall, at a minimum:

   a. standardize per EAC guidelines, storm drain inspection procedures, and illicit connection and identification and elimination procedures;

   b. prioritize ~~major~~ potential problem areas, ~~to include but not be limited to~~ older business areas, and areas with heavy industry such as those listed under subchapter N of 40 CFR Parts 405 - 471

   new wording. vague, open to broad interpretation. remove.

   c. utilize results of field screening activities, and other appropriate information.

   d. contain an industrial/commercial education/outreach component to inform businesses about the problem of illicit discharges/dumping and proper discharge/disposal practices,

   e. schedule storm drains for inspection for illicit connections within its jurisdiction.

   f. maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

   g. establish enforcement procedures to terminate illicit connections.

B. Illegal Discharges\Disposal

1. By _____, the EAC shall develop a consistent program including investigative standard procedures to eliminate illegal discharges/disposal practices to the storm drain system.

2. By _____, the EAC shall develop a standard enforcement procedures, including administrative and judicial, to eliminate illegal discharges/disposal practices.

3. By _____, the EAC shall develop standard procedures for spill response, including a procedure to ensure that, in a spill response, sewage treated

with disinfection agents will not be discharged into the storm drainage system, to the maximum extent practicable. The standard procedures will address investigation, containment, and cleanup activities as appropriate.

4. By _____, each Permittee shall implement a program to identify and eliminate illegal discharges/disposal practices to the maximum extent practicable.

The program shall, at a minimum:

a. Identify and prioritize problem areas of illegal disposal where inspection, clean up, and enforcement are necessary to prevent the discharge of contaminants;

b. Maintain a surveillance program to detect illegal discharges and disposal into the street system, including, but not be limited to, street use inspections and inspections of vacant facilities;

c. Establish procedures to educate inspectors, maintenance workers, and other field staff in their jurisdiction to notice illicit dischargers/disposal practices during the course of their daily activities, and report such occurrences;

d. Maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

e. Establish per EAC guidelines spill response procedures; and

f. Establish, per EAC guidelines, enforcement procedures to eliminate illegal discharges/disposal practices.

C. Non-Storm Water Discharges

1. Exempted Discharges

In carrying out Discharge Prohibition A.1 of this Order, the following non-storm water discharges need not be prohibited unless they are identified by the Dischargers or the Executive Officer as sources of pollutants to receiving waters:

a. flows from riparian habitats or wetlands;
b. diverted stream flows;
c. springs;
d. rising ground waters; and
e. uncontaminated groundwater infiltration.

If the any of the above categories of discharges, or sources of such discharges, are identified as sources of pollutants to receiving waters, then such categories or sources shall be addressed as conditionally exempted discharges, in accordance with Provision C.1.b.

2. Conditionally Exempted Discharges

The following non-storm water discharges need not be prohibited if they are either identified by the ~~Dischargers~~ or the Executive Officer as not being sources of pollutants to receiving waters or if appropriate control measures to minimize the adverse impacts of such sources are developed and implemented under the Storm Water Management Plan, ~~in accordance with Provision C.5.a.~~:

a. Landscape irrigation;
b. ~~Diverted stream flows~~;
c. Foundation ~~drains~~;
d. Air conditioning condensate;
e. Irrigation water;
f. Water from crawl space pumps;
g. ~~Footing~~ drains;
h. Individual residential car washing;
i. Residential and Commercial roof drains;
j. Residential swimming pool discharges;
k. Street washing*
l. Sidewalk washing*
m. Discharges or flows from emergency fire fighting activities;
n. Other types of discharges identified and recommended in annual reports by the Discharger, as approved by the Executive Officer of the Regional Board.

D. Other Prohibited Activities

1. The Permittees shall prohibit any person from:

a. causing or allowing illicit discharges to be made into the storm drain system;

b. ~~establishing, using or maintaining an illicit connection to the storm drain system~~;

c. littering.

d. disposing of leaves, dirt or other landscape debris into a storm drain; and

e. using any pesticide, fungicide, or herbicide which has either been voluntarily discontinued or prohibited by the USEPA.

f. washing down toxic materials from paved or unpaved areas.

g. washing down impervious surfaces in industrial and/or commercial areas is prohibited unless specifically required ~~to under~~ Health and Safety Codes.

more appropriate for Industrial/Commercial source chapter. relocate.

(2.) Storage of Materials, Machinery and Equipment

The Permittees shall require:

a. that objects, such as motor vehicle parts, containing grease, oil, or other hazardous substances, and unsealed receptacles containing hazardous materials, be stored away from areas susceptible to runoff;

b. that machinery or equipment which is to be repaired or maintained in areas susceptible to runoff, be placed on a pad of absorbent material, or an equivalent, to contain leaks, spills or small discharges;

c. that owners of commercial/industrial motor vehicle parking lots ~~and structures~~ (with more than 10 parking spaces) located in areas susceptible to runoff to be swept to remove debris. ~~Lots with more than ten (10) parking spaces and all public parking facilities shall also be vacuum swept, or by equivalent method, to remove chemical residue;~~

d. that all fuel and chemical residue, animal waste, garbage, batteries, or other types of potentially harmful materials which are located in areas susceptible to runoff, be removed immediately and disposed of properly.

e. that hazardous waste be disposed of through the Permittee's hazardous waste program or at any other appropriate disposal site, and not be placed in a trash container for regular trash disposal.

E. Public Reporting

1. By _____, the EAC shall develop a standard program, for Permittees to implement by _____, to promote, publicize, and facilitate public reporting of illicit discharges and illegal disposal practices that may adversely impact water quality.

2. By _____, EAC shall develop a standard program for the reporting of incidents of a hazardous substance entering the storm drain, where the responsible party is not known, to the Regional Board and State of California Office of Emergency Services (OES) at (800)___-____ and the Federal Hazardous Response Number at (800) ___-____. The Permittees shall implement this program by _____.

F. Reporting

(1.) A ~~quarterly~~ summary of illicit connections eliminated shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the investigation; what was being discharged; estimated length of time the practice was on-going; what

New section. As written, summary is far too detailed. Summary should focus on categories of illicit connections # discovered per category, # eliminated, # in process to eliminate, # subject to legal enforcement action.

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Pre existing section. However information requested is too detailed. See comments on F2 page 12.

remedial action was taken; and what happened to the discharger.

(2) A ~~quarterly~~ summary illegal discharge/disposal practices reported through the standardized public reporting system shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the incident; what was spilled/dumped; quantity; what remedial action was taken; and what happened to the discharger/dumper.

G. Coordination With State Permits — for use by each Permittee in its illicit connection program to identify

1. The Principal Permittee will be provided an updated list of NPDES Permits on a quarterly basis, through the Regional Board's electronic bulletin board, ~~to verify~~ permitted sources of the existing non-storm water discharges in the storm water drainage system.

2. The Permittees will work with other regulatory agencies and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies. These agencies, include but are not limited to:

   a. California Department of Fish and Game
   b. California Department of Toxic Substances Control
   c. California Coastal Commission
   d. United States Environmental Protection Agency
   e. California Department of Transportation
   f. California Air Resources Board

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III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES

A. Identification of Sources

1. By _____ the Permittees shall develop a database listing industrial/commercial facilities by four digit SIC codes which shall be updated annually. The database shall include at a minimum:

identified in III.B.1.a. of the

~~a. Facility owner's name, address, and telephone number;~~

b. Site address, ~~telephone number, and contact person;~~

~~c. Closest receiving water and watershed;~~

d. Applicable SIC code(s);

i. For each four digit SIC sector, the Permittees shall identify primary activities that might impact runoff discharges;

ii. For each four digit SIC sector, the Permittees shall identify primary materials that might impact runoff discharges; and

delete. this program to be addressed by the Critical (2) Source monitoring element of the monitoring program.

By _____, ~~the EAC shall develop a pollutant source identification program for the control of storm water pollutant discharges from industrial/commercial facilities. The objective of the source identification program is to gather data on specific and/or interrelated set of pollutant generating activities occurring on very small areas (< 5 acres) of industrial/commercial activity and to provide information for developing and implementing BMPs for specific activities.~~

B. Prioritization of Sources

1. By _____, the Permittees shall prioritize industrial and commercial facilities within their jurisdiction on their relative potential for the contamination of storm water and urban runoff. The prioritized list shall include

a. Categorical List

i. All industries regulated under Phase I of the Federal storm water program (40 CFR 122.26).

ii. All industrial/commercial SIC codes ~~selected by the USEPA for screening under Phase II of the Federal storm water program.~~ → vehicle repair shops, vehicle body shops, vehicle parts + accessory shops, gasoline stations, and restaurants.

iii. Other business sectors considered by both the EAC and/or the

Regional Board to conduct industrial/commercial activity with a high potential for storm water contamination ~~(e.g. restaurants)~~.

The categorical list shall be grouped which Permittees and provide an organized overview of the target facilities based on land use, operation, and activities, could potentially contribute significant amounts of pollutants into storm water runoff.

2. By _____, Permittees shall rank the industrial and commercial facilities, identified as potential pollutant sources of storm water and urban runoff pollutants in III. B.1.a, in order of priority for oversight of implementation of storm water management measures.

C. Source Control Measures

1. By _____, Permittees shall develop ~~a checklist of specific~~ storm water and urban runoff control measures for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutants into storm water runoff. The control measures must

   a. address multiple pollutant sources

   b. initially focus on source control measures such as source minimization, education, good housekeeping, and site design alternatives.

   c. target industrial/commercial source areas and activities with the potential to generate substantial pollutant loadings

new. redundant with III.D. delete (2.) By _____, Permittees shall develop a process to ensure implementation of storm water and urban runoff control measures for industrial/commercial facilities identified in III.C.1.

delete. same reasons as on III.A.2 (3.) By _____, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutants into storm water runoff. The structural control measures must be evaluated as to

   a. effectiveness in reducing toxic pollutants and pollutants of concern

   b. ease of maintenance

   c. current frequency of use

   d. feasibility and cost-effectiveness

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e. possible methods to ensure implementation if necessary

By, _____, the Permittees shall, in addition, describe any studies and pilot projects they intend to conduct to assess the feasibility and effectiveness of specific control measures.

4. By _____, Permittees shall require the following:

a. The proper disposal of food wastes by restaurants and food wholesalers.

b. Persons owning or operating a gas station, auto repair garage, or similar structure must clean those facilities in a manner that does not result in discharge of pollutants to the storm drain system; and

c. Machinery and equipment, including motor vehicles, which are visibly leaking oil, fluid or antifreeze must be repaired.

was not agreed to - at Permit negotiating meeting. delete (5)

new provision, its intent is to relieve the Permittees of the need to file for coverage under the General Industrial SW Permit. Only advantage is not having to pay annual $250 fee.

Each Permittee ~~The EAC~~ may seek coverage under this Order, for industrial facilities listed in III.B.1.a.i which are owned and operated by ~~Permittees~~ if it,

a. establishes a procedure for notifying the Regional Board of industrial sites owned and operated by ~~Permittees~~ the

b. prepares a checklist of industrial BMPs using BAT/BCT criteria for implementation ~~by Permittees~~ at these industrial sites

c. standardizes procedures to ensure implementation of industrial BMPs ~~by Permittees,~~

d. ~~requires Permittees to~~ prepare and retain site specific Storm Water Pollution Prevention Plans at ~~Permittee~~ its industrial facilities

e. establishes a procedure ~~for Permittees~~ to report annually on the effectiveness of Storm Water Pollution Plans at each site, and certify compliance with this Order.

D. Source Inspection

1. By _____, each Permittee shall submit a schedule for inspection of those industrial/commercial facilities in III.B.1.a, for adequacy of storm water pollution prevention measures. ~~The schedule shall include, for a five year period,~~ 2

a. for municipalities with a population of less than 250,000, all facilities identified in III.B.1.a.1, and all facilities identified in III.B.1.a.2 and III. B.1.a.3,

(which have been selected by the Permittee for inclusion in an inspection program. 16

{Facilities selected shall be those identified by the Permittee as potentially contributing the most significant pollution impacts to stormwater discharges.

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b. for municipalities with a population of greater than 250,000, all facilities identified in III.B.1.a.1, and,
a subset of facilities identified in III.B.1.a.2 and III.B.1.a.3 but not less than ten times the number identified in III.B.1.a.1

Industrial/commercial facilities in III.B.1.~~a.2 and III.B.1.a.3~~ 2 that are not included in the inspection schedule shall be surveyed by phone, mail-out, or a similar method, as to their conformance with good stormwater quality management measures.

2. By _____ each Permittee shall develop and implement a industrial/commercial facilities inspection program. The inspection program shall include, but is not limited to:

   a. procedures for facility inspections

   b. procedures for industrial/commercial sectors outreach on pollution prevention, waste minimization, and storm water quality management

   c. procedures to ensure corrective action is undertaken by non-complying facilities

   d. procedures to follow-up on violations of municipal standards

   e. procedures for enforcement action against non-complying facilities;

   f. an electronic recording system to document the status of facility inspections; and,

   g. appropriate training for program staff.

3. During inspection of facilities included in the program from group III.B.1.a.1, inspectors shall request to see a copy of the SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may deem it necessary to report problematic facilities to the Regional Board.

E. Reporting

Each year, the Permittees shall evaluate the results and progress of their storm water quality management program for industrial/commercial sources. The annual report submitted to the Regional Board shall recommend a strategy for the management of storm water from industrial/commercial sources for the following year based upon:

   a. priority industrial/commercial sources listing
   b. priority on-site inspections
   c. phone/mail-out survey inspections
   d. ~~priority checklists~~ evaluation of stormwater urban runoff control measures implementation.
   e. evaluation of the results from the critical source monitoring program.

delete. to be addressed through the critical source monitoring program.

e. ~~evaluations of structural and treatment control measures~~
f. ~~special studies and pilot projects needs~~
g. ~~specific site and activity monitoring needs~~

The ~~EAC~~ Permittees shall make available to the Regional Board the industrial/commercial database developed in ~~III.B.1.a.1~~ III.A.1 in the appropriate format when so requested.

F. Coordination

The Permittees shall develop a process for the exchange of information between the Permittees and the Regional Board. Appropriate formats for such reports shall be developed as required.

new section. ok as modified.

G. Conflicts with Other Mandates

1. The Permittees will work with other regulatory agencies as deemed necessary by the Permittees and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies.

IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT

new section (A.) Regional Policy

1. By _____, the EAC shall develop ~~and adopt~~ a regional ~~policy~~ guidline to ~~promote~~ encourage watershed protection considerations during planning, ~~project review~~, and permitting of new development and redevelopment, to:

   a. preserve to the extent feasible ~~and where possible~~, create or restore areas that provide water quality benefits, such as riparian corridors and wetlands, and promote the design of new development ~~so that~~ to ~~it protects~~ the natural integrity of drainage systems and water bodies.

   b. avoid conversion of areas particularly susceptible to erosion or sediment loss and/or establish development guidance that identifies these areas and protects them from erosion and sediment loss. Such areas include steep slopes, highly erodible soils, ~~periods of intense rainfall~~, and inability to revegetate once disturbed.

   c. ~~require~~ encourage the integration of storm water quality protection into construction and post-construction activities at all development sites, including the minimization of toxic material use and their careful containment on site.

   d. maintain peak runoff rates at pre-development levels, wherever practicable.

2. By _____, the EAC shall ~~establish~~ develop minimum ~~requirements consistent~~ recommendations with the regional ~~policy~~ guidlines for new development and redevelopment, for

   a. site planning practices

   b. construction best management practices

   c. post-construction best management practices

   ~~d. reporting erosion and storm water control strategies~~ not clear. delete

   e. redevelopment and infill

B. Planning Process

In order to integrate storm water management considerations into new development projects at the time that they are first proposed to jurisdictions, and to support other provisions of this permit:

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1. By ______, the EAC shall develop ~~guidance~~ guidlines for consideration by the permittees ~~to use~~ in preparing/reviewing EIRs, and in linking EIR mitigation conditions to local permits approvals.

new requirements

2. ~~By ______, permittees shall adopt and use the guidance in their internal procedures.~~

Dictates planning process to city.

3. By ______, the EAC shall develop a model CEQA checklist form that explicitly addresses watershed, water quality, and nonpoint source pollution impacts.

not legal. delete

4. ~~By ______, the permittees shall use the model CEQA checklist.~~

5 Whenever a permittee rewrites either of the following mandated general plan elements - the conservation element or the open space element - watershed and stormwater management/urban runoff considerations shall be incorporated.

6. By ______, permittees shall implement a program to encourage developers to maximize pervious areas and storm water infiltration (in areas where the geology and topography allow), minimize directly connected impervious areas, and include justifiable treatment control measures.

7. Permittees shall require ~~that prior to~~ as part of the submittal of an application for the first planning or building approval for a new development project, ~~an applicant shall submit~~ the inclusion of an Urban Runoff Mitigation Plan.*

a. The Urban Runoff Mitigation Plan shall:

i. Be designed to reduce the runoff volume from the site and the pollutant load contributed by the site through incorporation of design elements and practices that address each of the goals set forth below in subsection ~~(c)~~ (iii). (Applicants should refer to the most recent edition of the Construction Best Management Practices Handbook, produced and published by the Storm Water Quality Task Force, for specific guidance on selecting best management practices for reducing pollutants in stormwater discharges from urbanized areas.)

new section. taken from Heal the Bay's "Municipal Legal Authority" hand out. This section would necessitate that the Permittees develop minimum standards for plan approval.

ii. ~~Discuss compliance with the development requirements set forth by Permittee's legal authority; and~~

iii. Address the following goals in connection with both construction and long term operation of the site:

a. Maximize, to the extent practicable, the percentage of permeable surfaces in order to allow more percolation of runoff into the ground.

* We can only support this concept for very large projects i.e. 100+ dwelling units or 100,000 + sq. ft. of commercial.

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b. Minimize, to the extent practicable, the amount of runoff directed to impermeable areas ~~to the City's stormwater system~~.

delete. would be too burdensome (c.) ~~Maximize, to the extent practicable, stormwater filtration and storage for reuse through the use of sediment traps, cisterns or other means.~~

d. Minimize, to the extent practicable, parking lot pollution through ~~the use of porous materials to allow percolation of runoff, through~~ the installation of appropriate treatment controls, or through other means.

Source controls such as regular maintenance

iv. Compliance with an approved Urban Runoff Mitigation Plan shall be a condition of any required planning approval.

Do not think this can be dictated by the RB through a Permit. delete. (v.) ~~Failure to comply with an approved Urban Runoff Mitigation Plan after receiving any required planning approval shall be a misdemeanor.~~

C. Identification of Sources

1. By _____, the EAC shall establish a screening criteria for construction sites to be listed in a database. The criteria shall insure that all the selection of

2. By _____, the Permittees shall develop a database listing sites of construction activity within each Permittees' jurisdiction which shall be updated quarterly. The database shall include at a minimum:

a. Facility owner's name, address, and telephone number;

b. Site address, ~~telephone number, and contact person~~, general contractor and telephone #

~~c. Closest receiving water~~ too onerous!

d. Type of construction activity

~~e. Duration of project with start and end dates~~ have no control over this. delete

f. Total size of project in ~~acres~~ or square feet. (cubic yards (grading)

new section. purpose is not apparent. delete. (D.) ~~Prioritization of Sources~~

1. By _____, the Permittees shall prioritize sites of construction activity within their jurisdiction on their relative potential for the contamination of storm water and urban runoff. The categorical list shall include:

~~All~~ construction ~~activity~~ sites regulated under Phase I of the

Federal storm water program (40 CFR 122.26)x are included.

b. All construction activity with sites greater than the size criteria established by the EAC but less than five acres in size.

c. Other construction activity sites considered by the EAC or the Regional Board to have a high potential for the contamination of storm water and urban runoff.

site inspections to be handled through existing inspection programs delete.

(2.) By _____, Permittees shall rank the construction activity sites identified as potential pollutant sources of storm water and urban runoff pollutants in IV. B.1.a. in order of priority for oversight of implementation of storm water management measures.

E. Control Measures

1. By _____, Permittees shall develop ~~a checklist of specific~~ storm water and urban runoff control measures for construction ~~activity~~ sites in IV. ~~B.1.a.~~ C.2. The control measures must

a. address multiple pollutant sources

b. initially focus on source control measures such as source minimization, education, good housekeeping, good waste management and good site planning.

c. target construction activity source areas and activities with the potential to generate substantial pollutant loadings

newly added section. delete. This will be addressed by the critical source monitoring program

(2.) By _____, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for construction sites in IV.B.1.a. The structural control measures must be evaluated as to:

a. effectiveness in reducing sediment, toxic pollutants and pollutants of concern;

b. ease of maintenance;

c. current frequency of use;

d. feasibility and cost-effectiveness; and

e. possible methods to ensure implementation.

By _____, Permittees shall describe any studies and pilot projects that may be conducted to assess the feasibility and effectiveness of specific control measures.

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3. By _____, Permittees shall have in place a process to ensure implementation and proper maintenance of storm water and urban runoff control measures for ~~sites associated with~~ construction ~~activity~~ sites in ~~IV.B.1.a.~~, C.2. including

too burdensome for Permittees delete.

~~a. use of qualified personnel to design, install, and maintain BMPs.~~

b. proper maintenance of BMPs incorporated into private developments (e.g., through deed restrictions, covenants, conditions and restrictions (CC&R).

c. proper installation and maintenance of post-construction BMPs.

d. prohibition on grading during the wet season (Oct 15 -Apr 15) except for emergency action unless adequate erosion and sediment control measures are in place and maintained.

newly added section

4. Permittees shall require the following for demolition/construction activity:

a. Sediment, construction waste and other pollutants from construction sites and parking areas shall be retained on the site to the maximum extent practicable. from the time of notification

b. Any sediments or other materials which are not retained on the site shall be removed within 24 hours ~~or where determined necessary~~ by the Director ~~of Department~~ of Public Works, or a designated representative, a temporary sediment barrier shall be installed. In lieu of removal,

c. Excavated soil shall be located on the site in a manner that ~~eliminates~~ minimizes the amount of sediments running into the street or adjoining properties. Soil piles shall be covered until the soil is either used or removed.

d. Drainage controls shall be utilized as needed, depending on the extent of proposed grading and topography of the site, including but not limited to the following:

i. Detention ponds, sediment ponds, or infiltration pits.

ii. Dikes, filter ~~beams~~ berms or ditches.

iii. Downdrains, chutes or flumes.

iv. Silt fences.

e. ~~No washing of construction or other industrial vehicles shall be allowed adjacent to a construction site~~. No water from washing vehicles on a site is allowed to run off ~~into the City's storm drain system~~. maybe construction unless treated to remove sediments and pollutants

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f. Roof drainage shall be oriented towards permeable areas on site to maximum extent practicable.

g. Lot drainage shall be oriented towards permeable areas to the maximum extent practicable.

can not be supported with out clear evidence of its effectiveness over good housekeeping measures. delete

h. All parking lots shall be designed to contain one inch of precipitation in a 24 hour period.

i. Runoff from parking lots shall be directed to permeable areas to the Maximum Extent Practicable.

~~5. Permittees shall require the following for construction activity~~:

relocate to E.4.f.

a. All construction sites in hillside areas or in areas adjacent to natural water-ways (soft bottom creeks), lakes or the ocean must develop and implement sedimentation and erosion control plans that incorporate the following elements: timing of construction, BMPs to reduce erosion of cleared hillsides (revegetation, jute netting, etc.), BMPs to reduce the velocity of runoff and sediment from the construction site, and BMPs to detain the flow of sediments from the site;

relocate to E.4.g.

b. As a condition of granting a construction permit, set forth reasonable limits on the clearing of vegetation from construction sites, including, but not limited to, regulating the length of time during which soil may be bare, and, in certain sensitive cases, prohibiting bare soil.

new section see comments under Chapter III.C.5.

6. Each Permittee ~~The EAC~~ may seek coverage under this Order, for construction activity sites listed in III.B.1.a.1 which are owned and operated by Permittees if it:

a. establishes a procedure for notifying the Regional Board of construction activity on sites owned or operated by Permittees ~~the EAC~~;

b. prepares a checklist of construction BMPs using BAT/BCT criteria for implementation ~~by Permittees~~ at these construction sites;

c. standardizes procedures to ensure implementation of construction BMPs ~~by Permittees~~;

d. ~~requires Permittees~~ to prepare and retain site specific Storm Water Pollution Prevention Plans at ~~Permittee~~ construction sites; and

e. establishes a procedure ~~for Permittees~~ to report annually on the effectiveness of Storm Water Pollution Plans at each construction site, and certify compliance with this Order.

newly added section.

F. ~~Source Inspection~~

delete redundant with IV.E.3.

1. By _____, Permittees shall submit a schedule for inspection of construction activity sites in IV.B.1.a. for adequacy of storm water pollution prevention measures and erosion control measures. The schedule shall include, for a five year period,

a. all construction activity identified in IV.B.1.a.1, and all construction activity identified in III.B.1.a.2 and III. B.1.a.3,

2. By _____, Permittees shall develop and implement a construction activity inspection program. The inspection program shall include, but is not limited to:

Include these under IV.E.3.

a. procedures for construction site inspections

b. procedures for construction and building industry outreach on pollution prevention, waste minimization, and storm water quality management

c. procedures to ensure corrective action is undertaken by non-complying sites

d. procedures to follow-up on violations of municipal codes

e. procedures for enforcement action against non-complying construction activity;

~~f. an electronic recording system to document the status of construction activity inspections; and,~~

g. appropriate training for program staff.

3. During inspection of ~~group IV.B.1.a.1~~ construction sites, inspectors shall request to see a copy of the SWPPP ~~during an inspection~~. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee ~~may deem~~ it ~~necessary to~~ shall report problematic construction sites regulated under Phase 1 of the Federal Storm Water Program to the Regional Board.

G. Reporting

1. Each year, the Permittees shall evaluate the results and progress of their storm water quality management program for construction activity sites. The annual report submitted to the Regional Board shall recommend a strategy for the management of storm water from construction ~~activity~~ sites for the following year based on

~~a. priority construction site sources listing~~
~~b. priority site inspections~~
evaluation ~~c. priority checklists~~ of stormwater urban runoff control measures implementation
~~d. evaluations of structural and treatment control measures~~
~~e. special studies and pilot projects needs~~
d evaluation of results from the critical source monitoring program

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~~f. specific site and activity monitoring needs~~ a hard copy of

2. The ~~EAC~~ Permittees shall ~~make available~~ transmit to the Regional Board the construction activity database developed in ~~IV.B.1.a.1 in the appropriate format when so requested~~. III.C.2 quarterly.

H. Conflicts with Other Mandates

1. The Permittees shall work with other regulatory agencies as deemed necessary by the Permittees and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies.

This applies to the entire Permit. Therefore, move to Program Management Chapter.

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V. PUBLIC AGENCY REQUIREMENTS

A. Examination of Existing Activities

By _____, the Permittees shall develop and begin implementation of a program to examine their existing activities and measures described below to reduce the impact on stormwater quality from their operations.

B. Sewage Systems

1. All reasonable efforts shall be undertaken to keep sewage spills or leaks from entering the storm drain system. The EAC shall develop procedures for spill response by _____.

2. Control procedures for identifying, repairing, and remediating sewer blockages, exfiltration, overflow, and wet weather overflows from the sewers to the storm drain system shall be implemented to protect stormwater quality by _____. These procedures shall include, but are not limited to, quick field response to overflows, follow-up testing, and complaint investigation.

3. By _____, the Permittees shall insure that field personnel who operate and/or maintain sewer systems have procedural training for field screening, sampling, smoke/dye testing, and TV inspection, if appropriate, to be able to properly investigate any suspect connections or cross connections to the storm drain system.

C. Vehicle Maintenance/Material Storage Facilities

has been revised to when EAC develops standard ppp for use by Permittees

1. By _____, EAC will develop a standard pollution prevention plans for ~~each~~ public vehicle maintenance/material storage facility ~~category~~.. Public vehicle maintenance/material storage facilities include any Permittee-owned and/or operated facility in which any of the following occur: vehicle or equipment maintenance; repair; washing; fueling; and/or any facility at which ~~there is storage of toxic chemicals or hazardous materials.~~ a hazardous materials business plan is required.

2. Best Management Practices (BMPs)

a. By _____, Permittees will have site specific pollutant control measures implemented at all vehicle maintenance/material storage facilities per EAC guidelines, together with an on- site pollution prevention plan.

b. Any BMPs to be implemented must be part of a comprehensive plan designed to address the various pollutant sources at each public vehicle maintenance/material storage facility. To achieve this goal, the Permittees shall first identify the potential pollution sources and who is responsible for implementing the stormwater

management measures.

c. Based on the facility type, management practices and schedule of implementation shall be developed. BMPs that can be used to improve the quality of runoff include, but are not limited to:

i. Housekeeping practices;

ii. Material storage control;

iii. Vehicle leak and spill control; and

iv. Illegal dumping control.

d. Loading/Unloading of Materials

i. Employees or contractors of the Permittees who handle potentially harmful materials shall be trained in good housekeeping practices to prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

ii. Applicable BMPs shall be selected based on the following three factors:

1. Eliminating exposure of material to rainfall;

2. Checking equipment regularly for leaks; and

3. Containing spills.

e. Material Storage Control

A program shall be developed to prevent or reduce the discharge of pollutants to stormwater from outdoor container storage areas using measures such as:

i. Installing safeguards against accidental releases;

ii. Secondary containment;

iii. Conducting regular inspections; and

iv. Training employees in standard operating procedures and spill cleanup techniques.

f. Vehicle and Equipment Washing and Maintenance

i.. Washing of vehicles or equipment on-site shall be

performed in a designated area equipped with an oil/water separator.

ii. The sumps and separators shall be maintained/cleaned on a regularly scheduled basis appropriate to the facility.

iii. BMPs to be implemented as appropriate for vehicle and equipment maintenance shall include but not be limited to:

a. Waste reduction;

b. Use of alternate products;

c. Pollution prevention;

d. Recycling; and

e. Spill prevention and clean up.

6. Waste Handling and Disposal

Wastes shall be managed to prevent stormwater pollution.

D. Parks and Recreation

1. Fertilizers/Pesticides

a. Permittees shall develop procedures on the proper application of pesticides, herbicides, and fertilizers by _____. Procedures shall include:

i. List of approved pesticides and selected use;

ii. Product and application information;

iii. Equipment use and maintenance procedures; and

iv. Record keeping.

b. Landscape waste shall not be ~~discharged~~ disposed of into the storm drain system.

c. Storage areas for fertilizers and pesticides shall be designed and maintained to reduce exposure to stormwater. The following BMPs shall be utilized where appropriate:

i. Store materials inside or under cover on paved surfaces;

ii. Use secondary containment;

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iii. Minimize storage and handling of hazardous materials;

iv. Inspect storage areas regularly.

2. Facility Management

a. Wash waters cannot be discharged into the storm drain system without appropriate treatment.

b. Landscape maintenance involving the use of pesticides and fertilizers shall ensure the proper use of these materials to minimize loss to storm water.

c. Retention and planting of native vegetation to reduce water, fertilizer, and pesticide needs shall be encouraged.

d. Use of Integrated Pest Management (IPM) shall be encouraged.

e. A schedule for irrigation and fertilization shall be developed by, _____, to minimize:

i. Chemical application during wet season and no chemical application during storms; and,

ii. Over watering that may lead to runoff that contains nutrients and pesticides.

f. The drainage of commercial/municipal swimming pool water shall only be discharged under separate Waste Discharge Requirements.

g. Each Permittee shall develop BMPs to minimize trash, debris, and other pollutants from entering Permittee owned recreational water bodies by _____. These measures shall include:

i. Routine trash collection along, on, and/or in, water bodies, where feasible; and

ii. Public outreach to educate the public about impacts of illegal dumping.

E. Storm Drain System Operation and Management

1. Inlet Maintenance

BMPs to be implemented by each Permittee for effective catch basin cleaning shall include, but not be limited to the following:

a. Basins shall be inspected and cleaned between May 1 and October 15 of each year;

b. Between October 15 and April 15, catch basins shall be maintained as necessary.

c. Records shall be kept of the number of catch basins cleaned; and

d. Track the amount of waste collected.

2. Storm Drain Maintenance

a. Material removed from storm drains and catch basins shall be disposed of properly.

b. Trash and debris from open channel storm drains shall be removed at least annually between May 1 and October 15 of each year.

c. Open channels shall also be monitored during the rainy season for any debris buildup and cleaned where needed.

3. Waste Management

The Permittees shall implement a program by _____, to identify problem areas of illegal dumping so regular inspection and clean up can maintain the channel's optimum capacity and prevent the discharge of contaminants.

4. Dry weather storm drain diversion

The Permittees shall investigate the feasibility of diverting dry-weather flows from the storm drain system to POTWs where appropriate. The investigation shall be completed by _____.

F. Streets and Roads

1. Sweeping of curbed streets:

a. Sweeping of curbed streets shall occur at least monthly.

b. Where feasible, areas generating excessive refuse shall be swept more frequently.

2. Maintenance

a. Existing saw-cut management and paving practices conducted by the Permittees shall be evaluated and appropriate control measures developed.

b. Paving control measures to be considered that would help reduce the impacts to stormwater include, but are not limited to:

i. Avoid paving during wet weather; and

ii. Store materials away from drainage courses to prevent pollution of stormwater runoff.

c. Refuse collected shall be transported to appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations.

d. Good housekeeping practices shall be implemented to insure proper management of any waste products that may be generated during maintenance activities.

e. To reduce stormwater pollution from concrete materials and wastes:

i. Washout of concrete trucks should be conducted off- or on-site in designated areas. Do not wash out concrete trucks into storm drains, open ditches, streets, or streams;

ii. Store materials under cover, away from drainage areas; and

iii. Avoid mixing excess amounts of concrete or cement on-site.

f. Employees shall be trained in the implementation of good housekeeping measures. Training shall:

i. Promote a clear understanding of the potential for maintenance activities to pollute storm water;

ii. Identify solutions (BMPs selection);

G. Flood Control

1. By, _____, the Permittees shall develop and implement procedures to assess the impact(s) of new flood management projects on the quality of receiving water bodies.

2. The Permittees shall undertake pilot projects/studies to determine the applicability of altered structural flood control system elements to provide pollutant removal in stormwater.

3. During construction, appropriate BMPs shall be utilized to control pollutants.

4. Current maintenance activities with regards to desilting/sediment removal, vegetation management, and waste management shall be reviewed to assure that appropriate management measures are developed to comply with the stormwater regulations.

H. Parking Facilities

Motor vehicle parking lots with 10 or more parking spaces located in areas susceptible to runoff shall be swept to remove debris.

replace with above language

By _____, each Permittee shall develop a program to implement periodic hardscape and catch basin cleaning, in order to reduce concentrations of oil, grease, suspended particulates, and metals, as well as the petroleum byproducts.

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Entire chapter to be rewritten by Regional Board to reflect short term needs and long term education strategy.

September 15, 1995

VI. PUBLIC INFORMATION AND PARTICIPATION

To reach as many Los Angeles County residents as possible, a comprehensive educational outreach approach shall be undertaken under this permit. Each Permittee shall choose an appropriate combination of outreach tools and activities to raise public awareness of storm water issues and improve water quality.

Outreach Materials

Outreach programs shall consist of written, audio, and visual materials and, when necessary, translated into appropriate languages or structured for appropriate ages. Permittees shall incorporate interactive methods of distributing outreach materials and provide for public participation in activities developed under this section.

A. Written Material

1. The Permittees shall produce a variety of written materials to convey information regarding storm water management within County watersheds.

2. Written materials shall include, but are not limited to: flyers, brochures, door-hangers, newspaper articles, mail-inserts, and newsletters.

B. Audio Material

1. ~~All~~ Permittees shall singularly or collectively utilize radio broadcast public service announcements to convey information regarding storm water management except in areas where public access radio stations are not available.

2. Examples of audio materials include radio advertisements, public service announcements, and informational recordings.

C. Visual Material

1. ~~All~~ Each Permittees shall implement a catch basin labelling program as well as other strategies such as banners, displays and posters to educate the public on the ultimate destination of storm drain system flows.

2. ~~Each Watershed Management Committee~~ The Permittees shall produce or aquire ~~at least one~~ informational video(s). The video shall be shown on televised public service stations and cable access programs ~~except in areas where cable access programs are not available~~. Further methods of distribution may include workshops, libraries, etc.

regarding stormwater management.

throughout all watersheds on a regular basis

D. Distribution of Materials

Outreach materials shall be made available to the public at appropriate public

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counters and distributed at public events. Examples include fairs, festivals, public meetings, community events, school assemblies, etc.

General Education Strategy

A. The EAC shall develop and the Permittees shall implement a 5-year urban runoff education strategy. The intent of the strategy shall be to enhance public awareness of the impact of storm water pollution on receiving waters and to discourage improper waste disposal practices. Outreach efforts shall be conducted throughout the watershed. The public shall be made aware of their responsibility for both the problems and solutions to storm water pollution. A watershed-wide program shall be implemented by _____.

Development and implementation of the education strategy shall be based on the four objectives listed below:

1. Promoting clear identification and understanding of the problem, including activities with the potential to pollute storm water;

2. Identifying solutions or applicable measures (Best Management Practices) that can be taken to prevent storm water pollution;

3. Raising public awareness of the problems and solutions; and

4. Incorporating solutions back into programs, training and BMP implementation.

B. Efforts shall be made to identify land uses and activities that have a higher potential for storm water/urban runoff pollution by focusing on specific pollutants, disposal practices, materials used, etc. To prevent storm water/urban runoff pollution, outreach materials shall be provided on the appropriate selection and implementation of BMPs accordingly. A watershed-wide program shall be developed by _____.

1. Pollutant Specific: The reduction of specific pollutants of concern in a particular watershed shall be addressed in a focused public education and outreach program.

2. Activity-specific: Activity-specific outreach programs shall be developed and implemented throughout the watershed. Written, audio, or visual outreach tools should address three primary topics:

   a. Identification of activities potentially causing storm water pollution;

   b. Implementation of Best Management Practices to prevent storm water pollution.

   c. Recognizing and reporting occurrences of storm water polluting activities.

The Permittees shall continue to develop activity-specific outreach programs that inform residents about the problem of illicit discharges and dumping and that promote, publicize, and facilitate public reporting of these activities. The program shall also include continuing operation, maintenance, and promotion of the county-wide reporting hotline.

Done at discretion of Phone Co's Permittees have no control. delete

C. The Permittees shall ~~list~~ pertinent City phone numbers ~~under the City government directory located in the front section of local area phone books. This shall be updated annually as necessary and shall, at a minimum, include numbers for reporting on clogged catch basin inlets reporting illegal discharges/dumping and a general informational number for storm water. These phone numbers may be~~ city-specific or ~~area-wide~~.

D. All reasonable efforts to coordinate public outreach efforts shall be undertaken. This may include coordinating with environmental groups and public agencies such as the California Coastal Commission, the Department of Beaches and Harbors, Resource Agencies, etc.

Outreach to Target Audiences

Permittees shall develop and implement an educational program that stresses pollution prevention for a variety of audiences, including local residents, school-aged children, businesses and public employees whose job functions and daily lives may impact storm water quality. The program may be developed locally or regionally, ~~and shall include at a minimum~~:

- ~~Education on the proper use and disposal of pesticides, herbicides and fertilizers~~;
- ~~Education on the definition of, identification of, and impacts associated with~~ illicit ~~discharges and procedures for reporting~~.
- ~~Promotion of proper management of and disposal practices for used oil and hazardous substances~~.

A. ~~Local~~ Residents

1. ~~The~~ Permittees shall develop a program to educate local residents on types of household hazardous wastes along with proper management and disposal methods. The program shall at a minimum include:

   a. Information on the availability of collection services, such as location and schedule;

   b. Production of public outreach materials that educate residents on source reduction and proper disposal methods for household hazardous wastes; and

   c. Continue to encourage residents to recycle of oil, antifreeze, glass, plastics, batteries, etc. and to prevent the improper disposal of such

materials to the storm drainage system.

Educational efforts throughout the watershed should also provide residents with detailed information regarding the Los Angeles County-wide Household Hazardous Waste Management Program. Other local programs shall be advertised as appropriate.

2. Permittees shall develop and encourage watershed residents to participate in specific storm water outreach programs. Residents shall be informed of and provided with the opportunity to share ideas and comments about the programs. Permittees shall demonstrate that a good faith effort has been made to outreach to different communities within the watershed. The watershed-wide outreach program shall be implemented by _____. ~~This shall at a minimum include~~:

   a. Where applicable for fire and erosion prevention, mowing shall be encouraged as opposed to disking. An investigation of effectiveness shall be undertaken.

3. Cooperative Public Outreach

   In order to promote public participation, cooperative outreach programs with local residents shall be developed. These cooperative programs should foster awareness and identification of storm water pollution issues among residents in the watershed. ~~Catch basin labelling and other established sign programs are excellent examples of this type of cooperative effort, as are events like the "Storm Water Pollution Awareness Week." One possibility for cooperative outreach is an "Adopt-A-" program. Residents can "adopt" highways, storm drains, catch basins, streams, etc. to monitor, restore and protect~~. The purpose of all cooperative outreach programs created is to inform and involve the public in storm water management.

~~4. Complaint Procedures~~

   ~~Public comments/complaints shall be requested by the Permittees in order to help gauge the success and effectiveness of storm water programs.~~

B. K-12 School Children

~~School children can play an important role in public information and participation programs, as they are generally more easily motivated and any behavior changes they make tend to stay with them through adulthood. School children can also convey storm water pollution prevention messages to other family members.~~ School programs shall include information on storm drain systems, the difference between sewers and storm drains, the importance of preventing storm water pollution, and may also address, illegal discharges/dumping and reporting procedures, source minimization, and general pollution prevention. Written materials (workbooks and coloring books), videos, assemblies, and field trips are examples of effective components of a K-12 educational program.

C. Businesses

A ~~detailed public~~ education and outreach program shall be developed for business operations with greater potential of discharging pollutants into the storm drain system. The program shall ~~include~~ employee training on ~~and the effectiveness of implementing BMPs to reduce nonpoint source pollution.~~ In addition to written, audio, and visual materials, other possible means of focused outreach may include: conducting workshops, mass mailings, submitting informational articles to trade/industry magazines, etc.

D. ~~Public Agencies and~~ Employees

~~Public agency~~ employees shall be trained on storm water management and pollution prevention practices and involve employees on many different levels - from program managers to field personnel. Training programs shall include, but are not limited to, articles in City newsletters, training classes, checklists for field personnel, and interdepartmental forums or committees. Materials developed for other audiences may also be used in these public agency employee training programs. Appropriate public agency employees shall be trained in:

1. Emergency spill cleanup procedures.
2. Environmentally sensitive alternative products.
3. Good housekeeping practices.

Permittees shall provide outreach materials to the general public through business license renewal counters and/or make efforts to outreach through professional and business associations. Additionally, Permittees should consider producing educational materials for professionals and technicians not employed by public agencies.

Outreach Based on Activity-Type

A. Industrial/Commercial

A watershed-wide, general outreach program shall be set up by the WMC for all industrial and commercial facilities potentially discharging to the storm drain system. Furthermore, the WMC shall provide specific guidance objectives to these facilities regarding storm water program compliance by _____, and inform and remind all potential commercial and industrial dischargers of their obligations under the storm water program. The Permittees shall also encourage the proper disposal of all materials from industrial and commercial sites.

Prior to the WMC providing specific guidance objectives, subcommittees shall be established, as needed, to develop specific outreach materials for industrial/ commercial categories and specific "high priority" activities. This shall include at a minimum: metal platers, restaurants, vehicle related facilities, etc...

B. Construction

The Permittees shall ensure that contractors properly install all necessary post-construction, permanent BMPs during initial construction and that any necessary maintenance needed during construction is performed. There shall be specific programs outlining correct practices.

In an effort to prevent concrete waste from entering the storm drain system, contractors shall observe the following guidelines:

1. Washout of concrete trucks should be conducted off-site or on-site in designated area;
2. Excess concrete should not be dumped on site; and
3. Employees and subcontractors should be trained in proper concrete waste management.

Evaluation

The EAC shall develop a process to evaluate the effectiveness of all public outreach programs implemented under this permit. Surveys and focus groups are examples of methods that can be used to gauge a program's effectiveness. They can also be used to provide insight into the program's direction and to help formulate attainable goals. Results of any evaluation method used shall indicate the community's level of awareness of storm water pollution. A watershed-wide program shall be implemented by _____.

VIII. PROGRAM EVALUATION AND REPORTING

~~The program may be modified subject to comments received under the Annual Review.~~

A procedure shall be developed and utilized for program evaluation and reporting by the Principal Permittee and the Permittees during the course of this permit. Under this procedure as outlined below, the EAC shall develop action-specific performance indicators and criteria, perform evaluation of compliance and effectiveness based on the performance criteria, establish schedules and mechanism for internal record keeping and reporting, and submit semi-annual and annual reports to the Regional Board using a standardized format.

The EAC, WMC, and/or each Permittee are responsible for collecting data needed for program evaluation, conducting self-evaluation, and reporting the results of evaluation to the Regional Board. The results reported to the Regional Board shall include both the collected data and analysis of the data. The reports shall include detailed explanation on how the evaluations are conducted, how and why certain provisions of the permits are met or not met, how the effectiveness of certain BMPs is determined or is not, and should a problem arise, how it shall be corrected. The Regional Board will make a compliance determination based on information submitted under this procedure.

A. Demonstration of Compliance

1. Each Permittee is responsible for demonstrating that the required BMPs as prescribed under this permit, as well as other BMPs included in the Watershed Management Plans, are implemented to the "maximum extent practicable." Each Permittee shall implement the required BMPs to the maximum extent practicable.

2. The Watershed Management Committees are responsible for demonstrating the effectiveness of other BMPs through conducting and reporting the results of pilot/demonstration projects for evaluating the effectiveness of BMPs in the watershed.

3. The degree and the effectiveness of BMP implementation shall be evaluated and reported by the Permittees using environmental and/or administrative indicators whenever possible. When environmental indicators are not readily and/or easily available, administrative indicators shall be used. These shall include indicators prescribed under relevant provisions of this permit, and/or other indicators deemed appropriate by the Watershed Management Committee, the Executive Advisory Committee, and/or ultimately the Regional Board. Examples of the quantitative indicators include the number of inspections conducted, number of staff ~~increase~~, number of audience reached through public education, waste recycled, water conserved, hazardous waste collected, oil recycled, catchbasin waste removed, etc. Quantitative indicators of environmental conditions should also be reported if they can be linked to the effects of the BMP implementation.

4. In order to yield comparable results for year to year evaluation on the success, the progress, and/or the failure in BMP implementation, and comparable results from area to area, a uniform data collection methodology shall be established for each of the required BMPs. The uniform data collection methodology shall be developed by the Executive Advisory Committee. Subsequently, each report on BMP implementation shall provide comparison with the implementation status during the previous reporting period and the scheduled implementation timeline for the current and future reporting periods, based on data collected using the uniform collection methodology.

B. Internal Reporting and Record Keeping

1. In order to facilitate the preparation of semi-annual and annual reports, the EAC shall develop standard forms for internal reporting to be used by all Permittees within the watershed. The forms shall collect all the information essential to the preparation of the annual and semi-annual reports and to the needs of other management actions by the Watershed Management Committees, EAC, and/or the Permittees. Reported information shall be quantifiable and specific for each program area and/or BMP. The dates for submitting the internal reports shall allow sufficient time for compilation and analysis by the Watershed Management Committees and/or the EAC for the preparation of semi-annual and annual reports to the Regional Board.

2. All records shall be retained by the Permittees for a period of 5 years ~~or longer as~~ Unless otherwise required by the Regional Board or USEPA.

C. Semi-annual and Annual Reports

1. Semi-annual Report

The requirements under VIII.A shall be met by the submittal of semi-annual and annual reports. Semi-annual reports shall succinctly summarize compliance efforts and may consist of simple compliance checklists. Annual reports shall be comprehensive.

a. The EAC shall submit a semi-annual progress report to the Regional Board by _____ of each year. Semi-annual reports must be submitted to the Regional Board within 30 days after the end of the six-month period. These six month periods are Jan - June, and July - Dec. (TO BE DETERMINED).

b. The semi-annual report shall serve as a status report on the progress of the implementation of the Stormwater Management Plan and other permit provisions. The Watershed Management Committee is responsible for collecting and compiling information from each Permittee prior to preparation of the semi-annual report, and include the compiled information along with the information

analysis into the report.

c. The semi-annual report shall consist of a summary table illustrating the levels of implementation for all requirements by each Permittee. Tables shall be developed for each program element listing the Permittees, describing the status of implementation by each Permittee of the element, and documenting any modifications of the element from the standard program.

2. Annual Report Advisory

a. The Executive Committee shall submit an annual report to the Regional Board not more than 60 days after the end of each permit year (_____). The annual report shall include both a summary of the progress and status of Stormwater Management Plan implementation, a summary on status of compliance with all permit provisions, a report on the evaluation of program effectiveness, and a summary of recommendations for permit provision revisions. The Permittees as a whole (within watershed management areas) shall describe any problems encountered during implementation and discuss the modifications to the program in order to solve these problems.

b. The Principal Permittee shall collect, compile, and analyze information from each Permittee within the watershed prior to preparation of the annual report. The Watershed Management Committee shall include the compiled information and its analysis (instead of raw data or copy of internal reports) in the annual reports.

c. The annual report shall include a summary table illustrating the levels of implementation for all Permittees. Tables shall be developed for each program element listing all the participating Permittees and describing the status of implementation by each Permittee of the element. ~~A table shall also be included to summarize the status of the program elements for which the Watershed Management Committee bears the primary implementation responsibility.~~ Besides summary tables, the report should provide detailed explanation on any modifications made of the program elements (delays, changes, etc.) from the standard provisions and provide an analysis of any problems encountered during the implementation and the proposed solutions.

d. The annual report shall include an assessment of the effectiveness of each program element using the performance evaluation indicators and criteria developed under Section A of this Chapter, and the results of the pilot/demonstration projects conducted within and/or outside the watershed. The findings should be presented graphically for ease of comparison with the established levels of

effort.

e. A fiscal analysis and budget as described under I.I (Fiscal Resources) of this Order shall be submitted annually within 30 days of the Budget adoption date for each Permittee.

D. Storm Water Management Plan Revisions

1. Revisions to provisions of this permit can be made through the order of the Regional Board. The EAC can recommend and request revisions to the Stormwater Management Plan through documentation in the annual reports.

2. Recommended revisions shall be supported by the results of a program evaluation. Recommended revisions to the Stormwater Management Plans may be made if it can be demonstrated that 1) the changes will lead to improvement of the effectiveness of this program, 2) the changes will result in positive impacts of ~~environmental conditions~~ beneficial uses, and 3) that the current measures have been implemented to the "Maximum extent practicable" as defined in Section VIII.A. Any recommended revisions shall not take effect unless approved by the Executive Officer.

3. Revisions may be made to the Storm Water Management Plans by the Executive Officer or the Regional Board based upon public input and/or testimony.

This chapter to be rewritten by Regional Board upon receipt of County / NPDC developed proposal.

IX. MONITORING PROGRAM OUTLINE 01 September 1995

I. GENERAL

1. Revisions of the monitoring and reporting program may be necessary to ensure that the discharger is in compliance with requirements and provisions contained in this Order. Revisions may be made by the Executive Officer at any time during the term of this Order, and may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, the location of monitoring sites, the number and/or size of samples collected, and/or any other measures necessary to improve the effectiveness of the program.

2. All sample collection, handling, storage, and analyses shall be in accordance with 40 CFR 136.

3. The Permittees may complement their monitoring data with data from other areas provided the characteristics are similar to characteristics in the Los Angeles County Watershed Management Areas.

4. The Permittees shall implement the monitoring programs submitted under NPDES Permit No. CA0061654 between 1992 and 1995 until acceptable watershed monitoring programs are developed and implemented.

II. OBJECTIVES

The overall goal of this monitoring program is to develop and support effective watershed specific storm water quality management programs.

The following are major objectives:

1. To track water quality status, pollutant trends, pollutant loads, and pollutants of concern.

2. To monitor and assess pollutant loads from specific land uses and watershed areas.

3. To identify, monitor, and assess significant water quality problems related to storm water discharges within the watershed.

4. To identify sources of pollutants in storm water runoff to the maximum extent possible (e.g., atmospheric deposition, contaminated sediments, other nonpoint or point sources, etc.).

5. To identify and eliminate illicit discharges.

6. To evaluate the effectiveness of existing management programs, including scientific estimation of pollutant reductions achieved by structural and nonstructural BMPs.

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7. To assess the impacts of storm water runoff on receiving waters. (This may be a coordinated effort among point source dischargers, SCCWRP, etc...)

III. MONITORING PROGRAM REQUIREMENTS

The Permittees shall develop and submit for the approval of the Executive Officer an integrated watershed monitoring program to achieve the above stated objectives. The Executive Officer or his/her designated representative(s) shall facilitate the coordination meetings or subcommittees formed to achieve this goal. The development and implementation of the monitoring program shall be in accordance with the time schedule prescribed by the Executive Officer. At a minimum, the program shall include the following:

1. A mechanism for the collection, analysis and interpretation of existing data from monitoring programs within Los Angeles County. These and other data from local, regional or national sources should be utilized to characterize different storm water sources; to determine pollutant generation, transport and fate; to develop a relationship between land use, development size, storm size and the event mean concentration of pollutants; to determine spatial and temporal variances in storm water quality and seasonal and other bias in the collected data; and to identify any unique features of the watershed management areas in the County of Los Angeles. The Permittees are encouraged to use data from similar studies, if available.

2. Rationale for selection of monitoring locations, parameters, number and frequency, and analytical methods.

3. A description of the monitoring program shall include at a minimum:

   a. The number and location of monitoring stations;

   b. Targeted monitoring indicators (e. g., ecosystem, biological diversity, in stream toxicity, habitat, chemical, sediment, stream health, etc.) chosen for monitoring;

   c. Parameters selected for field screening and for laboratory work and their detection limits;

   d. Total number of samples for statistical significance to be collected from each station, receiving water and major outfall monitoring, frequency of sampling during dry weather and short or long duration storm events, type of samples (grab, 24-hour composite, etc.), and the type of sampling equipment;

   e. Uniform guidelines for quality control, quality assurance, data collection and data analyses; and

f. Data storage and transfer format, accessibility, etc...

4. A method for analyzing the collected data and interpreting the results including an evaluation of the effectiveness of the management practices, and need for any refinement of the management practices.

5. A description of the responsibilities of all the participants in this program including cost sharing.

6. A description of computer software and modelling programs that will be utilized to assess data, interpret information, etc...

7. A description of how data will be utilized for feedback into the storm water management program.

The Discharger shall comply with the attached Monitoring and Reporting Program, which is part of this Order, and any revisions or modifications thereto, as ordered by the Executive Officer.

It is anticipated that the initial storm water management program, as delineated in the Plan and/or implementation agreement, may need to be modified, revised, or amended from time-to-time to respond to changed conditions and to incorporate more effective approaches to pollutant control. Minor changes may be made at the direction of the Executive Officer. Minor changes requested by the Discharger shall become effective upon written approval of the Executive Officer. If proposed changes imply a major revision in the overall scope of effort of the program, such changes must be approved by the Regional Board as permit amendments.

This Order may be modified, revoked, or reissued, prior to the expiration date as follows:

a. To address changed conditions identified in the required technical reports or other sources deemed significant by the Regional Board;

b. To incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

c. To comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirements of the CWA then applicable; or

d. Any other Federal or State Laws or Regulations become effective which necessitate changes.

The issuance of this permit is not intended to, and does not, absolve the Discharger of liability for conduct which may have constituted a violation of the previous Board Order 90-079 (CA0061654, CI 6948) adopted by this Regional Board on June 18, 1990.

This Order expires on _____. The Discharger must submit a complete Report of Waste Discharge including a revised Storm Water Management Plan in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Robert P. Ghirelli, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December __, 1995.

_____
ROBERT P. GHIRELLI, D.Env.
Executive Officer

ATTACHMENT A

NPDES STORM WATER PERMIT
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural

Agoura Hills
Calabasas
Caltrans
Los Angeles County
Malibu
Westlake Village
Ventura County

Ballona Creek and Other Urban

Beverly Hills
Caltrans
Culver City
El Segundo
Hermosa Beach
Los Angeles
Los Angeles County
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates
Santa Monica
West Hollywood

Dominguez Channel/
Los Angeles Harbor Drainage

Caltrans
Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles
Los Angeles County
Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Caltrans
Commerce
Compton
Cudahy
El Monte
Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Long Beach
Los Angeles
Los Angeles County
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount
Pasadena
Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park
Bellflower
Bradbury
Caltrans
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
Long Beach
Los Angeles County
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

Caltrans
Los Angeles County
Santa Clarita

Italicized agencies are present in more than one watershed.

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October 12, 1995

TO: Catherine Tyrrell
Regional Water Quality Control Board

FROM: Gary Hildebrand
Los Angeles County Department of Public Works

DRAFT

NPDES STORMWATER PERMIT TASK SCHEDULE

Attached is a draft list of the above permit's tasks and flow chart with implementation dates.

This schedule has been generated by my staff. Please note that these lists are strictly a staff level product and have not received any review by either County Public Works administration, or the EAC. Therefore, the schedule should not be viewed as the position of either County Public Works or the EAC regarding acceptable implementation dates.

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DRAFT

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LOS ANGELES COUNTY

STORMWATER PERMIT

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October 12, 1995

LOS ANGELES COUNTY STORMWATER PERMIT

TASK	IMPLEMENTER	COMPLETION DATE (# OF MONTHS AFTER PERMIT ADOPTION)
I PROGRAM MANAGEMENT		
A. Principal Permittee		
2a. Convene EAC	PRINCIPAL PERMITTEE	1 month
G. Fiscal Resources		
Shall submit an annual budget.	EACH PERMITTEE	30 days after Permittee budget adoption
H. Legal Authority		
5. Upon its completion of the legal authority review, or within 6 months of permit adoption, (which ever is sooner), each permittee shall demonstrate that it has adequate legal authority or provide a schedule for obtaining the adequate legal authority.	EACH PERMITTEE	6 months, or upon completion of legal authority review (which ever is sooner).

TASK	IMPLEMENTER	COMPLETION DATE (# OF MONTHS AFTER PERMIT ADOPTION)
II. ILLICIT DISCHARGES/DISPOSAL		
A. Illicit Connections		
Develop a County-wide model plan for investigative standard procedures to eliminate illicit connections.*	EAC	7 months
Approve the County-wide model plan for investigative standard procedures to eliminate illicit connections to the storm drain system.	RWQCB	11 months
Implement the County-wide model plan to identify and eliminate illicit connections to the maximum extent practicable.	EACH PERMITTEE	18 months
B. Illicit Discharges/Disposal		
1. Develop a consistent County-wide model plan for investigative standard procedures to eliminate illicit discharges/disposal practices to the storm drain system.*	EAC	7 months
2. Develop a County-wide model plan for standard enforcement procedures to terminate illicit discharges/disposal.*	EAC	7 months
3. Develop standard procedures for spill response.*	EAC	7 months
Submit plans 1-3 above for approval after EAC completion.	RWQCB	11 months
4. Implement the County-wide model plan to identify and eliminate illegal discharges/disposal practices.	EACH PERMITTEE	17 months
E. Public Reporting		
1. Develop a County-wide model plan for public reporting.*	EAC	7 months
Submit for approval the County-wide model plan for public reporting.	RWQCB	11 months
Implement the County-wide model plan for public reporting.	EACH PERMITTEE	17 months
2. Develop a County-wide model plan for reporting incidents of hazardous substances entering the storm drain.	EAC	7 months
Submit for approval the County-wide model plan for reporting incidents of hazardous substances entering the storm drain.	RWQCB	11 months
Implement the County-wide model plan for reporting incidents of hazardous substances entering the storm drain.	EACH PERMITTEE	17 months

TASKS	IMPLEMENTER	COMPLETION DATE (# OF MONTHS (AFTER PERMIT ADOPTION)
F. REPORTING		
1. A summary of all illicit connections eliminated will be included in the annual report.	PRINCIPAL PERMITTEE	60 days after the end of each Permit year.
2. A summary of illegal discharge/disposal practices reported through the standardized public reporting system shall be submitted with the annual report to the Regional Board.	PRINCIPAL PERMITTEE	60 days after the end of each Permit year.
H. WATERSHED REVIEW		
After RWQCB approval, modify the County-wide model plan requirements for new development and redevelopment as necessary to accommodate each watershed.	WMC	9 months

DRAFT

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To Carlos	From Meneeva
Co. LA Regional Water Bd	Co. LA Co Public Works
Dept.	Phone 818 458.5975
Fax # 213-266-7626	Fax # 818 458 3534

TASKS	IMPLEMENTER	COMPLETION DATE (# OF MONTHS (AFTER PERMIT ADOPTION)
III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES		
A. IDENTIFICATION OF SOURCES		
1. Develop a database listing of the commercial/industrial facilities identified in III.B.1.a. by four digit SIC codes.	EACH PERMITTEE	8 months
B. PRIORITIZATION OF SOURCES		
1. Prioritize industrial and commercial facilities within the Permit area on their relative potential for the contamination of storm water and urban runoff.	EAC	12 months
2. Identify industrial and commerical facilities which potentially contribute significant pollutant impacts to storm water discharges.	EAC	14 months
3. Approve prioritization of sources after completion of Task B.2. above.	RWQCB	18 months
C. SOURCE CONTROL MEASURES		
1. Develop County-wide model plan for stormwater and urban runoff control measures for prioritized facilities.	EAC	18 months
Approve County-wide model plan for stormwater and urban runoff control measures, after completion of Task 1. above.	RWQCB	22 months
2. Begin requiring mandatory source control measures.	EACH PERMITTEE	6 months
D. SOURCE INSPECTION		
Develop County-wide model plan guidelines for conducting source inspections.*	EAC	11 months
Approval of County-wide model plan Guidelines for conducting source inspections upon completion of task above.	RWQCB	15 months
1. Each Permittee shall submit a schedule of inspection of industrial/commercial facilities in III.B.2.	EACH PERMITTEE	21 months
2. Each Permittee shall develop and implement a industrial/commercial facilities inspection program.	EACH PERMITTEE	24 months
E. <u>Watershed Review</u>		
After RWQCB approval, modify the County-wide model plan requirements for new development and redevelopment as necessary to accommodate each watershed.	WMC	29 months

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TASK	IMPLEMENTER	COMPLETION DATE (# OF MONTHS AFTER PERMIT ADOPTION)
IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT		
A. Regional Policy		
1. Develop a County-wide model plan to encourage watershed protection considerations.*	EAC	10 months
2. Develop minimum recommended requirements consistent with the County-wide model plan for new development and redevelopment.*	EAC	12 months
3. Upon completion of Task 1 and 2 above, submit the County-wide model plan requirements for new development and redevelopment for approval.	RWQCB	18 months
4. Implement where feasible the County-wide model plan.	EACH PERMITTEE	24 months
B. Planning Process		
1. Develop a County-wide model plan for use in preparing/reviewing EIR's, and in linking EIR mitigation conditions to local permits approvals.*	EAC	14 months
3. Develop a County-wide model plan CEQA checklist form that explicity addresses watershed, water quality, and nonpoint source pollution impacts.*	EAC	14 months
Upon completion of Tasks 1 and 3, submit County-wide model plan for approval.	RWQCB	16 months
Implement B.1. and B.3.	EACH PERMITTEE	24 months
6. Implement a program to encourage developers to maximize pervious areas and stormwater infiltration.	EACH PERMITTEE	24 months
C. Identification of Sources		
1. Establish a screening criteria for the selection of construction sites to be listed in a database.*	EAC	10 months
Upon completion of Task 1 above, submit the County-wide model plan screening criteria for approval.	RWQCB	14 months
2. Develop a database listing construction site activity in each permittees jurisdiction, to be updated quarterly.	EACH PERMITTEE	17 months

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TASK	IMPLEMENTER	COMPLETION DATE (# OF MONTHS (AFTER PERMIT ADOPTION)
E. Control Measures		
1. Develop a County-wide model plan for storm water and urban runoff control measures for construction sites in Section IV.C.2.*	SAC	12 months
Upon completion of Task 1 above, submit the County-wide model plan for stormwater and urban runoff control measures for approval.	RWQCB	18 months
3. Develop a process to ensure implementation and proper maintenance of storm water and urban runoff control measures for construction sites identified in Section IV.C.2.	EACH PERMITTEE	20 months
4. Begin to require specific control measures for demolition construction activity.	EACH PERMITTEE	8 months
H. Watershed Review		
After RWQCB approval, modify the County-wide model plan requirements for new development and redevelopment as necessary to accommodate each watershed.	WMC	29 months

DRAFT

TASK	IMPLEMENTER	COMPLETION DATE (# OF MONTHS AFTER PERMIT ADOPTION)
V. PUBLIC AGENCY REQUIREMENTS		
B. SEWAGE SYSTEMS		
1. Develop procedures for spill response control measures and personnel training*	EAC	7 months
a. Review procedures for spill response.	RWQCB	11 months (After Task B.1.)
2. Implement spill response control procedures for indentifying, repairing, and remediating sewer blockages, exfiltration, overflow and wet weather overflows from the sewer to the storm drain system.	EACH PERMITTEE	18 months
3. Insure that all field personnel have procedural training for illegal connection detection.	EACH PERMITTEE	24 months
C. VEHICLE MAINTENANCE/MATERIAL STORAGE FACILITIES		
1. Develop a standard Pollution Prevention Plans (PPP) for vehicle maintenance/material storage facilities.*	EAC	14 months
Review standard pollution prevention plans.	RWQCB	18 months (After Task C.1.)
2. Best Management Practices (BMPs)		
a. Implement site specific pollutant control measures at vehicle maintenance/material storage facilities per EAC guidelines, together with on-site Pollution Prevention Plan.	EACH PERMITTEE	24 months
D. PARKS AND RECREATION		
1. Fertilizer/Pesticides		
a. Develop procedures on the proper application of pesticides, herbicides, and fertilizers.*	EAC	14 months
b. Review procedures for proper application of pesticides, herbicides, and fertilizers.	RWQCB	18 months (After Task D.1.)
c. Implement procedures on the proper application of pesticides, herbicides and fertilizers.	EACH PERMITTEE	24 months
2. Facility Management		
a. A schedule for irrigation and fertilization shall be developed to minimize:	EACH PERMITTEE	24 months
i. Chemical application during wet season and no chemical application during storms.		

TASK	IMPLEMENTER	COMPLETION DATE (# OF MONTHS AFTER PERMIT ADOPTION)
f. Overwatering that may lead to runoff that contains nutrients and pesticides.		
g. Develop BMPs to minimize trash, debris, and other pollutants from entering permittee owned recreational waterbodies.*	EAC	18 months
h. Review BMP's for use on permittee owned recreational waterbodies and revise as necessary to accomodate each watershed.	RWQCB	22 months (After Task 2.g.)
i. Implement BMP's to minimize pollutants from entering recreational waterbodies.	EACH PERMITTEE	28 months
E. Storm Drain System Operation and Management		
3. Waste Management		
a. Develop a program to identify problem areas of illegal dumping.*	EAC	18 months
b. Review the program for problem areas of illegal dumping.	RWQCB	22 months (After Task 3.a.)
c. Implement the program to identify problem areas of illegal dumping.	EACH PERMITTEE	28 months
4. Dry Weather Storm Drain Diversion		
Investigate the feasibility of diverting the dry-weather flows from the storm drain system to POTW's where appropriate.*	EAC	12 months
a. Review results of dry-weather flows diversion feasibility study.	RWQCB	16 months (After Task E.4.)
G. Flood Control		
1. Develop procedures to assure that flood management projects assess the impacts of the project on the quality of receiving waterbodies.*	EAC	18 months
a. Review procedures for Flood Management Projects.	RWQCB	22 months (After Task G.1.)
b. Implement procedures to assess impacts of Flood Management projects on quality of receiving waterbodies.	EACH PERMITTEE	22 months
I. Watershed Review		
After RWQCB approval, modify the County-wide model plan requirements for new development and redevelopment as necessary to accomodate each Watershed.	WMC	28 months

TASK	IMPLEMENTER	COMPLETION DATE (# OF MONTHS AFTER PERMIT ADOPTION)
VI. PUBLIC INFORMATION AND PARTICIPATION		
GENERAL EDUCATION STRATEGY		
A. Develop a County-wide model plan five-year urban runoff education strategy. This shall be done on a watershed-wide basis.*	EAC	14 months
Upon completion of task above, submit the County-wide model plan education strategy for approval.	RWQCB	18 months
Each Permittee shall implement the County-wide model plan for public education strategy.	EACH PERMITTEE	22 months
WMC shall review the County-wide model plan education strategy and alter the plan as necessary to accommodate each specific watershed.	WMC	28 months

TASK	IMPLEMENTER	COMPLETION DATE (# OF MONTHS AFTER PERMIT ADOPTION)
VII. PROGRAM EVALUATION AND REPORTING		
C. Annual Reports		
- Develop a County-wide model plan standard annual report format for program evaluation and reporting.*	EAC	18 months
- Submit the County-wide model plan for annual report format for approval.	RWQCB	22 months
- Implement the report format.	EACH PERMITTEE	24 months
2. Annual Report		
a. Submit an annual report to the Regional Board not more than 60 days after the end of each Permit year.*	EAC	First Annual Report (Due 3/97)
E. Watershed Review	WMC	28 months
After RWQCB approval, modify the County-wide model plan requirements for new development and redevelopment as necessary to accommodate each watershed.		

* Element of County-wide Model Plan.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

HARRY W. STONE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

November 9, 1995

IN REPLY PLEASE REFER TO FILE: EP-3

Ms. Catherine Tyrrell
California Regional Water Quality
Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Dear Ms. Tyrrell:

COMMENTS ON THE SEPTEMBER 15, 1995 DRAFT NPDES STORMWATER PERMIT

Enclosed are copies of letters received on behalf of 31 cities expressing their comments and concerns regarding the September 15, 1995 Draft Permit.

Please incorporate each of these letters into the Administrative Record of this permit. Copies of the comment letters from the Natural Resources Defense Council and the California Restaurant Association are also included.

Los Angeles County staff has also prepared a version of the September 15, 1995 partial Draft Permit which incorporates the concerns expressed by each city that are directed to specific sections of the Permit. The cities of Los Angeles and El Segundo have extensive specific comments and as part of their submittals have incorporated them directly into the draft Permit. Therefore, their comments have not been included in the enclosed Draft Permit. Please refer to their comment letters for their specific concerns.

Many of the most frequently voiced concerns that addressed the Permit generally (such as scope, complexity, and missing sections) are not reflected in the enclosed draft permit. We urge that each comment letter from the cities be individually given careful review by your staff.

The EAC has not attempted to evaluate these comments. The concerns raised in their previous letter submitted to you dated October 17, 1995 remain and should be addressed by your staff as they review the enclosed material.

We look forward to receiving your complete Draft Permit after you have had the opportunity to review and incorporate these comments.

We trust this information will be helpful to you in completing the Draft permit. If we can be of further assistance, please contact me at (818) 458-4014.

Very truly yours,

Donald L Wolfe

DONALD L. WOLFE
Chairman, Executive Advisory Committee

FK:fm\LETTERS/CMNTDP

Enc.

VOL 24

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THIS DRAFT CONTAINS COMMENTS ON VARIOUS SPECIFIC ARTICLES OF THE PERMIT AS SUBMITTED BY THE CO-PERMITTEES NOTED. SEE THE COMMENT LETTERS FROM THE CITIES OF EL SEGUNDO AND LOS ANGELES FOR THEIR SPECIFIC COMMENTS.

September 15, 1995

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

ORDER NO. 95-XXX

WASTE DISCHARGE REQUIREMENTS
FOR
STORMWATER MANAGEMENT/URBAN RUNOFF DISCHARGES
WITHIN THE COUNTY OF LOS ANGELES

(NPDES NO. CAS0061654)

The California Regional Water Quality Control Board, Los Angeles Region, finds:

(The findings are currently being developed.)

This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the federal Clean Water Act, or amendments thereto, and shall take effect at the end of ten (10) days from the date of its adoption provided the Regional Administrator, USEPA, has no objections.

IT IS HEREBY ORDERED that the County of Los Angeles and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe

A. Discharge Prohibitions

(Currently under discussion with the negotiation team.)

B. Receiving Water Limitations

(Currently under discussion with the negotiation team.)

C. Provisions

I. The Dischargers shall comply with Discharge Prohibitions (above), and Receiving Water Limitations (above), through the timely implementation of control measures and other actions to reduce pollutants in the discharge as proposed in this Order.

I. PROGRAM MANAGEMENT

A. Principal Permittee

1. The County of Los Angeles is designated as the Principal Permittee.

2. The Principal Permittee shall:

a. Coordinate permit activities and, by _____, convene and chair the area-wide Executive Advisory Committee and the Watershed Management Committees;

[The Principal Permittee will not necessarily be the chair for the Watershed Management Committees according to paragraph E.2 on page 4. Covina & Agoura Hills]

[Another portion of this document, Section I.D.1.a, states that the Watershed Management Committee shall be chaired by the EAC representative for that watershed. - Long Beach]

It is hereby edited that the Permittees shall develop & implement (plans) acceptable to the EO

b. Provide personnel and fiscal resources and by _____, develop a Baseline Stormwater Management Plan (Plan) for use in developing a watershed management plan (WMP) for each watershed;

[Shouldn't the Permit contain the baseline/framework for what is required in the Stormwater Management Plan. Will this Baseline document be reviewed and approved by the RWQCB staff prior to the development of the actual Stormwater Management Plan? - Long Beach]

c. Provide personnel and fiscal resources for the development of the WMPs;

d. Provide personnel and fiscal resources for the updating and modification of the Plan and the WMPs;

[The time frame for providing personnel and fiscal resources still needs to be resolved. San Dimas]

Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the California Water Code, and regulations adopted thereunder, and the provisions of the Federal Clean Water Act, and regulations and guidelines adopted thereunder, shall comply with the following for the areas under their jurisdictions within the drainage area of the County of Los Angeles:

A. Discharge Prohibitions

(Currently under discussion with the negotiation team.)

B. Receiving Water Limitations

(Currently under discussion with the negotiation team.)

C. Provisions

I. The Dischargers shall comply with Discharge Prohibitions (above), and Receiving Water Limitations (above), through the timely implementation of control measures and other actions to reduce pollutants in the discharge as proposed in this Order.

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b. Provide personnel and fiscal resources and by _____, develop a Baseline Stormwater Management Plan (Plan) for use in developing a watershed management plan (WMP) for each watershed;

[Shouldn't the Permit contain the baseline/framework for what is required in the Stormwater Management Plan. Will this Baseline document be reviewed and approved by the RWQCB staff prior to the development of the actual Stormwater Management Plan? - Long Beach]

c. Provide personnel and fiscal resources for the development of the WMPs;

d. Provide personnel and fiscal resources for the updating and modification of the Plan and the WMPs;

[The time frame for providing personnel and fiscal resources still needs to be resolved. San Dimas]

e. Provide technical and administrative support for both the Executive Advisory and Watershed Management Committees;

f. Implement watershed water quality monitoring programs;

g. Provide the personnel and fiscal resources to complete by _____, the annual reports including evaluations of monitoring program data and BMP effectiveness;

[The Principal Permittee shall provide the resources to complete the annual report. What about the semi-annual reports that are mentioned in section VII.C.? - Long Beach]

h. Coordinate the implementation of stormwater quality management activities of regional significance (this shall mean that the Principal Permittee shall identify BMPs which are applicable for implementation by permittees watershed-wide and area-wide), such as public outreach and education, pollution prevention, waste minimization, and other similar actions;

[Re: "regional significance" - We have already divided permittees by watershed areas. San Dimas]

I. Act as liaison between all Permittees and the Regional Board on Permit issues; and

[This item should be the responsibility of the EAC, not the principal permittee. Recommended Action: Move this section to D. Agoura Hills]

j. Meet all the responsibilities outlined below for a Permittee.

B. Permittees

1. The other cities and agencies are designated as Permittees.

[The term "agencies" used to define permittee needs to be defined. I can think of several agencies that should be part of this permit but to date have not been told to participate, including Las Virgenes Unified School District, Cal. Dept. of Parks and Recreation, Santa Monica Mountains Conservancy, L.A. County Fire Dept., and Conejo Recreation and Parks District to name just a few in the Malibu Creek Watershed. These agencies own large tracts of land within the watershed and are not under the control of the City or County. Agoura Hills]

2. Each Permittee shall:

a. Participate in the development and amendment of the Baseline Stormwater Management Plan (Plan) and by _____, jointly prepare the watershed specific management plans (WMPs) via their WMC;

b. Provide an Implementation Plan describing specific stormwater programs, projects and/or activities which are to be conducted within their jurisdictional boundaries, including the storm drainage system they own and operate, and which demonstrate compliance with the

WMP(s) requirements by _____; and

c. Provide in a timely manner all information needed by the Principal Permittee for completing the annual reports.

3. The City Administrator/Public Works Director of each Permittee shall appoint a representative(s) to the WMC.

C. Agency Coordination

Each Permittee shall coordinate implementation of permit requirements and pollution prevention activities among each Permittee's internal departments and agencies (i.e. public works, planning, utilities, water supply, etc...).

D. Executive Advisory Committee

[Add, in brackets, after the title [EAC] Pomona]
[The EAC should be an advisory and coordinating body, not an implementation or regulatory body. Tasks assigned to the EAC in the Permit should be divided among the Board, the principal permittee, and the co-permittees. San Dimas]
[Same comment: Transfer EAC duties to the watershed management committees. Azusa]

1. The EAC shall consist of a representative of the County of Los Angeles, City of Los Angeles, a representative from the Malibu Creek, Santa Clara, and Dominguez Channel Watershed Management Areas, and two representatives from each of the San Gabriel River, Los Angeles River, and the Ballona Creek Watershed Management Areas.

[Rewrite paragraph to avoid duplication of defining the EAC makeup in two places. To read as follows: "The EAC shall consist of a representative of the County of Los Angeles, City of Los Angeles, Caltrans (unless they are covered by a separate permit) and representatives from the WMC as stated in E2 below." Agoura Hills]

a. One representative from the EAC shall chair the Watershed Management Committee for that Permittee's main watershed management area.

[Los Angeles County shall chair the Watershed M.C. El Monte]
[Paragraph not needed. The subject is covered in E2 and B3. Agoura Hills]

2. The City Administrator/Public Works Director for the County of Los Angeles and for the City of Los Angeles shall each appoint a representative to the EAC. Other members will be appointed by the WMCs.

[Paragraph not needed. The subject is covered in E2 and B3. Agoura Hills]

3. The EAC shall be responsible for:

[How can a permit dictate requirements to an advisory committee? The EAC, as a collective body, will not be a party to this permit nor will the WMC. How can RWQCB hold the committees accountable for not performing a task or fulfilling a requirement? - Long Beach]

a. Making recommendations on area-wide issues to each of the

Watershed Management Committees;

b. Assisting the Principal Permittee in the development of the Baseline Storm Water Management Plan; and

[Delete "and" at the end of the paragraph. Covina]
[3.b. should be the EAC's responsibility. Hermosa Beach]

c. Reviewing the Watershed Management Plans as developed by each Watershed Management Committee and provide direction and guidance on the plans for consideration by the Watershed Management Committees;

d. Preparing and forwarding unified submittals to the Regional Board upon receipt of information and materials submitted by the Watershed Management Committee in compliance with Permit requirements;

[Make "Committee" plural in the third line. Covina]

e. Mediating conflict among the Permittees; and

[It would be a mistake to ask the EAC to mediate conflicts between other permittees. The other permittees are fellow workers so how do you chose sides? The EAC should establish the choices from which the Cities should select and let the City Managers resolve disputes with their neighbors, as they do today. Agoura Hills]

f. Coordinating the implementation of pilot projects to target pollutant sources, evaluate BMP appropriateness, and assess effectiveness.

E. Watershed Management Committee

[Add, in brackets after the title, [WMC]. Pomona]

1. Watershed Management Committees (WMC) shall consist of a representative of each of the Permittees for that particular watershed management area. Regular WMC meetings shall be open to attendance by the public. The WMC may hold closed sessions, at its discretion, to discuss permit related issues.

2. The Malibu Creek, Santa Clara, and Dominguez Channel WMCs shall each appoint one representative to serve on the EAC and to chair the WMC. The San Gabriel River, Los Angeles River, and the Ballona Creek WMCs shall each appoint two representative to serve on the EAC, one of whom will chair the WMC.

[Add new paragraph 3. as follows & change existing 3. to 4.
3. Each WMC shall appoint their own Chairperson and secretary, however in the absence of a volunteer(s) for those positions, the Principal Permittee shall assume those roles in each WMC, until a qualified person is otherwise approved by the WMC.
Pomona and Hermosa Beach]
[The WMC should have the ability to agree on the individual to chair the committee and who represents it on the EAC. They do not need to be the same permittee. Agoura Hills]

3. The WMC shall be responsible for:

[Again how can a permit dictate requirements to a committee? The WMC, as a collective body, will not be a party to this permit. How can RWQCB hold the committee accountable for not performing a task or fulfilling a requirement? - Long Beach]

a. Establishing goals and objectives for the watershed;

b. Prioritizing pollution control efforts;

c. Participating in the development of a specific watershed management plan (WMP), based on the Baseline Stormwater Management Plan (Plan);

d. Assessing the effectiveness of, preparing revisions for and making appropriate changes to the Plan and the WMP;

[How are we to assess the effectiveness of the plan and WMP's? San Dimas]

e. Coordinating and facilitating the preparation of the annual reports on Permit activities within the watershed for submittal to the Regional Board -- a draft of the annual report shall be circulated to each Permittee and the Executive Advisory Committee for their review and comments prior to submittal to the Regional Board; and

[As I read this section the WMC submits a report to the RWQCB. I thought that the Principal Permittee coordinated the submittal of the Annual report to the RWQCB. Recommendation: Revise this paragraph to have the WMC submit to the EAC. Agoura Hills]

f. Facilitating the implementation of this Order among the Permittees in the watershed.

F. Watershed Management Subcommittees

1. Subcommittees will be established where needed as determined by the WMC and/or the EAC.

2. The Subcommittees will be focused on specific program areas and can provide more specific oversight on the development, implementation, and evaluation of selected program areas.

G. Fiscal Resources

[Somewhere within the item the following verbiage should be inserted:
"A sample format for the budget is included as (attachment XX, enclosure xx, or whatever other method), and it is suggested that the budget be done in this format; however, if an agency can provide all of the necessary data in some other format, it will be acceptable to the Board." Pomona]

Each Permittee shall submit an annual budget for its Implementation Plan within 30 days after the budget adoption. The budget shall be summarized and put into a format which identifies the necessary capital and operation and maintenance expenditures necessary to implement the storm water management program. The budget shall

provide information such as funding sources, staff resources, equipment, support capabilities, contract services, and cost sharing arrangements for the storm water management programs. Also included shall be a description of any funding shortfalls.

[The third sentence above should be removed. Hermosa Beach]

[Regarding the budget submittal requirements: Our City uses a line item budget. This detailed budget would place an additional burden on our City and gets us no closer in meeting our objectives. San Dimas]

[Remove the last two sentences. El Monte]

[To whom is the annual budget submitted? Covina]

[This section requires the Permittee to submit an annual budget within 30 days after the budget adoption. After whose budget adoption? - Long Beach]

1. Area-Wide Resources - In implementing this Order and the Plan, the Permittees may elect to jointly fund a single program for certain BMPs, such as Public Education, that are area-wide in nature. Funding agreements, including budgets and cost per agency, shall be developed.

[The language "Funding agreements, including budgets and cost per agency shall be developed" should be deleted. Hermosa Beach and El Monte]

["An agreement and budget is required for jointly funded area-wide program" — Would this apply to our fair display next season, and what benefit would be achieved from having an other agreement or budget? San Dimas]

2. City-Specific Resources - As stated above, each Permittee shall develop an annual budget detailing the cost of implementing Permit-related activities within its jurisdiction.

[2. Should be deleted as repetitive. Hermosa Beach and El Monte]

H. Legal Authority

1. The legal authority that was required of each Permittee under Order No. 90-079 shall continue in effect.

[What is the purpose of this section? Please clarify. - Long Beach]

2. The Co-Permittees shall exercise their legal authority and require compliance with this Order and the Plan within its jurisdiction.

[Change "its jurisdiction" to "their jurisdiction". Covina]

[Here, and in other scattered sections, the terms Co-Permittee or Discharger still appear. This needs to be cleaned up. Agoura Hills]

3. Each Permittee shall certify that it has legal authority to control discharges to and from those portions of the storm drainage system over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements between permittees with adequate existing legal authority and shall, at a minimum, accomplish Items a-f below:

[This Section requires rewriting to clarify the Regional Boards expectations of compliance. Hermosa Beach]

[The words "certify" or "certification" are words which attorneys either love or hate. Since the

permits will be issued to the cities a question should be directed to them on the acceptability of this word. Agoura Hills]

[Each item a. thru f. Should include the clause "to the maximum extent practicable." Also, the intent of items d. and e. need to be clarified. - Long Beach]

a. Control the contribution of pollutants to the storm drainage system by storm water discharges associate with industrial activity and the quality of storm water discharged from sites of industrial activity;

[Change "associate" to "associated". Covina]

b. Prohibit illicit discharges and illicit connections to the storm drainage system and require removal of illicit connections;

c. Control the discharge of spills and the dumping or disposal of materials other that storm water (e.g. industrial and commercial wastes, trash, debris, motor vehicle fluids, green waste, animal wastes, leaves, dirt, or other landscape debris etc.) to the storm drainage system;

[Change "that" to "than" in the second line; add a comma after "e.g.". Covina]

d. Control through interagency or inter-jurisdictional agreements among permittees the contribution of pollutants from one portion of the storm drainage system to another;

[Clarification, as requested by the EAC, is definitely required, especially any differentiation between Charter and General Law Cities (Pomona is a Charter City). Pomona]
[This section requires clarification regarding types of agreements and "the contribution of pollutants from one portion of the storm drainage system to another..." Hermosa Beach]

e. Require compliance with conditions in ordinances, permits, contracts or orders; and

f. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the storm drainage system.

4. Each Permittee's legal counsel shall complete a review of its existing legal authority to ensure that its existing legal authority complies with the requirements in this Order.

[This item is being referred to our City Attorney for review and comment. This may take some additional time that is not available to the Board. Pomona]

[This Section is not necessaria. Legal counsel review is implied in Section I.H.3 where each Permittee is required to certify that it has legal authority. - Long Beach]

5. Upon its completion of the legal authority review, or within 60 days of permit adoption, (whichever is sooner) each Permittee shall demonstrate that it has

adequate legal authority or provide a schedule for obtaining the adequate legal authority. Guidance for demonstrating adequate legal authority is included within the EPA document entitled *Guidance Manual For The Preparation Of Part 2 Of The NPDES Permit Applications For Discharges from Municipal Separate Storm Sewer Systems, (EPA 833-B-92-002, November 1992)*, page 3-4.

[The time limit should be extended from 60 days to 120 days. Hermosa Beach and Long Beach]
[Is the EPA document current and available to the Permittees? Covina]

I. Administrative Review

[The Administrative Review provisions are a good first step, but all issues must be directed to this process. Nothing in this section requires the NRDC or any other entity who finds reason to sue a City and includes the NPDES permit as a cause of action to first deal with the City to resolve the dispute. Agoura Hills]

The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the RWQCB under this Permit. In addition, it provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement actions.

[This section should include language such as "A Permittee shall not be in violation of any term or condition of this permit until the following administrative review process has been completed." Hermosa Beach]

1. If the Executive Officer finds that a Permittee's stormwater program is insufficient to meet the provisions of the Permit, the Executive Officer shall send a "Notice of Intent to Meet and Confer (NIMC)" to the Permittee. The NIMC shall include a date by which the Permittee must meet with RWQCB staff.

[The NIMC shall include a <u>tentative</u> date by which the Permittee must meet with RWQCB staff. El Monte]

2. Upon receipt of a NIMC, the Permittee shall meet and confer with RWQCB staff to clarify the steps to be taken to completely meet the provisions of this permit. The meet and confer sessions shall be for the purpose of developing additions and enhancements to the jurisdiction's stormwater program. The meet and confer period shall conclude with the submittal to and acceptance by the Executive Officer of a written "Stormwater Program Compliance Amendment (SPCA)" which shall include implementation deadlines. The Executive Officer may terminate the meet and confer period after a reasonable period due to a lack of progress on issues and may order submittal of the SPEP by a specified date. Failure to submit an acceptable SPCA by the specified date shall constitute a violation of the Permit.

[Change "SPEP" to "SPCA". Covina and Agoura Hills]

3. The Executive Officer will approve or reject the submitted SPCA within a reasonable amount of time. Rejection of a submitted SPEP by the Executive Officer shall state the reasons for the failure to approve the SPCA. A Permittee that receives a rejection of an SPCA shall have thirty (30) days to

remedy the specified deficiency in the SPCA and receive administrative approval from the Executive Officer of the amended SPCA.

[The time that the Executive Officer has to either reject or accept a SPCA should be more specific --such as the thirty day limit to remedy a deficiency. San Dimas]

[A Permittee that receives a rejection of an SPCA shall have a mutually agreeable date to remedy the specified deficiency in the SPCA. El Monte]

[Change "SPEP" to "SPCA". Also, define or quantify "a reasonable amount of time". Covina and Agoura Hills]

4. The Permittee shall comply with the terms of the SPCA. The Permittee shall submit reports to the Executive Officer of progress made under the SPCA. The frequency of progress report submittal shall be as prescribed by the Executive Officer. Failure to comply with the terms and conditions of the SPCA shall constitute a violation of the Permit and shall be cause for immediate Administrative Civil Liability as prescribed by the Executive Officer.

[The frequency of progress reports for a SPCA needs to be more specific, such as monthly, quarterly, etc. Quarterly reports would seem adequate. San Dimas]

II. ILLICIT DISCHARGES\DISPOSAL

[It would appear that current item III "PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES" should appear ahead of current item II "ILLICIT DISCHARGES/DISPOSAL" for a variety of reasons. Not only it is felt that legal sources should be addressed ahead of illegal ones, but the data base development in III should also include the data required in II; the definitions of sources & prioritizations show up in III - basically you have the cart before the horse. Pomona]

[The punctuation for this section should be cleaned up. - Long Beach]

A. Illicit Connections

[The emphasis should be placed on identifying and eliminating illicit discharges, not connections. Not all unauthorized connections discharge pollutants. Azusa]

By _____, the EAC shall develop a consistent program including investigative standard procedures to eliminate illicit connections to the storm drain system.

[Delete this paragraph. El Monte]

By _____, each Permittee shall implement a program to identify and eliminate illicit connections to the maximum extent practicable.

[Who determines what is "the maximum extent practicable"? This term is used throughout the draft permit. Covina]

1. The program shall, at a minimum:

   a. standardize per EAC guidelines, storm drain inspection procedures, and illicit connection and identification and elimination procedures;

   b. prioritize major problem areas, to include but not be limited to older business areas, and areas with heavy industry such as those listed under subchapter N of 40 CFR Parts 405 - 471

[Amend to read as follows: "prioritize potential problem areas and areas with heavy industry such as those listed under subchapter N of 40 CFR Parts 405-471." The current wording is vague and open to very broad interpretation. Hermosa Beach]

[What does "major problem areas" mean? - Long Beach]

   c. utilize results of field screening activities, and other appropriate information.

   d. contain an industrial/commercial education/outreach component to inform businesses about the problem of illicit discharges/dumping and proper discharge/disposal practices,

[Change "discharges/dumping" to "discharges/disposal" in the second line. Covina]

[This section should be included in Section VI. Public Information and Participation. - Long

Beach]

e. schedule storm drains for inspection for illicit connections within its jurisdiction.

[This inspection requirement will be very expensive for cities. Covina]

[Should read: "include a storm drain inspection schedule for illicit connections. - Long Beach]

f. maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

[Suggest that the standard records keeping system be the same as the data base required in III A.1. Pomona]

[What is the standard for the record keeping system? Covina]

[Revise this statement to refer to illicit connections or delete it because it is already included in section II.B.4.d. - Long Beach]

g. establish enforcement procedures to terminate illicit connections.

B. Illegal Discharges\Disposal

[Change \ to / above. Covina]

1. By _____, the EAC shall develop a consistent program including investigative standard procedures to eliminate illegal discharges/disposal practices to the storm drain system.

2. By _____, the EAC shall develop a standard enforcement procedures, including administrative and judicial, to eliminate illegal discharges/disposal practices.

[Delete "a" in the first line. Covina]

3. By _____, the EAC shall develop standard procedures for spill response, including a procedure to ensure that, in a spill response, sewage treated with disinfection agents will not be discharged into the storm drainage system, to the maximum extent practicable. The standard procedures will address investigation, containment, and cleanup activities as appropriate.

[In 1., 2., and 3., the EAC shall develop GUIDELINES instead of consistent program, standard enforcement, or standard procedures, respectively. El Monte]

4. By ____, each Permittee shall implement a program to identify and eliminate illegal discharges/disposal practices to the maximum extent practicable.

[Please define the "maximum extent practicable". Hermosa Beach]

[This section neglects the to state that the program must first be developed. Or is the intent of the Regional Board that the compilation of procedures developed by the EAC is the program ? This needs to be clarified. - Long Beach]

The program shall, at a minimum:

a. Identify and prioritize problem areas of illegal disposal where inspection, clean up, and enforcement are necessary to prevent the discharge of contaminants;

b. Maintain a surveillance program to detect illegal discharges and disposal into the street system, including, but not be limited to, street use inspections and inspections of vacant facilities;

[The stipulated surveillance programs are costly and beyond the means of many agencies. Azusa]
[This section should be deleted as section "e." serves the same purpose. Hermosa Beach]
["Surveillance program" is too abstract a term upon which to base compliance. Also, how can inspections of vacant facilities detect illegal discharges and disposal into the street system? Covina]
[Delete "including, but not limited to, street use inspections and inspections of vacant facilities. - Long Beach]

c. Establish procedures to educate inspectors, maintenance workers, and other field staff in their jurisdiction to notice illicit dischargers/disposal practices during the course of their daily activities, and report such occurrences;

d. Maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

[What is the standard for the record keeping system? Covina]
[The permit will require the City to maintain an electronic record keeping system for a variety of functions. Unless the State can deal with 88 or more different systems, the EAC or the Principal Permittee should develop a standard format, like dBASE IV, so that all of the data is usable. Agoura Hills]
[To make this statement clear, delete "in their jurisdiction." - Long Beach]

e. Establish per EAC guidelines spill response procedures; and

f. Establish, per EAC guidelines, enforcement procedures to eliminate illegal discharges/disposal practices.

C. Non-Storm Water Discharges

[Cover discharges by water suppliers and utility companies to surface waters. Covina]

1. Exempted Discharges

(Currently under discussion with the negotiation team.)

2. Conditionally Exempted Discharges

(Currently under discussion with the negotiation team.)

[The list of conditionally exempt discharges should include waterline flushing, retaining wall drains, and water from hydraulic graffiti abatement. Diverted stream flows and footing drains should be removed from the list. Hermosa Beach]

[After careful consideration, I cannot support the use of street or sidewalk washing as a permitted discharge. Typically, this would be used by a contractor working for the City who is trying to clean a street tracked with mud and debris from a construction site. This would weaken the BMP contained in the Construction Activity Manual for fifty feet of rock at the exit of a site. Agoura Hills]

D. Other Prohibited Activities

[Delete "Other" in the title. Covina]

[This entire subsection should be deleted and developed as part of the WMP by the Permittees. - Long Beach]

1. The Permittees shall prohibit any person from:

[This section should be deleted entirely. It will lead to confusion, and to many lawyers and dischargers challenging an inexperienced inspector. The question would be "It's not on the list of prohibited activities. Why are you citing me for violating the permit?" The permit in Section A on page 2 prohibits all non-storm water discharges to the storm drain system. Section II C. lists the exceptions. Therefore, if it is not covered by an exception, it is prohibited. Agoura Hills]

a. causing or allowing illicit discharges to be made into the storm drain system;

b. establishing, using or maintaining an illicit connection to the storm drain system;

[Delete this section as being redundant with section 1.a. Hermosa Beach]

c. littering.

d. disposing of leaves, dirt or other landscape debris into a storm drain; and

e. using any pesticide, fungicide, or herbicide which has either been voluntarily discontinued or prohibited by the USEPA.

f. washing down toxic materials from paved or unpaved areas.

[Add "into the storm drain system" to this. Hermosa Beach]

g. washing down impervious surfaces in industrial and/or commercial areas is prohibited unless specifically required to under Health and Safety Codes.

[Add "into the storm drain system" after "washing down impervious surfaces..." Hermosa Beach]

[Delete "is prohibited" in line 2. Covina]

2. Storage of Materials, Machinery and Equipment

[The contents and requirements of this section are more appropriate to the Industrial/Commercial Sources chapter and should be relocated there for clarity. Hermosa Beach]

[I have two comments on this group of five items. First, I do not understand what "susceptible

to runoff" means. I believe that the intent is to include anything "exposed to rainfall or stormwater runoff". If this is accurate then let's say it that way. Second, parking vehicles on absorbent material, or vacuum sweeping every parking lot with 10 of more vehicles is not very practical. Very few parking lots would escape this requirement. If you did a blind survey of 50 property managers, I would think they would say that parking lots below fifty (50) spaces cannot be swept economically. Absorbent material is easily carried or washed away from the parking area and would become useless for the purpose by absorbing moisture from the ground. For these reasons, I recommend that these two requirements be modified to contain practical solutions to a very serious problem. Agoura Hills]

The Permittees shall require:

a. that objects, such as motor vehicle parts, containing grease, oil, or other hazardous substances, and unsealed receptacles containing hazardous materials, be stored away from areas susceptible to runoff;

b. that machinery or equipment which is to be repaired or maintained in areas susceptible to runoff, be placed on a pad of absorbent material, or an equivalent, to contain leaks, spills or small discharges;

c. that owners of commercial/industrial motor vehicle parking lots and structures located in areas susceptible to runoff to be swept to remove debris. Lots with more than ten (10) parking spaces and all public parking facilities shall also be vacuum swept, or by equivalent method, to remove chemical residue;

[Great idea - but how can this be required? New lots can be mandated thru the permitting process, however unless we can PROVE public health and safety, we cannot go back and impose new conditions on old, properly maintained parking lots. Not realistic from an implementation standpoint! Pomona]

[Amend to read as follows: "that owners of commercial/industrial motor vehicle parking lots with more than ten (10) parking spaces located in areas susceptible to runoff begin a regular lot sweeping program to remove debris. Hermosa Beach]

[This requirement is too restrictive. Also, enforcement would not be cost effective. San Dimas and Azusa]

[Delete "owners of" in line 1 and change line 2 to read "structures located in areas susceptible to runoff be swept as necessary to...". Covina]

d. that all fuel and chemical residue, animal waste, garbage, batteries, or other types of potentially harmful materials which are located in areas susceptible to runoff, be removed immediately and disposed of properly.

e. that hazardous waste be disposed of through the Permittee's hazardous waste program or at any other appropriate disposal site, and not be placed in a trash container for regular trash disposal.

E. Public Reporting

[The reporting procedures outlined are too cumbersome and unnecessary. Once a year reporting

should be adequate. Azusa]

1. By _____, the EAC shall develop a standard program, for Permittees to implement by _____, to promote, publicize, and facilitate public reporting of illicit discharges and illegal disposal practices that may adversely impact water quality.

[As stated previously, the EAC as an advisory body, should not be developing elements of the WMP. The Permittees should develop these programs. - Long Beach]

2. By _____, EAC shall develop a standard program for the reporting of incidents of a hazardous substance entering the storm drain, where the responsible party is not known, to the Regional Board and State of California Office of Emergency Services (OES) at (800)___-____ and the Federal Hazardous Response Number at (800) ___-____. The Permittees shall implement this program by _____.

[As stated previously, the EAC as an advisory body, should not be developing elements of the WMP. The Permittees should develop these procedures. - Long Beach]

F. Reporting

[Section 1. should be deleted and 2. should be rewritten. As currently worded, the summaries are far too detailed. The summaries should focus on categories of illicit connections and discharges, the number of connections/discharges discovered per category, the number of each eliminated, the number in process to be eliminated, and the number subject to legal enforcement action. Hermosa Beach]

[The quarterly reporting requirement contained in this section is unacceptable. As important as storm water pollution is for the RWQCB, most cities are not able to dedicate one or more persons to this function. Therefore, with all of the other responsibilities that demand time, quarterly reporting is too great a burden. Agoura Hills]

1. A quarterly summary of illicit connections eliminated shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the investigation; what was being discharged; estimated length of time the practice was on-going; what remedial action was taken; and what happened to the discharger.

[The detailed reporting procedure outlined is too cumbersome. A checklist type of reporting system would accomplish the same results and not be as cumbersome. San Dimas]
[Semi-annually summary instead of quarterly. El Monte]
[Delete "quarterly". Why is a quarterly summary necessary if the information is submitted annually? Covina]

2. A quarterly summary illegal discharge/disposal practices reported through the standardized public reporting system shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the incident; what was spilled/dumped; quantity; what remedial action was taken; and what happened to the discharger/dumper.

[Semi-annually summary instead of quarterly. El Monte]
[Delete "quarterly". Why is a quarterly summary necessary if the information is submitted annually? Also, add "of" between "summary" and "illegal". Covina]

G. Coordination With State Permits

1. The Principal Permittee will be provided an updated list of NPDES Permits on a quarterly basis, through the Regional Board's electronic bulletin board, to verify permitted sources of the existing non-storm water discharges in the storm water drainage system.

[Rewrite as ...electronic bulletin board "for use by each Permittee in its illicit connection program to identify" permitted sources of.... Hermosa Beach]
[With the ease of using an electronic bulletin board, it should be possible for the State to provide us with a monthly updated list of NPDES permits issued. It would be better if they could provide a copy of every permit issued or applied for within our local jurisdiction (i.e., by Zip code identification). San Dimas]

2. The Permittees will work with other regulatory agencies and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies. These agencies, include but are not limited to:

[Delete this section. Hermosa Beach]
[Change "Permittees" to "Principal Permittee" in line 1. Delete the comma in line 4. Covina]

a. California Department of Fish and Game
b. California Department of Toxic Substances Control
c. California Coastal Commission
d. United States Environmental Protection Agency
e. California Department of Transportation
f. California Air Resources Board

III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES

[State of California should not delegate its own task of inspecting and monitoring of industrial and commercial facilities to the cities. - Azusa]

A. Identification of Sources

1. By _____ the Permittees shall develop a database listing industrial/commercial facilities by four digit SIC codes which shall be updated annually. The database shall include at a minimum:

[Should be amended to read: "By _____, the Permittees shall develop a database listing of the industrial/commercial facilities identified in III.B.1.a. by four digit SIC codes which shall be updated annually. The database shall include at a minimum:" - Hermosa Beach]

a. Facility owner's name, address, and telephone number;

b. Site address, telephone number, and contact person;

c. Closest receiving water and watershed;

[Section A.1.(a) and © should be deleted as not being required for minimum information. - Hermosa Beach]

d. Applicable SIC code(s);

I. For each four digit SIC sector, the Permittees shall identify primary activities that might impact runoff discharges;

ii. For each four digit SIC sector, the Permittees shall identify primary materials that might impact runoff discharges; and

[Question-has the EPA not made this determination?? It would appear that the Permittees should review businesses within their jurisdiction, based upon SIC, if the industries are conducting activities that might impact runoff discharges. Not just start from ground zero to re-invent the wheel!!! - Pomona]

[Why have each Permittee do these identification procedures? It seems like the SIC codes would be involving the same activities/materials everywhere and this should be standardized. - Covina]

[As I read the requirements of this section, the cities will be required to collect significant data on most businesses in town. Depending on the relationship that already exists this could be difficult. This will be an extensive database even for a city the size of Agoura Hills and will take months to collect and input. The item regarding materials which impact runoff will be difficult to determine without the cooperation of the business. - Agoura Hills]

2. By _____, the EAC shall develop a pollutant source identification program for the control of storm water pollutant discharges from industrial/commercial facilities. The objective of the source identification

program is to gather data on specific and/or interrelated set of pollutant generating activities occurring on very small areas (< 5 acres) of industrial/commercial activity and to provide information for developing and implementing BMPs for specific activities.

[Section A.2 should be deleted. These concerns are to be addressed by the Critical Source Monitoring element of the monitoring program. - Hermosa Beach]

[How can one identify the pollutant sources if the pollutants have not been identified for the LA Basin? If the pollutants are known they should be listed in this permit for each watershed. - Long Beach]

[What is the meaning if interrelated set of pollutant generating activities occurring on very small areas (<5 acres) of industrial/ commercial activity? The indent of this section needs to be clarified. - Long Beach]

B. Prioritization of Sources

1. By _____, the Permittees shall prioritize industrial and commercial facilities within their jurisdiction on their relative potential for the contamination of storm water and urban runoff. The prioritized list shall include

[Clarify the meaning of "relative potential." - Long Beach]

a. Categorical List

I. All industries regulated under Phase I of the Federal storm water program (40 CFR 122.26).

ii. All industrial/commercial SIC codes selected by the USEPA for screening under Phase II of the Federal storm water program.

[Should read as follows: "vehicle repair shops, vehicle body shops, vehicle parts and accessory shops, gasoline stations and restaurants." - Hermosa Beach]

iii. Other business sectors considered by the EAC or the Regional Board to conduct industrial/commercial activity with a high potential for storm water contamination (e.g, restaurants).

[Omit "the EAC" - El Monte]

The categorical list shall be grouped by Permittees and provide an organized overview of the target facilities based on land use, operation, and activities, could potentially contribute significant amounts of pollutants into storm water runoff.

[Clarify the meaning of "significant amounts of pollutants." - Long Beach]

2. By _____, Permittees shall rank the industrial and commercial facilities, identified as potential pollutant sources of storm water and urban runoff pollutants in III. B.1.a, in order of priority for oversight of implementation of

storm water management measures.

["Order of priority" needs to be defined; ie., shall we rank on the degree of pollutant hazard, that the potential quantity of pollutant materials that might be introduced of the qualities of the materials (a million gallons of a 1% soln of "X" or 100,000 gallons of a 15% soln of "X".) - Pomona]

[What is the difference between prioritized and ranking? This item seems to duplicate B1. Why is it needed? - Agoura Hills]

[How does this ranking of industrial/ commercial facilities differ from Section III.B.1 above? - Long Beach]

C. Source Control Measures

1. By _____, Permittees shall develop a checklist of specific storm water and urban runoff control measures for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutants into storm water runoff. The control measures must

[Add "that" after "facilities" in the second line. - Covina]

[The development of checklists should be a Countywide function and should be performed by the EAC, not by individual permittee. - Agoura Hills]

[Is the intent to develop a checklist or control measures? Are control measures the same as best Management Practices? BMPs should be developed as part of the WMP. - Long Beach]

a. address multiple pollutant sources

b. initially focus on source control measures such as source minimization, education, good housekeeping, and site design alternatives.

c. target industrial/commercial source areas and activities with the potential to generate substantial pollutant loadings

2. By _____, Permittees shall develop a process to ensure implementation of storm water and urban runoff control measures for industrial/commercial facilities identified in III.C.1.

[Should be deleted as being redundant with Part III Section D. - Hermosa Beach]

[Rewrite lines 2 and 3 to say "implementation of storm water and urban runoff control measures identified in III.C.1 for industrial/commercial facilities." - Covina]

3. By _____, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutants into storm water runoff. The structural control measures must be evaluated as to

[Should be deleted. These concerns are to be addressed by the Critical Source Monitoring

element of the monitoring program. - Hermosa Beach]

[This evaluation is much too general for Permittees to conduct. Their tasks should focus on circumstances peculiar to their jurisdiction--this is more of the nature of a university study. - Covina]

[This task should be included in the WMP where each control measure can be developed as a pilot project and implemented by the Principal Permittee and supported by all the Permittees. This process could prove to be more cost effective and will provide consistent end results. - Long Beach]

a. effectiveness in reducing toxic pollutants and pollutants of concern

b. ease of maintenance

c. current frequency of use

d. feasibility and cost-effectiveness

e. possible methods to ensure implementation if necessary

By, _____, the Permittees shall, in addition, describe any studies and pilot projects they intend to conduct to assess the feasibility and effectiveness of specific control measures.

4. By _____, Permittees shall require the following:

[This section should be deleted and developed as part of the WMP by the Permittees. - Long Beach]

a. The proper disposal of food wastes by restaurants and food wholesalers.

b. Persons owning or operating a gas station, auto repair garage, or similar structure must clean those facilities in a manner that does not result in discharge of pollutants to the storm drain system; and

c. Machinery and equipment, including motor vehicles, which are visibly leaking oil, fluid or antifreeze must be repaired.

[Should be deleted. - Hermosa Beach]

5. The EAC may seek coverage under this Order, for industrial facilities listed in III.B.1.a.1 which are owned and operated by Permittees if it,

[Change "the EAC" to "the Permittee". - El Monte]

[The intent of this section must be clearly established. - Agoura Hills]

[What is the intent o this section. - Long Beach]

a. establishes a procedure for notifying the Regional Board of industrial sites owned and operated by Permittees

b. prepares a checklist of industrial BMPs using BAT/BCT criteria for implementation by Permittees at these industrial sites

c. standardizes procedures to ensure implementation of industrial BMPs by Permittees,

d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee industrial facilities

e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each site, and certify compliance with this Order.

[Delete entire paragraph. - El Monte]

[Section C.5 suggests that some possible examples be listed to insure compliance - Say your "industrial facilities to most cities & the response will be "Not Applicable, next item!!" - Pomona]

[This Section should be rewritten as follows: "Each permittee may seek coverage under this Order, for industrial facilities listed in II.B.1.a.i. which are owned and operated by the Permittee, if it:

(a) Established as procedure for notifying the Regional Board of industrial sites owned and operated by the Permittee.
(b) Prepare a checklist of industrial BMP's using BAT/BCT criteria for implementation at these industrial sites.
© Standardizes procedures to ensure implementation of industrial BMP's.
(d) Prepare and retain site specific Stormwater Pollution Prevention Plans at its industrial facilities.
(e) Establishes a procedure to report annually on the effectiveness of Stormwater Pollution Plans at each site, and certify compliance with this Order. - Hermosa Beach]

D. Source Inspection

1. By _____, Permittees shall submit a schedule for inspection of industrial/commercial facilities in III.B.1.a. for adequacy of storm water pollution prevention measures. The schedule shall include, for a five year period,

[Should be amended to read: "By _____, each Permittee shall submit a schedule for inspection of those industrial/commercial facilities in III.B.2 which have been selected by the Permittee for inclusion in an inspection program for adequacy of Stormwater pollution prevention measures. Facilities selected shall be those identified by the Permittee as potentially contributing the most significant pollution impacts to Stormwater discharges." The following subsections D.1.a and .b should be deleted as unnecessary. The last paragraph should substitute III.B.2 for III.B.1.a.ii, and delete reference to III.B.1.a.iii. - Hermosa Beach]

[Scheduling inspections 5 years in advance doesn't seem reasonable. - Covina]

[This section seems to be inequitable. I am in a city of less than 250,000, therefore under 1a 1 must inspect all of my industrial/commercial properties. If I was in a city of more than 250,000 with no section B1a1 industries, I am not sure how many of the remainder of my business I would be required to inspect. I believe that we need to put some number to these formulas and see if the results are logical. - Agoura Hills]

a. for municipalities with a population of less than 250,000, all facilities identified in III.B.1.a.1, and all facilities identified in III.B.1.a.2 and III. B.1.a.3,

[Replace "III.B.1.a.1", "III.B.1.a.2", and "III.B.1.a.3" with "III.B.1.a.i, "III.B.1.a.ii", and "III.B.1.a.iii", respectively. - Covina]

b. for municipalities with a population of greater than 250,000, all facilities identified in III.B.1.a.1, and,
a subset of facilities identified in III.B.1.a.2 and III.B.1.a.3 but not less than ten times the number identified in III.B.1.a.1

Industrial/commercial facilities in III.B.1.a.2 and III.B.1.a.3 that are not included in the inspection schedule shall be surveyed by phone, mail-out, or a similar method, as to their conformance with good stormwater quality management measures.

[This paragraph should be moved to Section III.D.2. - Rancho Palos Verdes]

2. By _____, Permittees shall develop and implement a industrial/commercial facilities inspection program. The inspection program shall include, but is not limited to:

[Delete entire paragraph. - El Monte]

[This inspection program will be expensive for cities. - Covina]

a. procedures for facility inspections

b. procedures for industrial/commercial sectors outreach on pollution prevention, waste minimization, and storm water quality management

c. procedures to ensure corrective action is undertaken by non-complying facilities

d. procedures to follow-up on violations of municipal standards

e. procedures for enforcement action against non-complying facilities;

f. an electronic recording system to document the status of facility inspections; and,

[What is meant by "electronic recording system?" - Covina]

g. appropriate training for program staff.

3. During inspection of group III.B.1.a.1, inspectors shall request to see a copy of the SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may deem it necessary to report problematic facilities to the Regional Board.

[Replace "III.B.1.a.1" with "III.B.1.a.i." - Covina]

E. Reporting

Each year, the Permittees shall evaluate the results and progress of their storm water quality management program for industrial/commercial sources. The annual report submitted to the Regional Board shall recommend a strategy for the management of storm water from industrial/commercial sources for the following year based upon:

[Change "Permittees" to "EAC". - El Monte]

a. priority industrial/commercial sources listing
b. priority on-site inspections
c. phone/mail-out survey inspections

[Delete entire line. - El Monte]

d. priority checklists of stormwater urban runoff control measures

[Should be amended to read: "evaluation of stormwater urban runoff control measure implementation." - Hermosa Beach]

e. evaluations of structural and treatment control measures

[Should be amended to read: "evaluation of the results from the critical source monitoring program." - Hermosa Beach]

f. special studies and pilot projects needs
g. specific site and activity monitoring needs

[Sections (f) and (g) should be deleted and addressed in the Critical Source Monitoring program. - Hermosa Beach]

The EAC shall make available to the Regional Board the industrial/commercial database developed in III.B.1.a.1 in the appropriate format when so requested.

[The last paragraph does not appear to make sense. As I read the permit, the Permittees are maintaining databases of inspections made, violations cited, and other permit related work. The EAC does not maintain a database so what information will they make available? Should this have been Permittee? - Agoura Hills]

F. Coordination

The Permittees shall develop a process for the exchange of information between the Permittees and the Regional Board. Appropriate formats for such reports shall be developed as required.

[Should be made to read: "The Permittees will work with other regulatory agencies as deemed necessary by the Permittees and report to the Regional Board on recommendations to resolve any

conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies. - Hermosa Beach]

[Change "Permittees" to "Principal Permittee." - El Monte]

[Should the Permittees work directly with the Board? It seems like a better idea to have either the EAC or the Principal Permittee act as the liaison with the Board. This paragraph also leaves open the possibility of many more reports to be required of the already overburdened Permittees. - Covina]

[This paragraph appears to require the Permittee to coordinate submittal of information to the Regional Board. Was under the impression that this should be done by the EAC. If I am correct then this section should be changed. - Agoura Hills]

G. Conflicts with Other Mandates

1. The Permittees will work with other regulatory agencies and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies.

[Both Section (F) and (G) should be deleted as unnecessary. - Hermosa Beach]

[Replace "Permittees" with "Principal Permittee" to be consistent with Section II. - Covina]

IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT

A. Regional Policy

1. By _____, the EAC shall develop and adopt a regional policy to promote watershed protection considerations during planning, project review, and permitting of new development and redevelopment, to:

[I am a firm believer in making sure that Best Management Practices are followed after a development is built out and occupied. The reality is that this will be one more law that will be on the books and will only be enforced on receipt of complaints from citizens. There is not enough money to do this any other way. Then lawyers will have one more charge which cities will have violated. - Agoura Hills]

[Under the law does the EAC have the authority to set policies for all the cities within Los Angeles County? How can a permit dictate such requirements to an advisory committee? - Long Beach]

a. preserve to the extent feasible, and where possible, create or restore areas that provide water quality benefits, such as riparian corridors and wetlands, and promote the design of new development so that it protects the natural integrity of drainage systems and water bodies.

b. avoid conversions of areas particularly susceptible to erosion or sediment loss and/or establish development guidance that identifies these areas and protects them from erosion and sediment loss. Such areas include steep slopes, highly erodible soils, periods of intense rainfall, and inability to revegetate once disturbed.

c. require the integration of storm water quality protection into construction and post-construction activities at all development sites, including the minimization of toxic material use and their careful containment on site.

d. maintain peak runoff rates at pre-development levels, wherever practicable.

2. By _____, the EAC shall establish minimum requirements consistent with the regional policy for new development and redevelopment, for

[Change "minimum requirements" to "recommendations". - El Monte]

a. site planning practices

b. construction best management practices

c. post-construction best management practices

d. reporting erosion and storm water control strategies

e. redevelopment and infill

B. Planning Process

In order to integrate storm water management considerations into new development projects at the time that they are first proposed to jurisdictions, and to support other provisions of this permit:

[We concur totally with the EAC comments-That the planning process cannot be dictated to a City-only recommended. - Pomona]

1. By _____, the EAC shall develop guidance for permittees to use in preparing/reviewing EIRs, and in linking EIR mitigation conditions to local permits approvals.

[Change "guidance" to "guidelines". - El Monte]

[How can a permit dictate such requirements to an advisory committee? - Long Beach]

2. By _____, permittees shall adopt and use the guidance in their internal procedures.

[Should be deleted because it attempts to dictate the planning process to the city. - Hermosa Beach]

[How can an advisory committee dictate such requirements to the Permittees? - Long Beach]

3. By _____, the EAC shall develop a model CEQA checklist form that explicitly addresses watershed, water quality, and nonpoint source pollution impacts.

[How can a permit dictate such requirements to an advisory committee? - Long Beach]

4. By_____, the permittees shall use the model CEQA checklist.

[Should be deleted because it attempts to dictate the planning process to the city. - Hermosa Beach]

[How can an advisory committee dictate such requirements to the Permittees? - Long Beach]

[Should delete B.2, B.3, B.4. - El Monte]

5. Whenever a permittee rewrites either of the following mandated general plan elements - the conservation element or the open space element - watershed and stormwater management/urban runoff considerations shall be incorporated.

6. By _____, permittees shall implement a program to encourage developers to maximize pervious areas and storm water infiltration (in areas where the geology and topography allow), minimize directly connected imperious areas, and include justifiable treatment control measures.

7. Permittees shall require that prior to the submittal of an application for the first planning or building approval for a new development project, an applicant shall submit an Urban Runoff Mitigation Plan.

[Should be amended to read: "Permittees shall require as part of the submittal of an application for the first planning or building approval for a new development project, the inclusion of an Urban Runoff Mitigation Plan." In addition, this plan should only be required of large scale projects (ie. 100+ dwelling units or 100,000 square feet of commercial space). Also, subsections a.ii. and a.iii.c. should be deleted as being too burdensome. - Hermosa Beach]

[Add "for a parcel of over five years". - El Monte]

[The Urban Runoff Mitigation Plan sounds like a good idea that is fifty years too late. If this plan is a good idea it should be a good idea for all properties. I would suggest that the RWQCB or EPA promote this concept to all businesses in the USA. This will provide valuable exposure for the program and will make a significant improvement in the water quality of our nations water bodies. If it is left for new businesses to develop this idea, we may never see a new development. - Agoura Hills]

[What constitutes a new development project? Many of the requirements listed in this section are unreasonable. - Long Beach]

a. The Urban Runoff Mitigation Plan shall:

i. Be designed to reduce the runoff volume from the site and the pollutant load contributed by the site through incorporation of design elements and practices that address each of the goals set forth below in subsection (c). (Applicants should refer to the most recent edition of the Construction Best Management Practices Handbook, produced and published by the Storm Water Quality Task Force, for specific guidance on selecting best management practices for reducing pollutants in stormwater discharges from urbanized areas.)

ii. Discuss compliance with the development requirements set forth by Permittee's legal authority; and

iii. Address the following goals in connection with both construction and long term operation of the site:

a. Maximize, to the extent practicable, the percentage of permeable surfaces in order to allow more percolation of runoff into the ground.

b. Minimize, to the extent practicable, the amount of runoff directed to impermeable areas to the City's stormwater system.

c. Maximize, to the extent practicable, stormwater

filtration and storage for reuse through the use of sediment traps, cisterns or other means.

[As an absolute, I definitely concur with the EAC comments; however, if the phrase "Where economically feasible and practicable by the Permittee," was inserted in front and the phrase, "to the extent practicable" deleted, it would provide a strong suggestion to explore all available options, without unduly burdening anyone. - Pomona]

[Delete these lines. - El Monte]

d. Minimize, to the extent practicable, parking lot pollution through the use of porous materials to allow percolation of runoff, through the installation of appropriate treatment controls, or through other means.

iv. Compliance with an approval Urban Runoff Mitigation Plan shall be a condition of any required planning approval.

[Needs to start with a verb. - Covina]

v. Failure to comply with an approved Urban Runoff Mitigation Plan after receiving any required planning approval shall be a misdemeanor.

[Who does this violation apply to? As a permittee am I exposed to misdemeanor penalties if a business or condo association fails to comply with an Urban Runoff Mitigation Plan? If it is the business or condo association that is guilty are they an agency as defined in this permit? Are they covered? A lawyer should review this question. - Agoura Hills]

[That the determination as to the degree of criminal violation; ie. felony, misdemeanor, infraction, etc. will be a part off each Permittees legal authority and cannot be set by the Regional Board, unless they are ready to get it into the California Penal Code. - Pomona]

[Should be deleted. - Hermosa Beach]

[Needs to start with a verb. - Covina]

[Does the Board have the authority to require this? Permittees should have the opportunity to develop their own enforcement standards. - Long Beach]

C. Identification of Sources

1. By _____, the EAC shall establish a screening criteria for construction sites to be listed in a database.

[Change to "the EAC shall establish guidelines for screening criteria for construction sites to be listed in a database that are over five acres." - El Monte]

[Why establish a new list of criteria for screening construction sites? The federal Regulations are ver clear, sites greater than 5 acres shall ascertain an NPDES permit. - Long Beach]

2. By _____ the Permittees shall develop a database listing sites of construction activity within each Permittees' jurisdiction which shall be

updated quarterly. The database shall include at a minimum:

[Change to "the Permittees shall develop a database listing of construction activity of over five acres within each Permittee's jurisdiction which shall be updated quarterly". - El Monte]

a. Facility owner's name, address, and telephone number;

b. Site address, telephone number, and contact person;

[Should be amended as follows: "Site, address, general contractor and telephone number." The following subsections (c) and (e) should be deleted as either too onerous or not under the control of the Permittee. - Hermosa Beach]

c. Closest receiving water;

d. Type of construction activity

e. Duration of project with start and end dates

[While I concur that the Permittees have no control (EAC comments), the dates could and should be requested as a part of the construction permit process. - Pomona]

[Most construction projects can estimate a completion date at the issuance of permits, but factors beyond anyone's control will delay the proposed completion date. This item should have the end date recognized as an estimate. - Agoura Hills]

f. Total size of project in acres or square feet .

D. Prioritization of Sources

[This Section should be deleted in its entirety. The purpose of this section is not apparent. Site inspections and ranking will be handled through existing inspection programs. - Hermosa Beach]

[Delete this entire section. - El Monte]

[What is the intention of this section? On what basis does one prioritize the relative potential for a construction site to contaminate storm water and urban runoff? - Long Beach]

1. By _____ the Permittees shall prioritize sites of construction activity within their jurisdiction on their relative potential for the contamination of storm water and urban runoff. The categorical list shall include:

   a. All construction activity sites regulated under Phase I of the Federal storm water program (40 CFR 122.26).

   b. All construction activity with sites greater than the size criteria established by the EAC but less than five acres in size.

   c. Other construction activity sites considered by the EAC or the Regional Board to have a high potential for the contamination of storm water and urban runoff.

2. By _____, Permittees shall rank the construction activity sites, identified as potential pollutant sources of storm water and urban runoff pollutants in IV. B.1.a, in order of priority for oversight of implementation of storm water management measures.

[This section refers to section IV.B.1.a, which cannot be found. - Agoura Hills]

E. Control Measures

[In five places, paragraph IV.B.1.a is referenced, but that paragraph does not exist. - Covina]

1. By _____, Permittees shall develop a checklist of specific storm water and urban runoff control measures for construction activity sites in IV. B.1.a. The control measures must

["Permittees shall develop a checklist of specific storm water and urban runoff control measures for construction activity sites of over five acres". - El Monte]

[The Permit asks the permittee to establish a checklist, which should be done by the EAC. - Agoura Hills]

[Is the intent to develop a checklist or control measures? Are control measures the same as Best Management Practices. BMPs should be developed as part of the WMP. - Long Beach]

a. address multiple pollutant sources

b. initially focus on source control measures such as source minimization, education, good housekeeping, good waste management and good site planning.

c. target construction activity source areas and activities with the potential to generate substantial pollutant loadings

2. By _____, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for construction sites in IV.B.1.a. The structural control measures must be evaluated as to:

[Should be deleted. The concerns in this area will be addressed by the Critical Source Monitoring Program. - Hermosa Beach]

[Should be deleted in its entirety. - El Monte]

[This evaluation is much too general for Permittees to conduct. Their tasks should focus on circumstances peculiar to their jurisdiction-this is more of the nature of a university study. - Covina]

[This task should be included in the WMP where each control measure can be developed as a pilot project and implemented by the Principal Permittee and supported by all the Permittees. This process could prove to be more cost effective and will provide consistent end-results. - Long Beach]

a. effectiveness in reducing sediment, toxic pollutants and pollutants of concern;

b. ease of maintenance;

c. current frequency of use;

d. feasibility and cost-effectiveness; and

e. possible methods to ensure implementation.

By _____, Permittees shall describe any studies and pilot projects that may be conducted to assess the feasibility and effectiveness of specific control measures.

3. By ____, Permittees shall have in place a process to ensure implementation and proper maintenance of storm water and urban runoff control measures for sites associated with construction activity in IV.B.1.a., including

["Permittees shall have in place a process to ensure implementation and proper maintenance of storm water and urban runoff control measures for sites associated with construction activity of over five acres including:" - El Monte]

[Delete this entire section. The requirements are unreasonable and exceed the requirements of the Clean Water Act. - Long Beach]

a. use of qualified personnel to design, install, and maintain BMPs.

[Should be deleted as being too cumbersome for the Permittees. - Hermosa Beach]

b. proper maintenance of BMPs incorporated into private developments (e.g., through deed restrictions, covenants, conditions and restrictions (CC&R).

c. proper installation and maintenance of post-construction BMPs.

d. prohibition on grading during the wet season (Oct 15 -Apr 15) except for emergency action unless adequate erosion and sediment control measures are in place and maintained.

[Delete entire paragraph. - El Monte]

4. Permittees shall require the following for demolition/construction activity:

[This section should be deleted and developed as part of the WMP by the Permittees. - Long Beach]

a. Sediment, construction waste and other pollutants from construction sites and parking areas shall be retained on the site to the maximum extent practicable.

b. Any sediments or other materials which are not retained on the site

shall be removed within 24 hours or where determined necessary by the Director of Department of Public Works, or a designated representative, a temporary sediment barrier shall be installed.

[Should be amended to read: "Any sediments or other materials which are not retained on the site shall be removed within 24 hours from the time of notification of the Director of Public Works, or a designated representative. In lieu of removal, a temporary sediment barrier shall be installed." - Hermosa Beach]

c. Excavated soil shall be located on the site in a manner that eliminates the amount of sediments running into the street or adjoining properties. Soil piles shall be covered until the soil is either used or removed.

d. Drainage controls shall be utilized as needed, depending on the extent of proposed grading and topography of the site, including but not limited to the following:

I. Detention ponds, sediment ponds, or infiltration pits.

ii. Dikes, filter beams or ditches.

iii. Down drains, chutes or flumes.

iv. Silt fences.

e. No washing of construction or other industrial vehicles shall be allowed adjacent to a construction site. No water from washing vehicles on a site is allowed to run off into the City's storm drain system.

[Should be amended to read: "No water from washing vehicles on a construction site may be allowed to run off unless treated to remove sediments and pollutants. - Hermosa Beach]

f. Roof drainage shall be oriented towards permeable areas on site to maximum extent practicable.

g. Lot drainage shall be oriented towards permeable areas to the maximum extent practicable.

[It should be noted that it is not good civil engineering practice to allow run-off to infiltrate into graded hillside lots. - Rancho Palos Verdes]

h. All parking lots shall be designed to contain one inch of precipitation in a 24 hour period.

[Should be deleted. These steps cannot be supported without clear evidence that their effectiveness exceeds that of normal good housekeeping practices. - Hermosa Beach]

[This requirement should be thought out more thoroughly. - Rancho Palos Verdes]

[This is an impractical requirement. What will happen to irrigation water? - Azusa and Agoura

Hills]

l. Runoff from parking lots shall be directed to permeable areas to the Maximum Extent Practicable.

[Should be deleted. These steps cannot be supported without clear evidence that their effectiveness exceeds that of normal good housekeeping practices. - Hermosa Beach]

[This requirement should not be deleted. - Rancho Palos Verdes]

[These items should be moved to the planning section, Section 7.a.3. - Rancho Palos Verdes]

5. Permittees shall require the following for construction activity:

[Should be deleted. Subsection (a) should be relocated to IV.E.4.f, and subsection (b) should be relocated to IV.E.4.g. - Hermosa Beach]

[This section should be deleted and developed as part of the WMP.by the Permittees. - Long Beach]

a. All construction sites in hillside areas or in areas adjacent to natural water-ways (soft bottom creeks), lakes or the ocean must develop and implement sedimentation and erosion control plans that incorporate the following elements: timing of construction, BMPs to reduce erosion of cleared hillsides (revegetation, jute netting, etc.), BMPs to reduce the velocity of runoff and sediment from the construction site, and BMPs to detain the flow of sediments from the site;

b. As a condition of granting a construction permit, set forth reasonable limits on the clearing of vegetation from construction sites, including, but not limited to, regulating the length of time during which soil may be bare, and, in certain sensitive cases, prohibiting bare soil.

6. The EAC may seek coverage under this Order, for construction activity sites listed in III.B.1.a.1 which are owned and operated by Permittees if it:

[Should be rewritten as: "Each permittee may seek coverage under this Order, for construction activity sites listed in III.B.1.a.i. which are owned and operated by the Permittee if it:

(a) Establishes as procedure for notifying the Regional Board of construction activity sites owned or operated by the Permittee.

(b) Prepare a checklist of construction BMPs using BAT/BCT criteria for implementation at these construction sites.

© Standardizes procedures to ensure implementation of construction BMPs.

(d) Prepare and retain site specific Stormwater Pollution Prevention Plans (SWPPP) at its construction sites; and

(e) Establishes a procedure to report annually on the effectiveness of Stormwater Pollution Prevention Plans at each construction site, and certify compliance with this Order. - Hermosa Beach]

[Does this section of the permit require the EAC to issue permits for city funded construction activities? Or, does it allow a City that complies with the procedures and checklists established

the EAC to avoid paying fees to the RWQCB? If it is the former; I am opposed to the provision. If it is the latter; I will volunteer for the subcommittee that works on this procedure and checklist. - Agoura Hills]

[What is the intent of this section. - Long Beach]

a. establishes a procedure for notifying the Regional Board of construction activity on sites owned or operated by Permittees;

b. prepares a checklist of construction BMPs using BAT/BCT criteria for implementation by Permittees at these construction sites;

c. standardizes procedures to ensure implementation of construction BMPs by Permittees;

d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee construction sites; and

e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each construction site, and certify compliance with this Order.

F. Source Inspection

1. By _____, Permittees shall submit a schedule for inspection of construction activity sites in IV.B.1.a. for adequacy of storm water pollution prevention measures and erosion control measures. The schedule shall include, for a five year period,

[Section F.1. and F.2 should be deleted in all its entirety as being redundant. The list of typical sites in .2 should be included under Part IV.E.3. - Hermosa Beach]

[Delete F.1 and F.2 - El Monte]

[Paragraph IV.B.1.a and its subparagraphs are referenced but they do not exist. - Covina and Agoura Hills]

[It is not possible to schedule construction inspections five years in advance. - Covina]

[Sections F.1 and F.2 are unacceptable. - Agoura Hills]

a. all construction activity identified in IV.B.1.a.1, and all construction activity identified in III.B.1.a.2 and III. B.1.a.3,

2. By _____, Permittees shall develop and implement a construction activity inspection program. The inspection program shall include, but is not limited to:

a. procedures for construction site inspections

b. procedures for construction and building industry outreach on pollution prevention, waste minimization, and storm water quality management

c. procedures to ensure corrective action is undertaken by non-complying sites

d. procedures to follow-up on violations of municipal codes

e. procedures for enforcement action against non-complying construction activity;

f. an electronic recording system to document the status of construction activity inspections; and,

[Why is it necessary to have an electronic recording system for inspections? - San Dimas, Covina and Azusa]

g. appropriate training for program staff.

3. During inspection of group IV.B.1.a.1 sites, inspectors shall request to see a copy of the SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may deem it necessary to report problematic construction sites to the Regional Board.

[In a program of this magnitude, it is likely that many problem sites will be encountered which will need direct Board involvement for problem resolution. If a problem site is referred to the Board, does that relieve the permittee from the responsibility of taking further actions until a ruling is made by the Board? - Hermosa Beach]

[Should be rewritten as: "During inspection of construction sites regulated under Phase I of the Federal Stormwater Program, inspectors shall request to see a copy of the SWPPP. If no SWPPP is available, the Regional Board shall be notified. In addition , the Permittee shall report problematic construction sites to the Regional Board." - Hermosa Beach]

G. Reporting

1. Each year, the Permittees shall evaluate the results and progress of their storm water quality management program for construction activity sites. The annual report submitted to the Regional Board shall recommend a strategy for the management of storm water from construction activity sites for the following year based on

[Should be amended as: "Each year, the Permittees shall evaluate the results and progress of their stormwater quality management program for construction activity sites. The annual report submitted to the Regional Board shall recommend a strategy for the management o stormwater from construction sites for the following year based on evaluation of stormwater urban runoff control measures implementation and evaluation of results from the critical source monitoring program." In addition G.2 should be amended to read: "The Permittees shall transmit to the Regional Board a hard copy of the construction activity database developed in IV.C.2 on a quarterly basis." - Hermosa Beach]

["Each year, the Permittee shall evaluate the results and progress of their storm water quality management program for construction activity sites of over five acres. - El Monte]

a. priority construction site sources listing
b. priority site inspections
c. priority checklists of stormwater urban runoff control measures
d. evaluations of structural and treatment control measures
e. special studies and pilot projects needs
f. specific site and activity monitoring needs

[Delete entire line. - El Monte]

2. The EAC shall make available to the Regional Board the construction activity database developed in IV.B.1.a.1 in the appropriate format when so requested.

[Delete entire paragraph. - El Monte]

H. Conflicts with Other Mandates

1. The Permittees shall work with other regulatory agencies and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies.

[Replace "Permittees" with "Principal Permittee" to be consistent with sections II and III. - Covina]

[We concur with the EAC comment with regard to placement, but we feel very strongly that the Regional Board should assume the leadership in any conflicts that cannot be readily resolved by the Permittees, especially when the other mandates are at the state and federal level. - Pomona]

[Should be deleted as being redundant. - Hermosa Beach]

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V. PUBLIC AGENCY REQUIREMENTS

A. Examination of Existing Activities

By _____, the Permittees shall develop and begin implementation of a program to examine their existing activities and measures described below to reduce the impact on stormwater quality from their operations.

B. Sewage Systems

[This section will have little or no affect on Agoura Hills because we contract with the County for Sewer Maintenance. B2 needs to be clarified to specify who is responsible for establishing control procedures for identifying, repairing and remediating sewer blockages, etc. It would appear to fall to the EAC, but we need to check with those agencies who do sewer maintenance to determine if this is acceptable. - Agoura Hills]

[County Sanitation Districts of Los Angeles County is a major player in operating and maintaining several miles of trunk sewers throughout the Los Angeles Basin. The Permittees have no jurisdiction over the Districts. Who will regulate the Districts operation and maintenance procedures. - Long Beach]

1. All reasonable efforts shall be undertaken to keep sewage spills or leaks from entering the storm drain system. The EAC shall develop procedures for spill response by _____.

2. Control procedures for identifying, repairing, and remediating sewer blockages, exfiltration, overflow, and wet weather overflows from the sewers to the storm drain system shall be implemented to protect stormwater quality by _____. These procedures shall include, but are not limited to, quick field response to overflows, follow-up testing, and complaint investigation.

3. By _____, the Permittees shall insure that field personnel who operate and/or maintain sewer systems have procedural training for field screening, sampling, smoke/dye testing, and TV inspection, if appropriate, to be able to properly investigate any suspect connections or cross connections to the storm drain system.

C. Vehicle Maintenance/Material Storage Facilities

[This section will have little or no affect on Agoura Hills because we do not have vehicle maintenance/material storage facilities. - Agoura Hills]

1. By ____, EAC will develop pollution prevention plans for each public vehicle maintenance/material storage facility category.. Public vehicle maintenance/material storage facilities include any Permittee-owned and/or operated facility in which any of the following occur: vehicle or equipment maintenance; repair; washing; fueling; and/or any facility at which there is storage of toxic chemicals or hazardous materials.

[Should be amended to read as follows: "By _____, EAC will develop a standard pollution prevention plan for public vehicle maintenance/material storage facilities. Public vehicle maintenance/material storage facilities include any Permittee-owned and/or operated facility in which any of the following occur: vehicle or equipment maintenance; repair, washing; fueling; and/or any facility at which a hazardous materials business plan is required." - Hermosa Beach]

[EAC will develop pollution prevention plan guidelines for each public vehicle maintenance/material storage facility category. - El Monte]

[This task is assigned to the EAC. It does not appear to be the development of a checklist of desirable procedures but rather the development of the SWPPP for an individual property. If this responsibility is left with the EAC it should be modified to be consistent with other similar development projects. - Agoura Hills]

2. Best Management Practices (BMPs)

a. By _____, Permittees will have site specific pollutant control measures implemented at all vehicle maintenance/material storage facilities per EAC guidelines, together with an on- site pollution prevention plan.

b. Any BMPs to be implemented must be part of a comprehensive plan designed to address the various pollutant sources at each public vehicle maintenance/material storage facility. To achieve this goal, the Permittees shall first identify the potential pollution sources and who is responsible for implementing the stormwater management measures.

c. Based on the facility type, management practices and schedule of implementation shall be developed. BMPs that can be used to improve the quality of runoff include, but are not limited to:

[Change second sentence to: BMP's that can be used to improve the quality of runoff should include, but are not limited to: - Pomona]

i. Housekeeping practices;

ii. Material storage control;

iii. Vehicle leak and spill control; and

iv. Illegal dumping control.

d. Loading/Unloading of Materials

i. Employees or contractors of the Permittees who handle potentially harmful materials shall be trained in good housekeeping practices to prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

[Delete the words "or Contractors" from the statement as presented and add the following sentence: If feasible, any contractors of the permittees should also receive such training. - Pomona]

ii. Applicable BMPs shall be selected based on the following three factors:

1. Eliminating exposure of material to rainfall;

2. Checking equipment regularly for leaks; and

3. Containing spills.

e. Material Storage Control

[Conventional paragraphing outline procedures need to be followed and the item is very narrow - covering only chemical storage spills/or other similar problems. Needs to be re-written to cover a wider area of materials storage - yes it addresses the most significant potential problem, however it may cause some to pass over the item as not applicable. - Pomona]

[Move paragraph e over to the margin. - Covina]

A program shall be developed to prevent or reduce the discharge of pollutants to stormwater from outdoor container storage areas using measures such as:

I. Installing safeguards against accidental releases;

ii. Secondary containment;

iii. Conducting regular inspections; and

iv. Training employees in standard operating procedures and spill cleanup techniques.

f. Vehicle and Equipment Washing and Maintenance

I. Washing of vehicles or equipment on-site shall be performed in a designated area equipped with an oil/water separator.

ii. The sumps and separators shall be maintained/cleaned on a regularly scheduled basis appropriate to the facility.

iii. BMPs to be implemented as appropriate for vehicle and equipment maintenance shall include but not be limited to:

[This item is redundant - should be incorporated with VC.2.c. - Pomona]

a. Waste reduction;

b. Use of alternate products;

c. Pollution prevention;

d. Recycling; and

e. Spill prevention and clean up.

6. Waste Handling and Disposal

[This should be labeled "g" and the title should not be underscored. - Covina]

[This item appears to be misnumbered and should likely be C3. It is such a non-issue does it even need to be mentioned in the permit? - Agoura Hills]

Wastes shall be managed to prevent stormwater pollution.

D. Parks and Recreation

1. Fertilizers/Pesticides

a. Permittees shall develop procedures on the proper application of pesticides, herbicides, and fertilizers by _____. Procedures shall include:

I. List of approved pesticides and selected use;

[We suggest that this entire line be stricken. - El Monte]

ii. Product and application information;

iii. Equipment use and maintenance procedures; and

iv. Record keeping.

b. Landscape waste shall not be discharged into the storm drain system.

[This paragraph has nothing to do with fertilizers/pesticides. - Covina]

c. Storage areas for fertilizers and pesticides shall be designed and maintained to reduce exposure to stormwater. The following BMPs shall be utilized where appropriate:

I. Store materials inside or under cover on paved surfaces;

ii. Use secondary containment;

iii. Minimize storage and handling of hazardous materials;

iv. Inspect storage areas regularly.

2. Facility Management

[This paragraph should not be underscored. - Covina]

a. Wash waters cannot be discharged into the storm drain system without appropriate treatment.

b. Landscape maintenance involving the use of pesticides and fertilizers shall ensure the proper use of these materials to minimize loss to storm water.

c. Retention and planting of native vegetation to reduce water, fertilizer, and pesticide needs shall be encouraged.

d. Use of Integrated Pest Management (IPM) shall be encouraged.

[The term "Integrated Pest Management" is used as if everyone should know what that is. Is there a document which defines what IPM involves? If not, then this needs to be defined. - Agoura Hills]

e. A schedule for irrigation and fertilization shall be developed by, _____, to minimize:

[Suggest this item be stricken. - El Monte]

I. Chemical application during wet season and no chemical application during storms; and,

ii. Over watering that may lead to runoff that contains nutrients and pesticides.

f. The drainage of commercial/municipal swimming pool water shall only be discharged under separate Waste Discharge Requirements.

[Add words to change sentence to: The drainage of commercial/municipal swimming pool water shall only be discharged to the storm drain system under separate Waste Discharge Requirements. - Pomona]

[Why should commercial/municipal swimming pools be required/subject to have a separate waste discharge requirements? - Azusa and San Dimas]

[Change item to: The discharge of swimming pool water shall only be allowed under a City permit. - El Monte]

g. Each Permittee shall develop BMPs to minimize trash, debris, and other pollutants from entering Permittee owned recreational water bodies by _____. These measures shall include:

[Add words to change sentence to: Each Permittee shall develop BMPs to minimize trash, debris, and other pollutants from entering Permittee owned recreational water bodies if applicable, by _____. - Pomona]

I. Routine trash collection along, on, and/or in, water bodies, where feasible; and

ii. Public outreach to educate the public about impacts of illegal dumping.

E. Storm Drain System Operation and Management

1. Inlet Maintenance

BMPs to be implemented by each Permittee for effective catch basin cleaning shall include, but not be limited to the following:

a. Basins shall be inspected and cleaned between May 1 and October 15 of each year;

b. Between October 15 and April 15, catch basins shall be maintained as necessary.

c. Records shall be kept of the number of catch basins cleaned; and

d. Track the amount of waste collected.

[This item is unclear, it needs to be re-written to define how to track the amount of waste material collected; i.e., tons, loads, cubic yards etc. -Pomona]

[How is it proposed to track the amount of waste collected in inlets. - San Dimas]

[What is it meant by, "Track the amount of waste collected"? What is the purpose of this requirement? - Azusa]

2. Storm Drain Maintenance

a. Material removed from storm drains and catch basins shall be disposed of properly.

b. Trash and debris from open channel storm drains shall be removed at least annually between May 1 and October 15 of each year.

c. Open channels shall also be monitored during the rainy season for any debris buildup and cleaned where needed.

3. Waste Management

The Permittees shall implement a program by _____, to identify problem areas of illegal dumping so regular inspection and clean up can maintain the channel's optimum capacity and prevent the discharge of contaminants.

4. Dry weather storm drain diversion

The Permittees shall investigate the feasibility of diverting dry-weather flows from the storm drain system to POTWs where appropriate. The investigation shall be

completed by _____.
[Identify a "POTW". - Rancho Palos Verdes]

[The issue raised by this section of the permit is best addressed by the RWQCB as the issuer of NPDES permits for each of the POTWs. If the RWQCB feels that the POTWs should collect and treat dry weather flows in creeks they should require them to perform that service. Only with consistency will any benefit be derived. - Agoura Hills]

F. Streets and Roads

1. Sweeping of curbed streets:

   a. Sweeping of curbed streets shall occur at least monthly.

   b. Where feasible, areas generating excessive refuse shall be swept more frequently.

2. Maintenance

   a. Existing saw-cut management and paving practices conducted by the Permittees shall be evaluated and appropriate control measures developed.

   b. Paving control measures to be considered that would help reduce the impacts to stormwater include, but are not limited to:

      I. Avoid paving during wet weather; and

      ii. Store materials away from drainage courses to prevent pollution of stormwater runoff.

   c. Refuse collected shall be transported to appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations.

   d. Good housekeeping practices shall be implemented to insure proper management of any waste products that may be generated during maintenance activities.

   e. To reduce stormwater pollution from concrete materials and wastes:

      I. Washout of concrete trucks should be conducted off- or on-site in designated areas. Do not wash out concrete trucks into storm drains, open ditches, streets, or streams;

      ii. Store materials under cover, away from drainage areas; and

      iii. Avoid mixing excess amounts of concrete or cement on-site.

f. Employees shall be trained in the implementation of good housekeeping measures. Training shall:

I. Promote a clear understanding of the potential for maintenance activities to pollute storm water;

ii. Identify solutions (BMPs selection);

G. Flood Control

1. By, _____, the Permittees shall develop and implement procedures to assess the impact(s) of new flood management projects on the quality of receiving water bodies.

2. The Permittees shall undertake pilot projects/studies to determine the applicability of altered structural flood control system elements to provide pollutant removal in stormwater.

[Possibly for the principle permittee. This is not a feasible item for the substantive majority of the Co-permittees; either from a staffing level or as a fiscal drain. - Pomona]

3. During construction, appropriate BMPs shall be utilized to control pollutants.

4. Current maintenance activities with regards to desilting/sediment removal, vegetation management, and waste management shall be reviewed to assure that appropriate management measures are developed to comply with the stormwater regulations.

H. Parking Facilities

[This section should be deleted as redundant, it is the same as Part II Section (2)(c).

By _____, each Permittee shall develop a program to implement periodic hard scape and catch basin cleaning, in order to reduce concentrations of oil, grease, suspended particulates, and metals, as well as the petroleum byproducts.

[Periodic hard scape cleaning will be expensive for cities and its value is questionable. - Covina]

[If it is the intent to regulate city-owned parking lots, I do not take exception to this provision. However, if it is the intent to have cities require each business with a parking lot to perform this function, it will not work. Except for gasoline service stations, no one "cleans" parking lots of accumulated grease, oil and petroleum byproducts. - Agoura Hills]

V. PUBLIC INFORMATION AND PARTICIPATION

[The Conventional paragraphing outline procedures need to be followed; i.e., Outreach Materials should be "A", with the Written material being "1." and the 1&2 under "Written Material being a. & b.. - Pomona]

[Part VI should be rewritten in its entirety by the Regional Board to better reflect short term needs and long term education strategy. - Hermosa Beach]

[This section of the permit is totally different from the rest of the permit in language and character. The permit needs to be uniform and direct to the point. - Azusa]

To reach as many Los Angeles County residents as possible, a comprehensive educational outreach approach shall be undertaken under this permit. Each Permittee shall choose an appropriate combination of outreach tools and activities to raise public awareness of storm water issues and improve water quality.

Outreach Materials

Outreach programs shall consist of written, audio, and visual materials and, when necessary, translated into appropriate languages or structured for appropriate ages. Permittees shall incorporate interactive methods of distributing outreach materials and provide for public participation in activities developed under this section.

A. Written Material

[Replace "shall" with "may" in paragraph A.1 and A.2. - Covina]

1. The Permittees shall produce a variety of written materials to convey information regarding storm water management within County watersheds.

2. Written materials shall include, but are not limited to: flyers, brochures, door-hangers, newspaper articles, mail-inserts, and newsletters.

B. Audio Material

1. All Permittees shall singularly or collectively utilize radio broadcast public service announcements to convey information regarding storm water management except in areas where public access radio stations are not available.

[Add "If fiscally feasible," to the beginning of this section. - Pomona]

2. Examples of audio materials include radio advertisements, public service announcements, and informational recordings.

C. Visual Material

1. All Permittees shall implement a catch basin labeling program as well as other

strategies such as banners, displays and posters to educate the public on the ultimate destination of storm drain system flows.

2. Each Watershed Management Committee shall produce at least one informational video. The video shall be shown on televised public service stations and cable access programs except in areas where cable access programs are not available. Further methods of distribution may include workshops, libraries, etc.

[Add to the second sentence to create the following: The video shall be shown on televised public service stations and cable access programs throughout all watersheds on a regular basis, to the maximum extent that the Permittees can request the showings. - Pomona]

[Does anyone believe that the Malibu Creek Watershed will be able to "produce at least one information video"? As desirable as that may be for the watershed, a Countywide video production capability is more productive than trying to set up six different watershed productions. - Agoura Hills]

[Add "if appropriate" to the end of the first sentence. - Covina]

D. Distribution of Materials

Outreach materials shall be made available to the public at appropriate public counters and distributed at public events. Examples include fairs, festivals, public meetings, community events, school assemblies, etc.

General Education Strategy

A. The EAC shall develop and the Permittees shall implement a 5-year urban runoff education strategy. The intent of the strategy shall be to enhance public awareness of the impact of storm water pollution on receiving waters and to discourage improper waste disposal practices. Outreach efforts shall be conducted throughout the watershed. The public shall be made aware of their responsibility for both the problems and solutions to storm water pollution. A watershed-wide program shall be implemented by _____.

[Add the following in the first line of "A": That the EAC & the PIPP Committee shall develop and the permittees shall... - Pomona]

Development and implementation of the education strategy shall be based on the four objectives listed below:

1. Promoting clear identification and understanding of the problem, including activities with the potential to pollute storm water;

2. Identifying solutions or applicable measures (Best Management Practices) that can be taken to prevent storm water pollution;

3. Raising public awareness of the problems and solutions; and

4. Incorporating solutions back into programs, training and BMP implementation.

B. Efforts shall be made to identify land uses and activities that have a higher potential for storm water/urban runoff pollution by focusing on specific pollutants, disposal practices, materials used, etc. To prevent storm water/urban runoff pollution, outreach materials shall be provided on the appropriate selection and implementation of BMPs accordingly. A watershed-wide program shall be developed by _____.

[Who is responsible for this deadline? Will the WMC of the EAC be responsible? It appears that this is an issue that should be addressed at the WMC after the EAC establishes guidelines. - Agoura Hills]

1. Pollutant Specific: The reduction of specific pollutants of concern in a particular watershed shall be addressed in a focused public education and outreach program.

2. Activity-specific: Activity-specific outreach programs shall be developed and implemented throughout the watershed. Written, audio, or visual outreach tools should address three primary topics:

   a. Identification of activities potentially causing storm water pollution;

   b. Implementation of Best Management Practices to prevent storm water pollution.

   c. Recognizing and reporting occurrences of storm water polluting activities.

   The Permittees shall continue to develop activity-specific outreach programs that inform residents about the problem of illicit discharges and dumping and that promote, publicize, and facilitate public reporting of these activities. The program shall also include continuing operation, maintenance, and promotion of the county-wide reporting hotline.

[This item should have the designation "d". - Pomona]

C. The Permittees shall list pertinent City phone numbers under the City government directory located in the front section of local area phone books. This shall be updated annually as necessary and shall, at a minimum, include numbers for reporting on clogged catch basin inlets reporting illegal discharges/dumping and a general informational number for storm water. These phone numbers may be city-specific or area-wide.

[Substitute the following sentence for the first sentence of the above proposed paragraph: That the Permittees shall request a listing of pertinent City phone numbers under the City government directory located in the front section of local area phone books. I feel that the cities should be required to at least make a good faith attempt to have their numbers listed. - Pomona]

[Suggest that the entire paragraph of General Education Strategy-C be stricken. - El Monte]

D. All reasonable efforts to coordinate public outreach efforts shall be undertaken. This may include coordinating with environmental groups and public agencies such as the California Coastal Commission, the Department of Beaches and Harbors, Resource Agencies, etc.

[Add the following to the proposed paragraph in the last line: ...Harbors, Metropolitan Water District of Southern California; Resource Agencies, etc. - Pomona]

Outreach to Target Audiences

[Entire paragraphs of Outreach to Target Audiences: A-1-2-3-4, and B be stricken. - El Monte]

[In paragraphs 1,2,3, and 4 replace "shall" with "may" in all cases.

Permittees shall develop and implement an educational program that stresses pollution prevention for a variety of audiences, including local residents, school-aged children, businesses and public employees whose job functions and daily lives may impact storm water quality. The program may be developed locally or regionally and shall include at a minimum:

[Change the last line of the proposed paragraph to read as follows: That the program may be developed locally or regionally and should include, as a minimum:

- Education on the proper use and disposal of pesticides, herbicides and fertilizers;
- Education on the definition of, identification of, and impacts associated with illicit discharges and procedures for reporting.
- Promotion of proper management of and disposal practices for used oil and hazardous substances.

A. Local Residents

[Outreach to target Audiences A All cities in California who are complying with AB939 are now complying with this portion of the permit. Is this section necessary? Those cities that do not comply face significant penalties under AB939.

1. Permittees shall develop a program to educate local residents on types of household hazardous wastes along with proper management and disposal methods. The program shall at a minimum include:

   a. Information on the availability of collection services, such as location and schedule;

   b. Production of public outreach materials that educate residents on source reduction and proper disposal methods for household hazardous wastes; and

   c. Continue to encourage residents to recycle of oil, antifreeze, glass, plastics, batteries, etc. and to prevent the improper disposal of such materials to the storm drainage system.

[Delete "of" in the above sentence. - Covina]

Educational efforts throughout the watershed should also provide residents with detailed information regarding the Los Angeles County-wide Household Hazardous Waste Management Program. Other local programs shall be advertised as appropriate.

2. Permittees shall develop and encourage watershed residents to participate in specific storm water outreach programs. Residents shall be informed of and provided with the opportunity to share ideas and comments about the programs. Permittees shall demonstrate that a good faith effort has been made to outreach to different communities within the watershed. The watershed-wide outreach program shall be implemented by _____. This shall at a minimum include:

   a. Where applicable for fire and erosion prevention, mowing shall be encouraged as opposed to diking. An investigation of effectiveness shall be undertaken.

[This paragraph does not belong in this section. - Covina]

3. Cooperative Public Outreach

   In order to promote public participation, cooperative outreach programs with local residents shall be developed. These cooperative programs should foster awareness and identification of storm water pollution issues among residents in the watershed. Catch basin labeling and other established sign programs are excellent examples of this type of cooperative effort, as are events like the "Storm water Pollution Awareness Week." One possibility for cooperative outreach is an "Adopt-A- " program. Residents can "adopt" highways, storm drains, catch basins, streams, etc. to monitor, restore and protect. The purpose of all cooperative outreach programs created is to inform and involve the public in storm water management.

4. Complaint Procedures

   Public comments/complaints shall be requested by the Permittees in order to help gauge the success and effectiveness of storm water programs.

B. K-12 School Children

School children can play an important role in public information and participation programs, as they are generally more easily motivated and any behavior changes they make tend to stay with them through adulthood. School children can also convey storm water pollution prevention messages to other family members. School programs shall include information on storm drain systems, the difference between sewers and storm drains, the importance of preventing storm water pollution, and may also address, illegal discharges/dumping and reporting procedures, source minimization, and general pollution prevention. Written materials (workbooks and coloring books), videos, assemblies, and field trips are examples of effective components of a K-12 educational program.

C. **Businesses**

A detailed public education and outreach program shall be developed for business operations with greater potential of discharging pollutants into the storm drain system. The program shall include employee training on and the effectiveness of implementing BMPs to reduce nonpoint source pollution. In addition to written, audio, and visual materials, other possible means of focused outreach may include: conducting workshops, mass mailings, submitting informational articles to trade/industry magazines, etc.

D. Public Agencies and Employees

Public agency employees shall be trained on storm water management and pollution prevention practices and involve employees on many different levels - from program managers to field personnel. Training programs shall include, but are not limited to, articles in City newsletters, training classes, checklists for field personnel, and interdepartmental forums or committees. Materials developed for other audiences may also be used in these public agency employee training programs. Appropriate public agency employees shall be trained in:

1. Emergency spill cleanup procedures.

2. Environmentally sensitive alternative products.

3. Good housekeeping practices.

Permittees shall provide outreach materials to the general public through business license renewal counters and/or make efforts to outreach through professional and business associations. Additionally, Permittees should consider producing educational materials for professionals and technicians not employed by public agencies.

Outreach Based on Activity-Type

A. Industrial/Commercial

A watershed-wide, general outreach program shall be set up by the WMC for all industrial and commercial facilities potentially discharging to the storm drain system. Furthermore, the WMC shall provide specific guidance objectives to these facilities regarding storm water program compliance by _____, and inform and remind all potential commercial and industrial dischargers of their obligations under the storm water program. The Permittees shall also encourage the proper disposal of all materials from industrial and commercial sites.

Prior to the WMC providing specific guidance objectives, subcommittees shall be established, as needed, to develop specific outreach materials for industrial/ commercial categories and specific "high priority" activities. This shall include at a

minimum: metal platers, restaurants, vehicle related facilities, etc...

B. Construction

The Permittees shall ensure that contractors properly install all necessary post-construction, permanent BMPs during initial construction and that any necessary maintenance needed during construction is performed. There shall be specific programs outlining correct practices.

In an effort to prevent concrete waste from entering the storm drain system, contractors shall observe the following guidelines:

1. Washout of concrete trucks should be conducted off-site or on-site in designated area;
2. Excess concrete should not be dumped on site; and

[Items 1 & 2 should be revised. I am a firm believer that concrete waste must be controlled on the construction site. Who will have the strongest desire to cleanup his/her site but the property upon which the concrete is poured? If the concrete is dumped in the street what interest does the contractor have in cleaning up the spoil concrete? Once concrete sets it is no more polluting than sand and gravel. In fact, if a property owner wanted to bury waste concrete on their site would they violate any law? - Agoura Hills]

3. Employees and subcontractors should be trained in proper concrete waste management.

[The above entire line to be stricken. - El Monte]

Evaluation

The EAC shall develop a process to evaluate the effectiveness of all public outreach programs implemented under this permit. Surveys and focus groups are examples of methods that can be used to gauge a program's effectiveness. They can also be used to provide insight into the program's direction and to help formulate attainable goals. Results of any evaluation method used shall indicate the community's level of awareness of storm water pollution. A watershed-wide program shall be implemented by _____.

VIII. PROGRAM EVALUATION AND REPORTING

The program may be modified subject to comments received under the Annual Review.

A procedure shall be developed and utilized for program evaluation and reporting by the Principal Permittee during the course of this permit. Under this procedure as outlined below, the EAC shall develop action-specific performance indicators and criteria, perform evaluation of compliance and effectiveness based on the performance criteria, establish schedules and mechanism for internal record keeping and reporting, and submit semi-annual and annual reports to the Regional Board using a standardized format.
[Delete all requirements for semi-annual reports. The annual reports should be sufficient to monitor the program. City of Covina]

The EAC, WMC, and/or each Permittee are responsible for collecting data needed for program evaluation, conducting self-evaluation, and reporting the results of evaluation to the Regional Board. The results reported to the Regional Board shall include both the collected data and analysis of the data. The reports shall include detailed explanation on how the evaluations are conducted, how and why certain provisions of the permits are met or not met, how the effectiveness of certain BMPs is determined or is not, and should a problem arise, how it shall be corrected. The Regional Board will make a compliance determination based on information submitted under this procedure.
[Change third paragraph to read: "The Permittee is responsible for collecting data needed for program evaluation, conducting self-evaluation, and reporting the results of the evaluation to the Regional Board." City of El Monte]

A. Demonstration of Compliance

1. Each Permittee is responsible for demonstrating that the required BMPs as prescribed under this permit, as well as other BMPs included in the Watershed Management Plans, are implemented to the "maximum extent practicable." Each Permittee shall implement the required BMPs to the maximum extent practicable.

2. The Watershed Management Committees are responsible for demonstrating the effectiveness of other BMPs through conducting and reporting the results of pilot/demonstration projects for evaluating the effectiveness of BMPs in the watershed.

[That the Watershed Management Committees are responsible for demonstrating the effectiveness of other Watershed Specific BMPs through... City of Pomona]

3. The degree and the effectiveness of BMP implementation shall be evaluated and reported by the Permittees using environmental and/or administrative indicators whenever possible. When environmental indicators are not readily and/or easily available, administrative indicators shall be used. These shall include indicators prescribed under relevant provisions of this permit, and/or other indicators deemed appropriate by the Watershed Management Committee, the Executive Advisory Committee, and/or ultimately the

Regional Board. Examples of the quantitative indicators include the number of inspections conducted, number of staff increase, number of audience reached through public education, waste recycled, water conserved, hazardous waste collected, oil recycled, catch basin waste removed, etc. Quantitative indicators of environmental conditions should also be reported if they can be linked to the effects of the BMP implementation.

4. In order to yield comparable results for year to year evaluation on the success, the progress, and/or the failure in BMP implementation, and comparable results from area to area, a uniform data collection methodology shall be established for each of the required BMPs. The uniform data collection methodology shall be developed by the Executive Advisory Committee. Subsequently, each report on BMP implementation shall provide comparison with the implementation status during the previous reporting period and the scheduled implementation time line for the current and future reporting periods, based on data collected using the uniform collection methodology.

B. Internal Reporting and Record Keeping

1. In order to facilitate the preparation of semi-annual and annual reports, the EAC shall develop standard forms for internal reporting to be used by all Permittees within the watershed. The forms shall collect all the information essential to the preparation of the annual and semi-annual reports and to the needs of other management actions by the Watershed Management Committees, EAC, and/or the Permittees. Reported information shall be quantifiable and specific for each program area and/or BMP. The dates for submitting the internal reports shall allow sufficient time for compilation and analysis by the Watershed Management Committees and/or the EAC for the preparation of semi-annual and annual reports to the Regional Board.

[Delete the Italicized words at the end of the first sentence as follows: ...to be used by all Permittees within the watershed City of Pomona]

2. All records shall be retained by the Permittees for a period of 5 years or longer as required by the Regional Board or USEPA.

[Modify the sentence as follows: "All records shall be retained by the Permittees for a period of five years or as otherwise required by competent authority, such as the USEPA or the Regional Board." City of Pomona]

C. Semi-annual and Annual Reports

1. Semi-annual Report

The requirements under VIII.A shall be met by the submittal of semi-annual and annual reports. Semi-annual reports shall succinctly summarize compliance efforts and may consist of simple compliance checklists. Annual reports shall be comprehensive.

[Strongly oppose semi-annual reporting for this permit. The RWQCB has not shown an ability

to gain any information from frequent reports. The staffs time at the RWQCB is as limited, if not more limited, than available to City staffs. Therefore, if semi-annual reports were submitted they would not be read or adequately digested to obtain meaningful information. For this purpose, the annual report will convey the same information while providing time for meaningful review. Changes could then be implemented as outlined in this permit. City of Agoura Hills]

a. The EAC shall submit a semi-annual progress report to the Regional Board by _____ of each year. Semi-annual reports must be submitted to the Regional Board within 30 days after the end of the six-month period. These six month periods are Jan - June, and July - Dec. (TO BE DETERMINED).

[Change from 30 days to a minimum of 45 - preferably 60 days. Larger municipalities take a significantly longer time, not only to acquire and process data but to get the applicable signatures for submission once the reports are completed. City of Pomona]

b. The semi-annual report shall serve as a status report on the progress of the implementation of the Stormwater Management Plan and other permit provisions. The Watershed Management Committee is responsible for collecting and compiling information from each Permittee prior to preparation of the semi-annual report, and include the compiled information along with the information analysis into the report.

c. The semi-annual report shall consist of a summary table illustrating the levels of implementation for all requirements by each Permittee. Tables shall be developed for each program element listing the Permittees, describing the status of implementation by each Permittee of the element, and documenting any modifications of the element from the standard program.

2. Annual Report

a. The Executive Committee shall submit an annual report to the Regional Board not more than 60 days after the end of each permit year (_____). The annual report shall include both a summary of the progress and status of Stormwater Management Plan implementation, a summary on status of compliance with all permit provisions, a report on the evaluation of program effectiveness, and a summary of recommendations for permit provision revisions. The Permittees as a whole (within watershed management areas) shall describe any problems encountered during implementation and discuss the modifications to the program in order to solve these problems.

b. The Principal Permittee shall collect, compile, and analyze information from each Permittee within the watershed prior to preparation of the annual report. The Watershed Management Committee shall include the compiled information and its analysis (instead of raw data or copy of internal reports) in the annual reports.

c. The annual report shall include a summary table illustrating the levels of implementation for all Permittees. Tables shall be developed for each program element listing all the participating Permittees and describing the status of implementation by each Permittee of the element. A table shall also be included to summarize the status of the program elements for which the Watershed Management Committee bears the primary implementation responsibility. Besides summary tables, the report should provide detailed explanation on any modifications made of the program elements (delays, changes, etc.) from the standard provisions and provide an analysis of any problems encountered during the implementation and the proposed solutions.

[Strike the sentence that reads: "A table shall also be included to summarize the status of the program elements for which the watershed management committee bears the primary implementation responsibility." City of El Monte]

d. The annual report shall include an assessment of the effectiveness of each program elements using the performance evaluation indicators and criteria developed under Section A of this Chapter, and the results of the pilot/demonstration projects conducted within and/or outside the watershed. The findings should be presented graphically for ease of comparison with the established levels of effort.

[Make "elements" singular in the second line. City of Covina]

e. A fiscal analysis and budget as described under I.I (Fiscal Resources) of this Order shall be submitted annually within 30 days of the Budget adoption date for each Permittee.

[Change from 30 days to a minimum of 45 - preferably 60 days. Larger municipalities take a significantly longer time, not only to acquire and process data but to get the applicable signatures for submission once the reports are completed. City of Pomona]

D. Storm Water Management Plan Revisions

1. Revisions to provisions of this permit can be made through the order of the Regional Board. The EAC can recommend and request revisions to the Stormwater Management Plan through documentation in the annual reports.

[Add the following words: "That the EAC or Permittees can recommend and request revisions..." City of Pomona]

2. Recommended revisions shall be supported by the results of a program evaluation. Recommended revisions to the Stormwater Management Plans may be made if it can be demonstrated that 1) the changes will lead to improvement of the effectiveness of this program, 2) the changes will result in positive impacts of environmental conditions, and 3) that the current measures have been implemented to the "Maximum extent practicable" as defined in Section VIII.A. Any recommended revisions shall not take effect unless approved by the Executive Officer.

["Maximum extent practicable" is not defined in Section VIII.A, as claimed in lines 6 and 7 of this paragraph. City of Covina]

3. Revisions may be made to the Storm Water Management Plans by the Executive Officer or the Regional Board based upon public input and/or testimony.

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The Discharger shall comply with the attached Monitoring and Reporting Program, which is part of this Order, and any revisions or modifications thereto, as ordered by the Executive Officer.

This Order may be modified, revoked, or reissued, prior to the expiration date as follows:

a. To address changed conditions identified in the required technical reports or other sources deemed significant by the Regional Board;

b. To incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

c. To comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirements of the CWA then applicable; or

d. Any other Federal or State Laws or Regulations become effective which necessitate changes.

The issuance of this permit is not intended to, and does not, absolve the Discharger of liability for conduct which may have constituted a violation of the previous Board Order 90-079 (CA0061654, CI 6948) adopted by this Regional Board on June 18, 1990.

This Order expires on _____. The Discharger must submit a complete Report of Waste Discharge including a revised Storm Water Management Plan in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Robert P. Ghirelli, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December __, 1995.
[Remove "discharger" and substitute with "Permittees". City of Pomona]

_____
ROBERT P. GHIRELLI, D.Env.
Executive Officer

ATTACHMENT A

NPDES STORM WATER PERMIT
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural

Agoura Hills
Calabasas
Caltrans
Los Angeles County
Malibu
Westlake Village
Ventura County

Ballona Creek and Other Urban

Beverly Hills
Caltrans
Culver City
El Segundo
Hermosa Beach
Los Angeles
Los Angeles County
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates
Santa Monica
West Hollywood

Dominguez Channel/
Los Angeles Harbor Drainage

Caltrans
Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles
Los Angeles County
Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Caltrans
Commerce
Compton
Cudahy
El Monte
Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Long Beach
Los Angeles
Los Angeles County
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount
Pasadena
Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park
Bellflower
Bradbury
Caltrans
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
Long Beach
Los Angeles County
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

Caltrans
Los Angeles County
Santa Clarita

Italicized agencies are present in more than one watershed.

Revised 11/13

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

HARRY W. STONE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

November 9, 1995

IN REPLY PLEASE
REFER TO FILE
EP-3

Ms. Catherine Tyrrell
California Regional Water Quality
Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Dear Ms. Tyrrell:

NARRATIVE COMMENT SUMMARY ON THE SEPTEMBER 15, 1995 DRAFT NPDES STORMWATER PERMIT

Enclosed is a summary of the narrative comments received from 31 cities on the September 15, 1995 Draft Permit.

This Narrative Comment Summary is provided as a supplement to the copies of all the documents which have been forwarded to you by the Executive Advisory Committee (EAC). It should be noted that the summary has been prepared by staff as a tool to assist in the review of all comments received. It only reflects information that has been provided by the Co-Permittees in their comments. It does not, in any form, represent any position of the County nor the EAC. It should further be noted that this Narrative Summary does not reflect whether a comment is a majority or minority opinion from the Co-Permittees but is merely a listing of narrative comments submitted. We encourage you to review all comment letters received.

We trust this information is of use to your staff in reviewing the comments.

If any clarification is needed, please contact me at (818) 458-4014 or Mr. Gary Hildebrand at (818) 458-5948 or Mr. Frank Kuo at (818) 458-6989, Monday through Thursday, 7:00 a.m. to 5:30 p.m.

Very truly yours,

HARRY W. STONE
Director of Public Works

Donald L Wolfe

DONALD L. WOLFE
Deputy Director

FK:rm\LETTERS\CMNTDP

Enc.

WASTE MANAGEMENT DIVISION

VOL 24 0125

The follow is a draft summary of comments received from 31 Co-Permittees on the September 15, 1995 draft Permit.

1 The current draft Permit is too lengthy, complex, and difficult to understand. It needs to be simple, clear, and concise, establishing a framework for a Stormwater Management Plan. The draft contains very specific and seemingly inflexible dictates. It should be more flexible with the ability to reflect local conditions.

2. There is no reason that the Public Information chapter should be different from the rest of the Permit in language and character.

3 The permit should be conditioned to be reviewed and revised in accordance with any Federal Legislation passed in the process of re-authorization of the Clean Water Act or legislation granting relief from unfunded federal mandates.

4. The draft Permit exceeds State and Federal requirements for programs, and doesn't provide flexibility in developing a program appropriate for a watershed. Programs should be implemented only to the extent required by the Clean Water Act. It is suggested that the next draft permit should clearly identify the *specific* section in the Clean Water Act, or a specific provision in the implementing regulations, which provides the basis for each requirement proposed to be included in this permit.

5 Regarding the guidance document being proposed to clarify any ambiguities or problems in the terms of the draft Permit, it is suggested that the Permit should be able to stand alone. However, if the guidance document is necessary, it should be commented upon before the new Permit is adopted.

6. A glossary of terms is needed, as well as a clarification of the relationship between the various Parties of the Permit.

7. The comment period for this draft was too short for an adequate review. It is proposed to reestablish a schedule for the adoption of the permit and thus allowing reasonable time for careful evaluation and meaningful input of further drafts.

8. Comments on the last draft were ignored and some portions which were said to be deleted were actually just moved from one part of the permit to another without explanation. One suggestion is for the Regional Water Quality Control Board (RWQCB) staff to summarize all comments made and respond either in writing or at a public meeting. There were also extensive, detailed corrections, additions, and deletions made to the wording of various portions of the Permit. Reorganization of whole sections were also proposed.

9. A complete draft of the document has not been released, making review even more difficult, as did differing versions of this draft.

10. The Executive Advisory Committee (EAC) has been given too much responsibility for developing programs, with some question as to whether they could be held legally liable for compliance. They should be an advisory and coordinating body, not an implementation or regulatory body. It is also believed that the EAC should not be responsible for mediating conflicts between permittees. In addition, the Watershed Management Committee (WMC) should have the ability to agree on an individual to chair the committee and who represents it on the EAC. They do not have to be the same permittee.

11. For county wide consistency, it was suggested that some tasks be completed by the EAC or done on a county wide level.

12. The State should not relinquish its responsibility for enforcing requirements for industrial and commercial sites to Cities.

13. The transfer of responsibility for the inspection of construction sites from the State to the Cities without the transfer of sufficient funds is not acceptable. In addition, it is suggested that only construction sites greater than five acres be regulated.

14. Some sections are confusing and may lead to implementation problems. The Permit is setting some standards which have already been set by the State (ie, proper removal of disposal wastes from construction sites). In addition, there is the apparent conflict between the State Health Department Requirements and the permit requirements in regard to system flushing of hydrants, wells, and pipelines. Furthermore, both are quoting different parts of Federal EPA.

15. The required detail and frequency of reporting on budgets and programs is excessive. Annual reporting is adequate.

16. The requirements for legal authority are too complex, and unnecessary. The determination as to the degree of criminal violation stated in the draft was also questioned.

17. The RWQCB should make an effort to obtain input regarding the Permit from outside parties, even before the 60-day comment period (especially from the construction, industrial, and commercial sectors).

18. The requirements of the Permit should strive to implement programs which are cost effective and appropriate for a given watershed, toward the goal of reducing storm water pollution. City resources are very limited, and the imposition of mandatory programs, especially those which have not been demonstrated to be more effective than programs already in place, is excessive

19. It should be recognized by the Board that many requirements in the Permit will take time and increased funding on the part of the Permittees. The language of the Permit should be such that municipalities are not held in violation of the Permit during implementation periods, and that good faith efforts to achieve the requirements are recognized. The due dates still to be set should take into account the beginning of the fiscal year and that most cities have already finalized their budgets for the 1995-1996 fiscal years.

20. Administrative Review standards should be established and published. The NRDC and other entities should be required to follow this process to resolve differences.

21. Any required BMP's in addition to the original thirteen should be reviewed by the Watershed Management Committee (WMC) prior to inclusion.

22. The number of inspections required is excessive. Also the number of facilities to be inspected should not be determined by the population of the municipality.

23. There is no clear understanding of how and why non-storm water discharges are exempted.

24. Page 1 or 2 of the Permit should supply a glossary of terms used throughhout the Permit, followed by the abbreviation to be used.

25. The term "agencies" used to define permittee needs to be defined. Agencies which should participate but are not yet involved include school districts, California Dept. of Parks and Recreation, L.A. County Fire Dept., Santa Monica Mountains Conservancy, and other large landowners.

26. Regarding Legal Authority: The terms "Certify" and "Certification" may prove to be legally ambiguous. The Cities should be consulted on the acceptability of these words.

27. The Administrative Review section does not resemble the idea proposed by many Cities previously, and may be one area of responsibility best suited for the EAC. Also, what is SPEP? Should this be SPCA?

28. It is suggested that item **III "Program Requirements for Industrial /Commercial Sources"** should appear ahead of item **II "Illicit Discharges/Disposal"**. Legal sources should be addressed ahead of illegal sources, the data base development in III should include the data required in II, and the definitions of sources & prioritizations show up in III.

29. In Section II, B.3 - Why is sewage specifically mentioned, and not other common spill substances, such as gasoline or oil?

30. Who determines what is the "maximum extent practicable"? The term appears throughout the Permit.

31. The list of conditionally exempted discharges needs to be expanded. (See EAC comment set).

32. The Administrative Review section is too intense for this stage of the program. We are still in the initial implementation stages of many aspects of the program.

33. Comprehensive findings must be included in the next draft. It is impossible to evaluate the effectiveness of proposed programs when the existing draft is nearly devoid of goals and objectives, when it fails to acknowledge existing conditions within its jurisdiction, and it fails to include any baseline monitoring data.

34. The identification and prioritization of pollutants of concern for each watershed (if known) should be listed in this permit.

35. The permit should return to the language of the previous permit which called for the preparation of a plan with proposed control measures based on conditions which are applicable for that watershed instead of specifying all such measures in the permit.

36. Many of the responsibilities assigned to the EAC or Permittees should be those of the Regional Board, such as in the Source Control Measures section (II.C.).

37. The Board's responsibilities to review and approve the WMP should be reinstated.

38. The statement in section I.E. that the "WMC may hold closed sessions at its discretion to discuss permit-related issues" could result in violations of the Ralph M. Brown Act, and it is suggested you confer with your legal counsel on potentail problems created by this wording.

EDPERCOM41

LA County comments 11/16/95

City of LA rewrite 11/2/95

2 Nov 95

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NOTE: *Text appearing in italics is for commenting purposes only; it is not for inclusion in the Order.*

October 20, 1995

III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES

A. Identification of Sources

Identification by means of scanning and sorting currently available databases shall be sufficient for the purposes of this section; accuracy will be dependent upon the accuracy of available electronic data.

1. Each Permittee shall identify the industrial and commercial facilities in the categories listed below that are within its jurisdiction by _________.

   a. All industries regulated under Phase I of the Federal storm water program (40 CFR 122.26) (Phase I facilities).

   b. All ~~industrial/commercial~~ facilities in ~~SIC codes selected by the USEPA for screening under Phase II of the Federal storm water program (Phase II facilities)~~. → Vehicle repair shops, vehicle body shops, vehicle parts + accessory shops, gasoline stations, and restaurants

   c. Other industrial/commercial facilities considered by both the EAC and the Regional Board to conduct industrial/commercial activity with a high potential for storm water contamination. (Potential Problem facilities).

   The EAC shall utilize the following criteria for determining Potential Problem facilities:

   i. extent of exposure of the industrial/commercial activity to stormwater runoff;
   ii. similarity of industrial/commercial activity to industrial activity regulated under Phase I;
   iii. types of chemical contaminants and wastes generated that can become exposed to stormwater and runoff;
   iv. existence of duplicate regulatory programs of other agencies that emphasize waste management and minimize exposure of the industrial/commercial activity to stormwater and runoff;
   v. number of facilities in a given watershed;
   vi. professional understanding of the industrial/commercial waste management practices;

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viii. experience of local agency industrial inspection programs;

viii. any other information that indicates a significant potential for contamination of stormwater and runoff.

2. To satisfy provision III.A.1 above, each Permittee shall develop a list of [illegible] industrial facilities in its jurisdiction. Facilities are to be listed by SIC number. The Regional Board will provide the list for the following facilities should be updated annually to include [illegible]

a. For those Phase I facilities which have obtained coverage under the GISP,

i. Facility owner's name, address, and telephone number;

ii. Site address [illegible] and contact person;

iii. Watershed; and

iv. Applicable SIC code(s).

b. For those Phase I facilities which have not obtained coverage under the GISP, Phase II facilities, and Potential Problem facilities,

facilities listed under III.A.1.b

i. Name and address of contact person (e.g., owner/president/site manager), if available;

ii. Site address and telephone number; and

iii. Applicable SIC code(s).

3. By _____, each Permittee shall identify for each SIC industry group identified, primary activities and primary materials that might impact stormwater runoff discharges.

B. Prioritization of Sources

1. Each Permittee shall prioritize the SIC industry groups evaluated in III.A.2.c by _____. Priority shall be based on a groups relative potential for the contamination of storm water and urban runoff.

2. By _____, each Permittee shall rank, based on necessity for

oversight of implementation of storm water management measures, the industrial and commercial facilities within each SIC industry group.

Facility ranking within each SIC industry group should be based on factors such as land use, operations and activities that could potentially contribute significant amounts of pollutants into stormwater runoff, facility size, site history, and geographic location.

C. Source Control Measures

1. By _____, the EAC shall develop for each SIC industry group a checklist of specific storm water and urban runoff control measures for industrial and commercial facilities in III.B.2. The control measures must

   a. address multiple pollutant sources;

   b. initially focus on source control measures such as source minimization, education, good housekeeping, and site design alternatives; and

   c. target source areas and activities with the highest potential to generate substantial pollutant loadings.

2. Each Permittee shall require through its legal authority the following source control measures by _____:

   a. The proper disposal of food wastes by restaurants and food wholesalers;

   b. That persons owning or operating a gas station, auto repair garage, or similar structure, clean the facilities in a manner that does not result in discharge of pollutants to the storm drain system;

   c. That objects, such as motor vehicle parts, containing grease, oil, or other hazardous substances, and unsealed receptacles containing hazardous materials, be stored properly, so that they would not adversely impact discharges to the storm drain system;

   d. That machinery or equipment which is to be repaired or maintained in areas exposed to rainfall and/or susceptible to runoff, be repaired in a manner where leaks, spills and other maintenance related contaminants are not discharged to the storm drain system;

e. That owners of commercial/industrial motor vehicle parking lots with more than twenty-five (25) parking spaces located in areas exposed to rainfall and/or susceptible to runoff be swept regularly to remove debris;

f. That all fuel and chemical residue, animal waste, garbage, batteries, or other types of potentially harmful materials which are located in areas exposed to rainfall and/or susceptible to runoff, be removed and disposed of properly; and

g. That hazardous waste be disposed of at an appropriate disposal site, and not be placed in a trash container for regular trash disposal.

Programs and/or activities to encourage these activities shall be included in the Baseline and Watershed Management Plans.
Countywide & Specific

Source Inspections

1. Each Permittee shall develop and implement an industrial/commercial facilities inspection program by _____. The inspections shall consist of site visits to:

   a. consult with a representative of the facility to explain applicable stormwater regulations;

   b. describe appropriate BMPs and distribute educational materials;

   c. verify that a copy of a SWPPP is available during site visits to all Phase I facilities. If no SWPPP is available, the Regional Board shall be notified; and

   d. identify problematic facilities and report them to the Regional Board, when deemed necessary by the Permittee.

2. Each Permittee shall submit by _____ a schedule for inspection of industrial/commercial facilities. The schedule shall cover a five year period and frequency shall be based on a jurisdictions population.

   a. For municipalities with a population less than 2,500,000, inspections shall be performed as follows:

      i. Phase I facilities in categories [i] through [ix] and [xi],

replace with language from b.iii.

which also have an industrial waste discharge or POTW pre-treatment permit, once a year

ii. ~~all other Phase I facilities, twice during the five year period~~

iii. all vehicle repair shops, vehicle body shops, vehicle parts and accessories (SIC industry groups 753 and 754), and gasoline stations (SIC 5541) once every two years

iv. all restaurant facilities (SIC 5812) twice during the five year period

v. ~~of the remaining Phase II industry groups and~~ Potential Problem facilities, each WMC shall identify up to 5 (five) SIC groups for inspection twice during the five year period.

b. For municipalities with a population greater than 2,500,000, inspections shall be performed as follows:

(2,611 each year for a total of 13,055)

i. Phase I facilities in categories [i] through [ix] and [xi], which also have an industrial waste discharge or POTW pre-treatment permit, once a year

(692)

ii. Phase I facilities in categories [i] through [ix], that do not have an industrial waste permit, but have obtained coverage under the GISP, once during the five year period

(3,505 twice for a total of 7,010)

iii. Phase I facilities in categories [i] through [ix] without an industrial waste permit or GISP coverage, twice during the five year period

Phase I facilities in category [xi] without an industrial waste permit, shall be contacted once during the five year period by phone, mail-out, or similar method, to inform them of notice of intent requirements and to encourage good storm water quality management practices.

(2,156 auto and 767 gas)

iv. all vehicle repair shops, vehicle body shops, vehicle parts and accessories (SIC industry group 753 and 754), and gasoline stations (SIC 5541) once during the five year period

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Provided that LA County Health Dept. performs (7,792 twice for 15,584)

v. all restaurant facilities (SIC 5812) twice during the five year period.

(3,000 maximum)

[illegible] facilities, [illegible] inspection [illegible] the five year [illegible]

(Total inspections 42,635)

3. Industrial/commercial facilities that are not [illegible] in the inspection schedule at least [illegible] a site visit inspection [illegible] be conducted once in the five year period by phone, mail-out, or a similar method, to encourage their conformance with good stormwater quality management measures.

4. The EAC shall develop [illegible] a framework and/or guidelines for [illegible] inspection [illegible] inspections will not be performed at all non-complying facilities, [illegible] will be conducted on an as needed basis, as determined by each Permittee. The framework and/or guidelines shall include, but are not limited to:

a. procedures for enhanced facility inspections;

b. procedures for enhanced outreach regarding pollution prevention, waste minimization, and stormwater quality management;

c. procedures to require corrective action be undertaken by non-complying facilities;

d. procedures to follow up on violations of municipal [illegible] and

e. procedures for enforcement action against non-complying facilities.

E. Reporting

Each year, each Permittee shall evaluate the results and progress of their storm water quality management program for industrial/commercial sources. The annual report submitted to the Regional board shall recommend a strategy for the management of storm water from industrial/commercial sources for the following year based upon:

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a. industrial/commercial sources listing
b. on-site inspections
c. phone/mail-out survey inspections
d. evaluation of stormwater urban runoff control measure implementation
e. evaluations of structural and treatment control measures
f. special studies and pilot projects needs
g. specific site and activity monitoring needs

The Principal Permittee shall make available to the Regional Board a compilation of the industrial/commercial databases developed by each Permittee in III.A.2, in an appropriate format when so requested.

F. Coordination

The Permittees shall develop a process for the exchange of information between the Permittees and the Regional Board. Appropriate formats for such reports shall be developed as required.

G. Conflicts with Other Mandates

The Permittees, as they deem necessary, will work with other regulatory agencies and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this Order and the requirements of other regulatory agencies.

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City of Alhambra

Gateway
to the
San Gabriel Valley

111
South First Street
Alhambra
California
91801

October 27, 1995

BY TELECOPIER TO: (213) 266-7626

Ms. Catherine Tyrrell
Assistant Executive Officer
California Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754

Re: Comments on Draft NPDES Permit (NPDES No. CAS0051654) (Draft of September 15, 1995)

Dear Ms. Tyrrell:

The City of Alhambra is most concerned about the Regional Board's process in circulating incomplete drafts of the proposed new Storm Water NPDES permit, and the failure to address comments previously submitted on the drafts. We are further greatly concerned about the breathtaking overreach reflected in the September 15, 1995, RWQCB draft. It has numerous provisions not required by the federal Clean Water Act or any other law. In addition, it appears that some provisions required by the EPA for stormwater permits are missing.

For these reasons, it is absolutely essential that another draft be circulated for comment. The new draft should clearly identify the *specific* section of the Clean Water Act, or a specific provision in the implementing regulations, which provides the basis for each requirement proposed to be included in this permit. In addition, the new draft should address comments submitted to date on all prior drafts. Only then can an informed judgment be made as to the appropriateness of inclusion of permit provisions.

In view of the ominous chilling effects on commercial and industrial development in Los Angeles County should the draft permit be adopted, we believe that each and every requirement in the final permit should be fully justified.

The City has reviewed a *"Substitute Draft" Permit, which provides revisions to be made to the draft.* We adopt the comments in the "Substitute Draft" as our own, and urge their adoption.

In view of the length and complexity of the draft NPDES permit, coupled with the major gaps in previous drafts, we ask that the comment period be extended until the close of business on November 10, 1995.

Thank you for your anticipated cooperation.

Very truly yours,

William A. Vallejos
Assistant City Attorney

cc: Julio Fuentes, City Manager
Terry James, Dir. of Public Works

City of Alhambra

Gateway to the San Gabriel Valley

111 South First Street
Alhambra
California
91801

October 11, 1995

BY TELECOPIER TO: (213) 266-7626

Ms. Catherine Tyrrell
Assistant Executive Officer
California Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754

Re: Comments on Draft NPDES Permit (NPDES No. CAS0051654) (Draft of September 15, 1995)

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The City of Alhambra is concerned that the September 15, 1995, RWQCB draft NPDES Permit has numerous provisions not required by the federal Clean Water Act or any other law. In addition, it appears that some provisions required by the EPA for stormwater permits are missing. For these reasons, we ask that another draft be circulated for comment. The new draft should clearly identify the *specific* section of the Clean Water Act, or implementing regulations, which provides the basis for each requirement proposed to be included in this permit. Only then can an informed judgment be made as to the appropriateness of inclusion of permit provisions.

The City has reviewed a *"Substitute Draft" Permit, which provides revisions to be made to the draft.* We adopt the comments in the "Substitute Draft" as our own.

In view of the length and complexity of the draft NPDES permit, we ask that the comment period be extended until the close of business on October 18, 1995.

Thank you for your anticipated cooperation.

Very truly yours,

William A. Vallejos

William A. Vallejos
Assistant City Attorney

cc: Julio Fuentes, City Manager
Terry James, Dir. of Public Works

LAX2 139120.1

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COSTA MESA, CALIFORNIA 92626
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OVERLAND PARK, KANSAS 66210
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WRITER'S DIRECT DIAL:

OUR FILE NO.

TELECOPY MESSAGE

TO: Catherine Tyrrell

FROM: William A. Vallejos - Alhambra

DATE: 10-11-95

ACCOUNT #: 006-001

SUBJECT: NPDES Permit

FAX #: 266-7626

TOTAL NUMBER OF PAGES (INCLUDING THIS PAGE): 2

NOTE:

TIME SENT: _____ AM/PM DATE: _____

OPERATOR'S INITIALS: _____

FOR ASSISTANCE PLEASE CALL: (213) 236-2730

OUR TELECOPIER NUMBER IS: (213) 236-2700

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you or anyone else is strictly prohibited. IF YOU RECEIVED THIS COMMUNICATIO. IN ERROR, PLEASE NOTIFY US IMMEDIATELY BY TELEPHONING THE SENDER NAMED ABOVE A (213) 236-0600 AND RETURN THE ORIGINAL OF THIS COMMUNICATION TO US BY MAIL AT THE ABOVE-ADDRESS. Thank you.

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0141

City of Alhambra

Gateway to the San Gabriel Valley

111 South First Street
Alhambra
California
91801

October 11, 1995

BY TELECOPIER TO: (213) 266-7626

Ms. Catherine Tyrrell
Assistant Executive Officer
California Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754

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The City has reviewed a *"Substitute Draft" Permit, which provides revisions to be made to the draft.* We adopt the comments in the "Substitute Draft" as our own.

In view of the length and complexity of the draft NPDES permit, we ask that the comment period be extended until the close of business on October 18, 1995.

Thank you for your anticipated cooperation.

Very truly yours,

R0067144

[illegible] cooperation.

Very truly yours,

William A. Vallejos
Assistant City Attorney

cc: Julio Fuentes, City Manager
Terry James, Dir. of Public Works

AX2:1W120.1

rinted on recycled paper

VOL 24

0142

THE CITY OF AZUSA
The Canyon City

Copies do: F.
Fk
file

RECEIVED
OCT 10 1995
DEPARTMENT OF PUBLIC WORKS
WASTE MANAGEMENT DIVISION

October 3, 1995

Mr. Donald Wolfe
& Executive Advisory Committee
NPDES Program
LA County Public Works
P. O. Box 1460
Alhambra, CA 91802-1460

RE: COMMENTS ON THE SEPTEMBER 15TH DRAFT PERMIT

Dear Members of the EAC:

Before I address the permit itself, I would like to bring three important issues to your attention:

1. Our comments on the previous draft permit, as well as other cities', were not addressed and wholly ignored. The issues we had raised are not reflected in the new permit and no attempt was made to respond to our comments in the letter which LA County issued about three weeks ago.

As such, I object to the process and the way this draft permit is being finalized. We have not really been given a chance to voice our concerns.

2. The time table which either the Board or the EAC has set up is consistently and routinely being ignored. Specific dates with stipulated review periods were mentioned at the previous general meeting. In practice, the new general meeting was pushed back and the permit review time had shrunk to one week.

Without reasonable amount of time to review the draft permit, adequate comments are impossible.

3. In less than one week's time, two different draft permits were circulated. One was the so-called official version, the other an EAC version.

Either version is confusing enough; two versions make our task doubly difficult. It is hoped that we will only see one version of the draft permit in the future.

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Specific comments on the permit itself:

1. Item D. EAC

With the latest statements of duties for the EAC, this is not an advisory group any longer. If not all, most of the duties outlined for the EAC should be transferred to the watershed management committees.

2. Item G. Fiscal Resources

The requirements are too burdensome. A simple reporting, as in any city's budget, will have the same end results.

3. Item H. Legal Authority

The requirements are too complex. Many cities have already adopted ordinances addressing storm pollution and have sent copies to the Board. Why is there still a need for the same cities to expend resources and provide the Board with certification?

4. Item I. Administrative Review

This section does not resemble the idea proposed by many cities after the review of the last draft permit. This is one area of responsibility best suited for the EAC.

5. Page 8, Illicit Connections

The emphasis should be placed on identifying and eliminating illicit discharges, not connections. Not all unauthorized connections discharge pollutants.

The stipulated surveillance programs on page 9 are costly and beyond the means of many agencies.

6. Page 10, Storage of Materials...

A requirement that parking lots with more than 10 parking spaces be vacuum swept is too restrictive and costly.

7. Item E. Public Reporting

The reporting procedures outlined are too cumbersome and unnecessary. Once a year reporting should be adequate.

8. Page 12, Program Requirements....

State of California should not delegate its own task of inspecting and monitoring of industrial and commercial facilities to the cities.

9. Page 22, item h...

This is an impractical requirement. What will happen to irrigation water?

10. Page 23, item f...

Why do inspectors need to have "an electronic recording system"? Have the traditional methods of doing inspections been proven ineffective?

11. Page 28, item f...

Why should the commercial/municipal pools be subject to a separate waste discharge requirements?

12. Page 29, item d...

What is it meant by, "Track the amount of waste collected"? What is the purpose of this requirement?

13. Page 32, Public Information...

This section of the permit is totally different from the rest of the permit in language and character. The permit needs to be uniform and direct to the point.

Over all evaluation of the permit:

The permit needs to be much shorter, concise, specific, and to the point. It is too long, unnecessarily complicated, and there are far too many ambiguities.

In its present form, the permit is very long on process and short on results. Finally, We have yet to see clear objectives for the program.

Sincerely,

Nasser Abbaszadeh
City Engineer

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R0067148

CITY OF
BELLFLOWER

16600 CIVIC CENTER DRIVE
BELLFLOWER, CALIFORNIA 90706-5494
(310) 804-1424

BELLFLOWER USA

VOL 24

October 31, 1995

Ms. Catherine Tyrrell
Assistant Executive Director
California Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754-2156

SUBJECT: Comments September 15th Draft NPDES Permit CAS0061654

Dear Ms. Tyrrell:

This letter is in response to the Draft NPDES permit dated September 15, 1995. In general, the draft permit is too lengthy and complex for effective implementation. The permit should provide a framework for watershed management and not concentrate on specifics. The specifics should be developed as part of an overall Watershed Management Plan. Other comments are:

1. The draft permit contains many phrases such as:

   "The _____ shall develop by _____."
   "The _____ shall establish by _____."

   Since the new permit has not yet been adopted, it is unlikely that many permittees have budgeted for high cost items such as inspection programs for this fiscal year. All high cost items should be scheduled to begin no earlier than July 1, since that is the beginning of the fiscal year for most permittees.

2. The EAC should be an advisory and coordinating body, not an implementation or regulatory body. The amount of work and responsibility for the members of the Executive Advisory Committee is enormous. This will make membership on the EAC a nearly full-time position (and volunteers for the EAC may become very scarce).

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The tasks assigned to the EAC in the draft permit should be divided among the Board, the principle permittee and the co-permittees. This most recent draft appears to have placed many regulatory and semi-regulatory responsibilities on the shoulders of the EAC. These responsibilities should be assigned to the Board.

3. The number of groups required by the permit to develop and implement the many tasks will lead to confusion. There should be only three groups identified by the permit:

   The Board,
   The principle permittee, and
   The co-permittees

   Participation in the Executive Advisory Committee and the Watershed Management Committee should be voluntary (although encouraged).

4. The reporting requirements could be an enormous burden on co-permittee staff. Reports should be required no more than once per year. A simplified check list which demonstrates the permittees compliance with the intent of the permit should be used rather than concentrating on minutiae such as how much debris was collected from catch basins (which have been regularly cleaned since well before the Storm Water Program) and how often streets are swept (which also has been done since well before the Storm Water Program).

   Written descriptions should be required only for anomalies.

5. A specific comment on Section IV.F.3. (Page 23) and similar sections:

   In a program of this magnitude, it is likely that many problem sites will be encountered which will need direct Board involvement for problem resolution. If a problem site is referred to the Board, does that relieve the permittee from the responsibility of taking further actions until a ruling is made by the Board?

6. The amount of work required for implementation of this permit will be considerable. During the first five years, the works should concentrate on realistically achievable goals. The exempted storm water discharges, as proposed by the EAC, should be fully adopted.

7. It has been suggested that the guidance document currently under development be incorporated as part of the permit. We are concerned that this will make any modifications to operating procedures, no matter how minor, difficult to make without prior Board approval.

We appreciate the opportunity to offer our comments to you. Please call if you have any questions.

Sincerely,

Michael J. Egan
Assistant City Administrator
City of Bellflower

MJE:tmg

Berryman & Henigar

VOL 24

September 28, 1995

RECEIVED
OCT - 4 1995
DEPARTMENT OF PUBLIC WORKS
WASTE MANAGEMENT DIVISION

Mr. Gary Hildebrand
Los Angles County Department of Public Works
Waste Management Division
P.O. Box 1460
Alhambra, CA 91802-1460

Subject: Review of Draft NPDES Permit

Dear Mr. Hildebrand:

Berryman & Henigar has been contracted by the City of Rancho Palos Verdes to conduct the NPDES program administration. Berryman & Henigar has reviewed the 1995-2000 NPDES Draft permit received via mail and the copy of the draft permit as reviewed by the Executive Advisory Committees (EAC) distributed at the general meeting on 9-27-95. Berryman & Henigar agrees with the comments made by the EAC with some exceptions.

Berryman & Henigar makes the following comments as exceptions to or in addition to those written in the EAC review of the draft permit.

Section B Receiving Water Limitations: The draft permit received via mail did not include this section. It simply stated that it was under discussion with the negotiation team. The text included in the EAC review permit is very vague and open to broad interpretation. The limitations would be difficult to enforce should any suspected violators challenge them. Numerical limitations should be set.

Section C Provisions: The text states that permittee shall implement the thirteen baseline BMP's in addition to all others proposed in the Report of Waste Discharge (ROWD.) Any BMPs in addition to the original thirteen should be reviewed by the Watershed Management Committee (WMC) prior to inclusion in the new permit program.

Section II. B.3 Illegal Discharges/Disposal: Spilled sewage treated with disinfection agents is specifically stated. This one example should not be included. There is a wide variety of spills that require spill response ie: gasoline, oil or other chemicals. Either include more examples or do not include any.

Section III. D.b Source Inspection: The paragraph following Section b. should be moved to Section III D.2.

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2101 East First Street • Santa Ana CA 92705 tel 714-568-7300 fax: 714-836-5906

R0067152

Section III E.4.g. Control Measures: It should be noted that it is not good civil engineering practice to allow run-off to infiltrate into graded hillside lots.

Section IV E.4.h. Control Measures: In addition to EAC comments we feel 1)the ponding of water in parking lots would be unacceptable to the owners and 2) in order to get an entire parking lot to pond one inch or to obtain an equivalent of one inch of run-off within the parking lot, areas near outlets would probably pond much higher than one inch due to minimum slopes required for proper drainage. This requirement must be thought out more thoroughly.

Section IV E.4.i. Control Measures: This requirement should not be deleted.

Section IV E.4. items f, g, h, i: These items should be moved to the planning section, Section 7.a.3.

Section V E.4. Dry Weather Storm Drain Diversion: Identify a "POTW".

Our main concern is the amount of reports required and the time required to prepare them. Efforts should be made to reduce the detail and frequency of the reports. Although it is important to meet the objectives of this program, it is equally important to consider financial burden placed on permittees, especially during the current economic down turn.

Sincerely,

Mark L. Stowell, R.C.E.
Project Engineer

cc: David McBride, City of Ranch Palos Verdes

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Berryman & Henigar

building industry association of southern california, inc.

December 13, 1995

VIA FACSIMILE (213) 266-7600

Catherine Tyrrell, Assistant Executive Officer
Los Angeles Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754

ATTN: Carlos Urrunaga, Environmental Specialist

Re: Proposed Update to NPDES Permit for Stormwater/Urban Runoff Discharge

Dear Catherine:

We appreciate the time you and your staff spent to meet with us on December 7 to discuss the proposed update to the RWQCB's NPDES permit for Stormwater/Urban Runoff Discharge. As we discussed, this letter is to provide recommended language modifications to that portion of the staff proposal that was shared with us at this meeting (pages 44-50 of the December 5, 1995 Pre-release Draft - Program Requirements for Development Planning/Construction).

Due to the very short time provided to submit proposed changes prior to circulation of a draft permit, Attachment A to this letter touches upon significant concerns with that portion of the permit that we have reviewed. We believe that the four areas recommended for modification will go a long ways towards fulfilling the Board's mandates in a constructive manner.

Additionally, it remains unclear how the proposals in the draft permit fit within the overall water quality regulatory scheme for new construction. It would be useful if staff would prepare and circulate a flow chart with the proposed permit that comprehensively provides all the steps an individual must follow to lawfully develop (both for parcels over and under 5 acres) in accordance with federal, state and local water quality and erosion control requirements as envisioned by this updated permit. This flow chart should illustrate, at a minimum, to whom applications will be made, to whom fees will be paid, and who will be making inspections. Further, a comparision of the Board's proposed process against the current process would be helpful.

We would ask that you reexamine the ambitious schedule staff has proposed for Board adoption of this permit. Due to the extensive changes from the currently adopted permit, private industry and interested parties should be provided a minimum of 60 days to

1330 S. Valley Vista Drive
Diamond Bar, CA 91765
(909) 396-9993
Fax (909) 396-9[illegible]

review the proposed permit once it is circulated for public review on December 18. Unlike environmental organizations, we were not accorded a voice in the year long discussions with municipalities that led to the draft permit currently proposed by staff.

For your information, I have included in Attachment B a list of associated trade organizations that should be included on your mail list for dissemination of the draft permit. I would be happy to assist you in further outreach to the construction industry concerning the proposed updated NPDES permit for stormwater. Workshops prior to the Board's hearings would be useful.

We appreciate your consideration and inclusion of our concerns. Should you have any questions, please do not hesitate to contact me at (909) 396-9993.

Sincerely,

Amy L. Glad
Executive Vice President

Enclosures

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ATTACHMENT A

Provided below are specific language changes to the proposed permit "December 5, 1995 Pre-release Draft." Language suggested to be deleted is denoted by strikeout. Proposed language additions are provided in italics. Comments follow each suggested change.

1. Page 44, Section IV.A.1 ("Prioritization of Development Projects"):

a. High Priority Projects are development and redevelopment projects with a disturbed area of five acres or more; ~~or~~ *and* projects creating an impervious area 100,000 square feet or more; ~~or~~ *and* projects . . . designated by the Regional Board; or a hillside area where the natural slope exceeds 25 percent. ~~, or redevelopment of projects meeting the above criteria where the value of the improvements exceeds 50 percent of the value of the existing development.~~

Comment: Stormwater runoff impacts to water quality are very location specific. The current staff language is overly expansive in identifying all project ranges (High Priority, Priority, and Limited Priority). It is unreasonable to identify all 5 acre or greater activities or all impervious areas of 100,000 square feet as "High" Priority. The location of the disturbed area should be the controlling factor in determining priorities. Further, the value of a redevelopment project has absolutely nothing to do with water quality impacts -- the criteria should rest purely with physical attributes. Similar changes should be made to subsections "b." and "c."

2. Page 45, Section IV.A.2.a. ("Countywide Guidelines"):

i. Preserve, ~~create or restore,~~ to the extent feasible, areas that provide water quality benefits . . .

ii. *Reduce excessive erosion potential* ~~Avoid development~~ of areas particularly susceptible to erosion or sediment loss *through* ~~and/or establish~~ development guidance . . .

~~iv. Maintain peak runoff rates at predevelopment levels for development projects and reduce peak runoff rates for redevelopment projects, wherever practicable.~~

(or use alternative language:

iv. Minimize increases to peak runoff rates for development and redevelopment projects, wherever practicable.).

Comment: Whereas the goals of the Clean Water Act seek to reduce the impacts of storm water discharges to the quality of our waterways, the stated goals for Countywide Guidelines unrealistically and unlawfully target new development to improve existing conditions. Suggested changes maintain the spirit of the guidelines which will be expanded upon further

in the development of "minimum recommended requirements."

3. Page 45-46, Section IV.A.3. ("Planning Process"):

Delete this entire subsection 3.

Comment: The RWQCB does not have the authority to adopt regulations that act to preempt local land use control under the pretense of adopting watershed management plans. Neither is it necessary for the RWQCB to seek to introduce standards to more easily require a "finding of significant impact" under CEQA. Appendix I of the CEQA Guidelines already includes consideration of impacts to water quality and biological resources. In the event municipalities may voluntarily look to the RWQCB for guidance in the land use and CEQA areas as related to stormwater and urban runoff, such information may be provided in subsequently prepared guidance manuals from the Board. This approach is in keeping with determinations already made on this issue by the State Water Resources Control Board.

4. Page 46, Section IV.A.4.c. ("Planning Control Measures – Priority Project"):

~~iii. Minimize, to the extent practicable, parking lot pollution through the use of appropriate BMPs such as retention, infiltration and treatment;~~

Comment: The Clean Water Act does not regulate "parking lot pollution." This subsection makes absolutely no sense and should be eliminated. Further, it is clear that subsection "c." seeks to require Storm Water Mitigation Plans for projects currently not required to submit such plans (i.e., from 2 to 5 acres of disturbed area). Such new requirements are excessive in light of the fact that these plans are required to be prepared by a licensed Civil Engineer (per Section IV.B.3.b., page 49) and further emphasize the need to redefine the priority levels as we suggested in our comment No. 1.

5. Page 46, Section IV.A.4.d. ("Planning Control Measures – High Priority Project"):

High Priority Project: For projects that meet the criteria . . . that the Storm Water Mitigation Plan also provide for ~~significant~~ permanent controls to reduce storm water discharge . .

Comment: The word "significant" has no specific meaning in this context (since examples are provided) and should be deleted.

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ATTACHMENT B

Construction trade association contact names. Please ensure that each of the persons identified below are adequately notified of the RWQCB's proposed permit revision for stormwater and urban runoff.

Amy Glad
Executive Vice President
Building Industry Association of Southern California
1330 S. Valley Vista Drive
Diamond Bar, CA 91765
(909) 396-9993 fax (909) 396-1571

Dee Zinke
Executive Director
Building Industry Association Greater L.A./Ventura
24005 Ventura Blvd.
Calabasas, CA 91302
(818) 225-2858 fax (818) 591-0072

Pam Hemann
Executive Director
Building Industry Association Los Angeles County East
33 So. Catalina Ave., Suite 202
Pasadena, CA 91106-2426
(818) 449-6484 fax (818) 564-8540

John Hakel
Southern California Regional Director
Associated General Contractors
1255 Corporate Center Dr., #100
Monterey Park, CA 91754
(213) 263-1500 fax (213) 261-8222

Jim Burton
Executive Vice President
Southern California Contractors Association
6055 E. Washington Blvd., #200
Los Angeles, CA 90040
(213) 726-3511 fax (213) 726-2366

Tony Grasso
Executive Director
Engineering Contractors Association
8310 Florence Avenue
Downey, CA 90240
(310) 861-0929 fax (310) 923-6179

CALIFORNIA RESTAURANT ASSOCIATION

HEADQUARTERS OFFICE: 3435 WILSHIRE BOULEVARD • SUITE 2230 (EQUITABLE PLAZA) • LOS ANGELES, CA 90010
213-384-1200 • 800-794-4CRA • FAX: 213-384-1623

Ms Catherine Tyrrell
Assistant Executive Office
California Regional Water Quality Control Board – Los Angeles Region
101 Centre Plaza Dr.
Monterey Park, CA 91754-2156

12 October, 1995

Subject: Draft NPDES Permit

Dear Ms. Tyrrell;

It was a pleasure to make your acquaintance at the NPDES hearing. After discussing this issue with other members of the Association, they have asked us to request a meeting with you as soon as possible. They are questioning some the reasoning for naming restaurants in this application.

Under the NPDES Permit, Permittees and Co-Permittees are required to identify and quantify the contributions of pollutants to the storm drainage system. I assume that identification and quantification of potential contributors of pollutants is fact based rather than supposition or perception.

Under Prioritization of Sources (III., B.) you have changed section (1., a., ii.)from SIC Codes selected by the USEPA for screening to a determination without facts that restaurants and vehicle service facilities are major polluters. By singling out restaurants and other food facilities the NPDES permit is unfair and discriminatory. Nowhere are there any facts to support identifying restaurants.

Our members request that any reference to restaurants be removed from the NPDES Permit. Restaurants, though a major source of jobs and sales tax revenues, are not large potential contributors of pollution.

The vast majority of restaurants throughout the water shed are located within structures shared with other businesses. Control over either the parking facility or solid waste disposal is by the lessor. Most free standing restaurants that control their solid waste disposal are required to maintain waste containers in a curbed and fenced facility that drains to the restaurants waste line. Parking lots must be maintained in a clean and safe manner to limit potential liability.

Certainly we all want the least amount of waste in the storm system as these waters either return to a source of fresh water or the ocean. The greatest pollution threat to storm water is from <u>post consumer waste</u> Businesses have little or no control over what consumer's do with a product after purchase. We can only try to educate consumers, restaurants can not be held responsible for the actions.

NORTHERN CALIFORNIA OFFICE: 1550 BRYANT STREET • SUITE 745 • SAN FRANCISCO, CA 94103 • 415-863-2877 • FAX: 415-558-7559
GOVERNMENT AFFAIRS OFFICE / CHAPTER RELATIONS OFFICE: 926 J NINTH STREET • SUITE 1400 • SACRAMENTO, CA 95814 • 916-447-5793 • 800-765-4842 • FAX: 916-447-6182

We look forward to meeting with you to discuss and resolve these issues.

Sincerely,

Consultant
Business Issues, Local Government Regulation

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R0067160

CITY OF CARSON

October 11, 1995

Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, California 91754-2156

Attention: Ms. Catherine Tyrrell

Re: Comments on September 15, 1995 Draft Waste Discharge Requirements for Storm Water Management/Urban Runoff Discharges Within the County of Los Angeles (NPDES No. CAS0061654)

Dear Ms. Tyrrell:

At the meeting of the municipal co-permittees on September 27, 1995, the Regional Water Quality Control Board invited comments on the draft "Waste Discharge Requirements For Storm Water Management/Urban Runoff Discharges Within The County of Los Angeles (NPDES No. CAS0061654)", and asked that those comments be submitted in writing to the Board by October 11. While the two week period has not really provided us with a sufficient opportunity to carefully review and evaluate the current draft permit or to obtain outside input, the City of Carson, nevertheless, considers it very important to provide its preliminary comments.

Carson has participated in the permit renewal process as a member of the Executive Advisory Committee ("EAC") and as a member of its watershed committee. We have appreciated the opportunity for involvement in a process which will ultimately lead to a permit that will have a significant impact upon the City's operations and its fiscal resources and, most importantly, upon Carson's residents and businesses.

We also recognize and appreciate all of the hard work which Catherine Tyrrell, Carlos Urrunaga, and the Regional Board's staff have put into the drafting and analysis of a very complex document. Certainly, their efforts, as well as those of the members of the negotiating team representing the principal permittee, Los Angeles County, the co-permittees, and the environmental organizations involved in the negotiations, are commendable, especially considering what a time-consuming and thankless job it has been for all of them. Our comments should not be viewed in any respect as a criticism of any of these dedicated people.

EAST CARSON STREET P.O. BOX 6234 CARSON, CALIFORNIA 9[illegible] • PHONE 31[illegible]

However, as the negotiation of the terms of the proposed permit has proceeded, Carson and other cities have become extremely concerned about both the direction the permit has taken and the scheduling for the renewal of the permit. Before addressing specific portions of the permit, we thought it would be appropriate to first discuss some of our general concerns, which we understand are shared by many of the other co-permittee cities.

In considering our comments, the Board should recognize that, even aside from federal and state statutory and regulatory requirements, the City of Carson is fully committed to and shares the Board staff's objective of implementing a realistic storm water program which is designed to reduce the discharge of pollutants to the maximum extent practicable. However, as acknowledged in the State's own Municipal Storm Water Best Management and Practices Guidebook, "the sources of storm water pollution are extensive, ill-defined and highly variable."

1. The Board Staff's Change In Approach To The Permit

One of the first questions that we had after comparing the draft permit to the existing permit was what factors lead the Board's staff to propose a detailed and comprehensive permit rather than continue to use the more flexible terms and language of the existing permit.

As you may recall, the existing permit was the result of a cooperative effort of the Storm Water Permit Work Group which was established to fulfill part of the objectives of the Santa Monica Bay Restoration Project. That work group assisted in drafting the permit. The permit was approved by the State Water Resources Control Board in 1990. Most importantly, the Board considered a petition from the National Resources Defense Council challenging the terms of the existing permit. The State Board reviewed those challenges in detail and denied the NRDC's petition in its order entitled "In the Matter of Petition of Natural Resources Defense Council, Inc. for Review of Waste Discharge Requirements Order No. 90-079," Order No. WQ 91-04 (May 16, 1991). Among other things, the Board commented favorably on the terms of the existing permit, stating:

> "We find here, as we did in Order No. WQ 91-03, that the permit includes a comprehensive and stringent program for reducing pollutants in storm water discharge, that it will implement the Basin Plan, including the protection of beneficial uses. (See page 22 of Order No. WQ 91-04.)

The Board also stated:

> "We find here also that the approach of the Regional Board requiring the dischargers to implement a program of best management practices which will reduce pollutants and runoff and prohibiting non-storm water discharges, is appropriate and proper. We base our conclusion on the difficulty of establishing numeric effluent limitations which have a rational basis, the lack of technology available to treat storm water discharges at the end of the pipe, the huge expense such treatment would entail, and the level of pollutant reduction which we anticipate from the Board's regulatory program. We feel compelled to note here our agreement with the Regional Board that this permit does truly represent a massive undertaking."

The current draft of the permit reflects a fundamental shift in philosophy towards the permit. Rather than establishing a flexible framework for complying with the Clean Water Act, the current draft contains very specific and seemingly inflexible dictates. This approach is different than the Regional Board's approach to the prior permit and is certainly different than the approach taken by the State Board in the past, as reflected in the State Board's orders.

In its Order No. WQ 91-04, the State Board endorsed the more flexible approach, stating at page 23:

> "[W]e find that the Regional Board's approach of requiring the dischargers to prepare a plan with proposed control measures for approval by the Regional Board is preferable to specifying all such measures in the permit. . . . [A]n effective and cost-effective storm water program requires an analysis of the specific area subject to regulation, and should not involve a simple listing of practices that all municipalities must follow. As EPA stated in its Preamble to the draft storm water regulations:
>
> "A wide variety of control measures to reduce the discharge of pollutants from municipal storm sewer systems are currently available. The performance of appropriate control measures is highly dependent on site-specific factors. It is therefore not practicable to define one standard set of controls which will control all pollutants in all municipalities." (Emphasis added.)

To the best of our knowledge, Carson has complied with the terms of the existing permit. The Regional Board has never informed us of any problems with our current program. These circumstances raise the obvious question of why the Board staff believes that specifically dictated programs set forth in the proposed permit are more effective in controlling storm water pollution than the City of Carson's current programs. It would be helpful for the Board staff to explain what has happened in the last five years that has compelled it to take such a radically different approach to the proposed permit than it took with respect to the present permit.

2. Scheduling of the New Permit

Neither the City's staff, our businesses, our residents, nor other interested parties have been provided sufficient time to carefully evaluate either the specific language of the proposed permit or its impact.

Board staff informs us that they are hoping to complete the negotiation process as soon as possible so that the permit can be considered by the Regional Board at either its December or January meeting. While we appreciate staff's concern that the many months of hard work which they have put into this matter be brought to a conclusion, we do not believe that the current schedule is realistic for a number of reasons.

We have not yet received a full version of the draft permit. Even now, there are numerous versions of the permit which are being discussed. The draft which we have been asked to comment upon has been, we understand, modified significantly. Since the various sections of the permit are intertwined, the piecemeal modifications have created a moving target. This, of course, makes it very difficult to comment intelligently upon the draft permit when the version we are reviewing has most likely been revised two or three times.

Accordingly, we would like to sit down with Board staff and the co-permittee cities and work out a realistic schedule for the renewal of the permit which allows sufficient time for careful evaluation of a complete draft document and for meaningful input from our residents and other interested parties. That objective simply cannot achieved on the time schedule under which the Board staff has been operating.

3. Limitations on Co-Permittee's Efforts

As most cities in California and in Los Angeles County in particular, Carson's fiscal and administrative resources for implementing unfunded mandates are limited. Carson's objective

in the permit renewal process is to develop an effective storm water management program which targets and addresses identifiable, controllable pollutants in a cost-effective manner. Unfortunately, those targets have not yet been identified and we have been provided with no technical or scientific data which demonstrates the effectiveness of many of the programs dictated by the current draft of the permit or any cost justification. To our knowledge, the Board has not yet made any factual findings in connection with the permit that would support or necessitate the new programs which would be required by the permit, assuming it was adopted in a form reasonably approximating the present draft.

Also, a number of sections of the draft permit impose a variety of data gathering requirements. We believe it important to ensure that the data proposed to be gathered at considerable cost to the principal permittee and the co-permittees is meaningful and useful, both for the Board's purposes as well as the permittees'.

Carson needs to be sure that the money it spends on storm water management is utilized in a cost-effective manner. The City simply does not have the administrative or fiscal resources to implement programs that may appear to be good ideas, but are neither mandated nor funded by federal or state law, nor are demonstrably effective in meaningfully reducing storm water pollution.

4. Failure to Incorporate Prior Comments

Over the last three months, the EAC and the permittee and co-permittee members of the negotiation team have commented extensively, both orally and in writing, on the various portions of the permit which have been presented to us. In many cases, we found that our comments were not incorporated or addressed in the draft. In other cases, we found that portions of the draft which we identified as objectionable and were told would be deleted were just moved from one part of the permit to another without any explanation. The failure to incorporate agreed-upon changes in the drafts has been a source of great frustration.

Similarly, many permittees and other interested parties have commented in detail regarding the draft permit at public meetings. While we have presumed that some note has been made of those comments, they are rarely responded to.

In order to ensure that permittee and public participation in the process is meaningful and that comments are seriously considered, we believe that it would be appropriate for the Board staff to collect and summarize all of the comments made

regarding the draft permit and directly respond to them either in writing or at a public meeting.

5. Lack of Involvement By Stakeholders

We are also very concerned that an insufficient opportunity has been provided for involvement in the process by commercial and industrial stakeholders. Currently, a representative of various environmental groups who have a stake in the process sits on the negotiating committee. We think the involvement of the environmental groups is not only appropriate, but highly desirable. By the same token, businesses, industries and developers, which will be significantly affected by the new permit, have not been involved in the process. To our knowledge, little effort has been made to solicit their input.

We believe that, before the draft permit is presented to the Regional Board, all interested parties who have a stake in the process should be given a fair and meaningful opportunity to participate in the process through workshops and public meetings.

6. Complexity and Length of the Draft

As mentioned above, we are also concerned about the length and complexity of the draft permit. We share the concerns previously expressed by the City of Long Beach and many other co-permittees that the permit should be simple, clear and concise, and establish a framework for a Storm Water Management Plan, rather than an attempt to dictate numerous, inflexible management programs. Both the existing permit, as well as other permits currently being issued in other regions, utilize a framework approach which allows the individual co-permittees to select the BMP's which best suit their needs while accomplishing the objectives of the Clean Water Act and state law. The current draft runs over 45 pages, is not even complete, and contains numerous inflexible dictates. To the extent that the draft permit includes requirements or programs which were not included in the existing permit, we ask that an explanation be given as to the reason why such language was added and references to the federal or state law or regulation mandating the requirements or program.

The current approach to the proposed permit seems to run contrary to the objective expressed in the State's Storm Water Municipal Best Practices Handbook, which allows municipal permittees flexibility in selecting effective BMP's themselves, which would (1) adequately address the pollutants of concern; (2) be compatible with storm water regulations, as well as other regulations for air, hazardous waste, and solid waste disposal, (3) have public support, (4) be compatible with land uses and

facilities, (5) be technologically feasible, considering soils, geography and water resources, and (6) balance the cost for implementing specific programs against the pollution control benefits expected to be achieved.

We believe that the permit should be drastically reduced in size and wording to reflect the goals of the State's own objectives of allowing municipal co-permittees and individual watershed the flexibility to select the best and most effective BMP's which fit their circumstances.

7. Required Programs

We are concerned that specific programs are being dictated to the cities in the draft permit without a clear understanding of the water quality goals that the permit aims to achieve and, most importantly, without the benefit of an accurate assessment of existing conditions. With any storm water management program, there is always much more that needs to be achieved than can be practically done in the short term. The specific dictates of the proposed permit do not allow any flexibility for prioritizing the tasks to be performed or the application of cities' limited funds.

Each of the co-permittee cities has very definite local areas of concern and thoughts as to what actions it is willing to take to address those interests. Those interests, however, can only be fully determined through public workshops where citizens and interested parties are informed about storm water pollution problem and are invited to present their views.

8. Failure to Account for Watershed Differences

One single level of control does not have to be applied uniformly across a large metropolitan area such as Los Angeles County. The watershed characteristics of each of the regions in the County have not yet been adequately defined. Also, we have not been presented with any sort of data justifying the proposed programs required of the watersheds in the draft permit.

9. Lack of Consistency With Other Regions' Permits

One other factor that seems to be overlooked in the approach to this permit is its apparent lack of consistency with permits which other regional boards are currently issuing in other areas. For example, when the State Board considered the challenge by the NRDC to their current permit, it issued at the same time an order upholding a permit for the Santa Clara Valley which was substantially the same. Permit consistency helps

ensure a statewide uniformity in the State Board's approach to stormwater pollution.

10. The Proposed Guidance Document

One of our greatest concerns regarding the permit renewal is the issue of the proposed guidance document. It appears that the guidance document is being proposed as a mechanism to clarify any ambiguities or other problems in the terms of the existing permit. Carson strongly believes that the permit should be able to stand on its own. The State has already prepared a Municipal Best Management Practices Handbook which provides specific guidance on selecting BMP's for reducing pollutants in stormwater discharges from urbanized areas. To our knowledge, the scope and extent of the proposed guidance still has not yet been determined. If it is essential that the guidance document be prepared in order to understand or implement the draft permit, that document should be prepared, circulated and commented upon before the new permit is adopted.

11. Comments Regarding Specific Provisions

As noted above, the City has received a succession of draft permits. The following comments address specific provisions included in the draft permit dated September 20, 1995. We understand that the proposed permit has undergone extensive revisions since that date. The City reserves the right to make further, and more extensive, comments on the final draft permit, which is scheduled to be mailed to all cities on October 23, 1995.

a. Best Management Practices. Section C of the permit (p.3) requires permittees to implement "the thirteen baseline BMPs, in addition to all others proposed in the ROWD." The permit does not indicate which BMPs are required as baseline BMPs or ROWD BMPs. The Board previously recommended the implementation of certain BMPs, include the establishment of a catch basin stenciling program and the implementation of facility inspections of auto repair shops, auto body shops, auto parts and accessory shops, gasoline stations and restaurants. These BMPs were never formally adopted as requirements by the Board, and were not part of the prior permit. If the Board wishes to require implementation of these BMPs or any other BMPs at this time, it should enumerate them in the appropriate sections of the permit, so they may be evaluated in conjunction with other requirements of the permit.

b. EAC obligations. The permit includes a number of provisions which state that the EAC "shall" perform a duty, which suggests that the members of the EAC may be subject to

liability for failing to perform mandatory duties. These duties include assisting in the development of a Baseline Storm Water Management Plan (I.D.3.b); reviewing Watershed Management Plans (I.D.3.c); preparing and forwarding Watershed Management Committee submittals to the Regional Board (I.D.3.d); and developing programs to eliminate illegal connections, discharges and disposal practices (II.A, II.B.1-3), to provide and facilitate public reporting of illegal and hazardous discharges (II.E.1, II.E.2), and to identify sources of pollution (III.A.2). If any of the above plans, programs or reports are not prepared or implemented, it appears that the EAC may be liable for a permit violation.

The EAC is a voluntary, unfunded, temporary advisory group. It is unrealistic to expect the members of the EAC to undertake the responsibilities suggested in the draft, particularly since many of the proposed obligations are matters which the Board itself should perform. We believe that the role of the EAC in implementing the permit needs to be completely reconsidered and re-written.

c. Legal authority. Section I.H of the permit requires each permittee to have its legal counsel complete a review of its existing legal authority to ensure that its existing legal authority complies with the requirements of the permit. The legal authority requirements of Section I.H do not appear to have changed from the legal authority requirements of the original permit. Therefore, cities which have already provided evidence of such legal authority to the Board should not have to go to the added expense of reviewing such legal authority a second time.

If this is not the case, and the new permit includes additional legal authority requirements beyond the requirements of the federal regulations, the Board should provide an explanation of why such additional requirements have been included in the proposed permit.

d. Non-storm water discharges. The federal regulations identify eighteen types of illicit discharges which do not have to be addressed by a stormwater management plan unless the discharges are identified by the municipality as sources of pollutants. The proposed permit identifies five of these eighteen types of discharges as "exempted discharges" which need not be prohibited unless they are identified by the permittee or by the Executive Officer as a source of pollutants. This Section allows the Executive Officer to declare a certain type of discharge as a source of pollutants for all permittees, even if the discharge is not a source of pollutants in a

particular municipality. This authority to identify discharges as pollutants should be restricted to the municipality itself.

The proposed permit identifies another nine of the eighteen types of discharges as "conditionally exempted discharges" which need not be prohibited if appropriate control measures are implemented or if they are identified by the permittee or the Executive Officer as not being a source of pollutants. With respect to these categories, the proposed permit shifts the burden of identifying discharges as non-polluting to the municipality. As a practical matter, this provision would result in these discharges being prohibited until the appropriate findings were made or control measures developed. Such a provision is inconsistent with the federal regulations. Moreover, in the case of emergency fire fighting activities, the federal regulations state that they need not be addressed unless they are identified as "significant" sources of pollutants. Therefore, we recommend that all of these categories be listed as exempt, not conditionally exempt.

Finally, four of the eighteen types of federally-exempted discharges, including water line flushing, uncontaminated pumped ground water, discharges from potable water sources, and lawn watering, are neither listed as "exempt" or "conditionally exempt." These types of discharges should also be listed as exempt.

The City of Carson would very much appreciate your careful consideration of our preliminary comments in the permit renewal process and a response to them.

Very truly yours,

John J. Wisz

John J. Wisz, P.E.
Civil Engineering Associate
City of Carson

CITY OF COVINA
125 E. COLLEGE STREET
COVINA, CA 91723-2199
(818) 858-7204
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FAX TRANSMITTAL

TO: FRANK KUO

AT: LA COUNTY DEPT. OF PUBLIC WORKS

FAX NUMBER: (818) 458-3534

NUMBER OF PAGES (including this page): 5

NOTES: Comments on the September 15 draft of the new NPDES permit.

FROM: Charles Redden

DATE: 9/26/95

VOL 24

CITY OF COVINA

125 East College Street • Covina, California 91723-2199

September 26, 1995

Mr. Frank Kuo
Los Angeles County Department of Public Works
Waste Management Division
Storm Water Discharge Program
P.O. Box 1460
Alhambra, CA 91802-1460

Dear Mr. Kuo:

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Wayne B. Dowdey
Environmental Services Director

WBD:crr

cc: Catherine Tyrrell, Assistant Executive Officer, California Regional Water Quality Control Board--Los Angeles Region
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Vince Mastrosimone, Public Works Director
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CITY OF COVINA
125 East College Street • Covina, California 91723-2199

VOL 24

September 26, 1995

RECEIVED
SEP 27 1995
DEPARTMENT OF PUBLIC WORKS
WASTE MANAGEMENT DIVISION

Mr. Frank Kuo
Los Angeles County Department of Public Works
Waste Management Division
Storm Water Discharge Program
P.O. Box 1460
Alhambra, CA 91802-1460

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FAX TRANSMITTAL

TO: CATHERINE TYRRELL

AT: CA REGIONAL WATER QUALITY CONTROL BOARD

FAX NUMBER: (213) 266-7626

NUMBER OF PAGES (including this page): 5

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FROM: Charles Redden

DATE: 9/26/95

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CITY OF COVINA

125 East College Street • Covina, California 91723-2199

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VOL 24

0181

City of Diamond Bar

21660 E. Copley Drive, Suite 100 · Diamond Bar, CA 91765-4177

(909) 860-2489 · Fax (909) 861-3117

October 12, 1995

Catherine Tyrell, Assistant Executive Director
California Water Quality Control Board, Los Angeles Region
101 Centre Plaza Drive
Montery Park, CA 91754-2156

SUBJECT: DRAFT NPDES PERMIT NO. CA S0061654

Dear Ms. Tyrell:

Thank you for the opportunity to provide comments on the draft NPDES permit, dated September 5, 1995. At this time, there are certain concerns which should be considered. They are as follows:

1. The permit needs to provide a framework for watershed management and not concentrate on specifics. The specifics should be developed as part of an overall watershed management plan.

2. The amount of work and fiscal resources required for implementation of this permit will be an enormous burden on co-permittees. The permit needs to concentrate on realistically achievable goals and objectives.

3. The permit should be conditioned to be reviewed and revised in accordance with any Federal Legislation passed in the process of reauthorization of the Clean Water Act or legislation granting relief from unfunded Federal Mandates.

Again, we appreciate the opportunity to offer our comments to you. Please incorporate these concerns in your continuing effort to develop the new permit. Should you have any questions, please call me at (909) 396-5672.

Sincerely,

David G. Liu, P.E.
Deputy Director of Public Works

DGL:ls

cc: Terrence L. Belanger, City Manager
George A. Wentz, City Engineer

City of Downey

FUTURE UNLIMITED

VOL 24

0183

October 11, 1995

Ms. Catherine Tyrrell, Assistant Executive Director
California Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

SUBJECT: Draft L.A. County Municipal Storm Water Discharge Permit

Dear Ms. Tyrrell:

This letter is in response to the most recent copy (September 15, 1995) of the subject NPDES permit. After reviewing the draft, the City of Downey feels that the permit is too lengthy and detailed. The specifics should be included in a watershed management plan, not in the permit. Our other comments are as follows:

1. The financial impact of the new permit, particularly in the first year, will be a real burden on most permittees. The cost of setting up an effective inspection program itself can be extremely high.

2. Quarterly reports are too often. Reports should be generated only once each year. They can be prepared on a pre-approved simplified form that can effectively describe the results and progress of the investigations. These annual forms can save valuable staff time, as well as, provide reports that are easier to work with, and understood by the Regional Board.

3. The program requirements for existing Industrial/Commercial sources, places a considerably large burden on permittees staff with source control measures and source inspections. Why should the permittees be required to continuously monitor, inspect and control these facilities? Where is the involvement of the facilities themselves? The Industrial/Commercial sources should be held personally accountable, and should be required to submit their own reports to the Regional Board. Permittees will continue to do periodic checks and investigate all complaints.

11111 BROOKSHIRE AVENUE POST OFFICE BOX 7016 DOWNEY CALIFORNIA 90241-7016

In general, the draft permit is too lengthy and complex. The permit should only provide the framework for watershed management. Permittees have a need to develop a watershed management plan that will describe the detailed requirements.

Thank you for the opportunity to respond with our comments. We look forward to the development of a more useful and more practical permit.

Sincerely,

Robert Brace
City Engineer

RAR/jw
OFFICE/NPDES/LACOWATR.PER

City of Duarte

Sixteen Hundred Huntington Drive, Duarte, California 91010 - (818) 357-7931

October 17, 1995

Catherine Tyrrell
Assistant Executive Director
California Regional Water Quality
Control Board,
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, Ca. 91754-2156

Re: NPDES Permit

Dear Ms. Tyrrell:

After reading the latest revision of the L.A. County NPDES permit, I feel compelled to express my frustration with this entire program. First, let me assure you that I support the cleaning of our waterways and oceans. Being an avid outdoorsman and fisherman I am well aware of the benefits of maintaining our water sources as pure as humanly possible. However, the entire responsibility for performing this vital work has now fallen on local government. While some of the major cities probably have the resources and staff to absorb the multitude of requirements listed in the latest permit, those of us in the smaller municipalities struggle just to keep up with the existing workload.

The reality is that without a continuous funding source, it will be impossible to implement the program as stated. (Of course the pat answer is that we find the money.) Let me give you a short history of the fiscal problems the City of Duarte has encountered during the past 5 years. Four years ago, due to a continuous budgetary shortfall (caused in no small part by the State), the Council implemented a hiring freeze. The result is that the City Hall staff is down 20%. Two years ago I lost my only public works inspector. The rest of the staff, myself and an engineering tech, have picked up the inspectors workload. We're working 48 hours a week just to stay above water.

Late last year the Council voted to implement a 3% utility tax. This additional money was needed to make up a portion of a $1.2 million shortfall. Two recall petitions were generated from this decision. Fortunately, the residents were unable to get enough

signatures. (I'm sure that the Council would love to tackle this type of issue again.) Of course, all the political backlash and animosity generated by the citizens against the Council may have been for nothing. As you are probably aware, this tax is in jeopardy thanks to a recent ruling from the State Supreme Court. What that decision will do to our budget situation is anybody's guess - especially if we're required to rebate the money already collected.

Is there an answer to the dilemma that all of the small municipalities are facing with this permit? I believe there is - the County has the expertise to run a program such as this. Why duplicate a program 80+ times when one agency is capable of handling it? The County controls the majority of the flood control facilities and has a waste management division in place. The fact is that the entire county will benefit from cleaner waterways and beaches.

I respectfully request that the Board consider the impact that this permit is going to have on small cities such as Duarte. Our resources are severely limited. Without an influx of a consistent and substantial sum of funds to support this program complete compliance with the permit, as it is currently written, will present an extreme hardship on what's left of this staff and our available funds.

Sincerely,

Steve Esbenshade
Public Works Coordinator

Ed Cox
Director, Community Development

cc: Jesse Duff, City Manager
James D. Kirchner, Mayor
Phillip R. Reyes, Mayor Pro-Tem
John R. Fasana, Councilmember
Margaret E. Finlay, Councilmember
Ginny Joyce, Councilmember

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0186

CITY OF EL MONTE
COMMUNITY DEVELOPMENT DEPARTMENT
CITY HALL WEST
11333 VALLEY BOULEVARD • 2ND FLOOR
EL MONTE CALIFORNIA 91731-3293
FAX (818) 580-2293

HAROLD O. JOHANSON
DIRECTOR OF
COMMUNITY DEVELOPMENT
(818) 580-2090

JUAN D. MIRELES
ASSISTANT DIRECTOR OF
COMMUNITY DEVELOPMENT
(818) 580-2056

VOL 24

October 12, 1995

Executive Advisory Committee
c/o Mr. Frank Kuo
County of Los Angeles
Department of Public Works
Division of Waste Management
900 South Fremont Avenue
Alhambra, CA 91802-1460

Dear Members of the Executive Advisory Committee:

Enclosed please find the City of El Monte's suggested revisions of the "Waste Discharge Requirements for Stormwater Management/Urban Runoff Discharges Within the County of Los Angeles." It is our opinion that a number of the directions and recommendations contained in the Waste Discharge Requirements do not seem realistic and cost effective, and may constitute a hardship and become counterproductive.

We believe that the role of the Executive Advisory Committee is to provide the Permittees with general guidelines and not attempt to dictate their course of action. Requirements for reports on construction sites are numerous and onerous, and should be limited to sites larger than five acres.

If you have any questions, please do not hesitate to call me at (818) 580-2061.

Very truly yours,

Kev Tcharkhoutian
City Engineer

KT/VM/cs

Enclosures

cc: Victor Mendez

NPDES\RESPONSE.LTR

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VOL 24

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CITY OF EL MONTE'S RESPONSE TO
EXECUTIVE ADVISORY COMMITTEE'S
"WASTE DISCHARGE REQUIREMENTS FOR STORMWATER MANAGEMENT/URBAN RUNOFF DISCHARGES"

We suggest that the following be stricken from:

I–G, last two sentences.
I–G–1, last sentence.
I–G–2, entire paragraph.
II–A, first paragraph
III–C–5–e, entire paragraph.
III–D–2–p, entire paragraph.
III–E–c, entire line.
IV–B–2, 3, 4, entire lines.
IV–B–7–a–iii–c and d, entire lines.
IV–D, entire paragraph.
IV–E–2, entire paragraph.
IV–E–3–d. entire line.
IV–F–1 and 2, entire lines.
IV–G–1–f, entire line.
IV–G–2, entire paragraph.
V–D–1–a–i, entire line.
V–D–2–e
VI General Education Strategy – C, entire paragraph.
VI Outreach to Target Audiences: A–1–2–3–4, and B, entire paragraphs.
VI Outreach Based on Activity-Type–B–3, entire line

We suggest the following changes be done to the following paragraphs:

I-D-1-a	Los Angeles County shall chair Watershed M.C.
I-1-1	The NIMC shall include a tentative date by which the Permittee must meet with RWQCB staff.
I-1-3	A Permittee that receives a rejection of an SPCA shall have a mutual agreeable date to remedy the specified deficiency in the SPCA.
II-B-1, 2, and 3	EAC shall develop GUIDELINES instead of consistent program, standard enforcement, or standard procedures; respectively.
II-F-1 and 2	Semi-annually summary instead of quarterly.
III-B-1-a-iii	Omit "the EAC".
III-C-5	Change "the EAC" to "the Permittee".
III-E	Change "Permittee" to "EAC".
III-F	Change "Permittees" to "Principal Permittee".
IV-A-2	Change "minimum requirements" to "recommendations".
IV-B-1	Change "guidance" to "guidelines".
IV-B-7	Add "for a parcel of over five acres".

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IV–C–1	Change to "the EAC shall establish guidelines for screening criteria for construction sites to be listed in a database that are over five acres".
IV–C–2	Change to "the Permittees shall develop a database listing sites of construction activity of over five acres within each Permittee's jurisdiction which shall be updated quarterly".
IV–E–1	"Permittees shall develop a checklist of specific storm water and urban run-off control measures for construction activity sites of over five acres".
IV–E–3	"Permittees shall have in place a process to ensure implementation and proper maintenance of storm water and urban runoff control measures for sites associated with construction activity of over five acres including:"
IV–E–6	"Permittee may seek coverage under this Order for construction activity of over five acres which are owned and operated by them if it:"
IV–G–1	Each year, the Permittee shall evaluate the results and progress of their storm water quality management program for construction activity sites of over five acres.
V–C–1	EAC will develop pollution prevention plan guidelines for each public vehicle maintenance/material storage facility category.
V–D–2–f	"The discharge of swimming pool water shall only be allowed under a City permit.
VIII	Change third paragraph to read, "The Permittee is responsible for collecting data needed for program evaluation, conducting self-evaluation, and reporting the results of the evaluation to the Regional Board."

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VIII–C–2–c

Strike the sentence that reads, "A table shall also be included to summarize the status of the program elements for which the watershed management committee bears the primary implementation responsibility."

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COMMUNITY DEVELOPMENT DEPARTMENT
CITY HALL WEST
11333 VALLEY BOULEVARD • 2ND FLOOR
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FAX (818) 580-2293

HAROLD O. JOHANSON
DIRECTOR OF
COMMUNITY DEVELOPMENT
(818) 580-2090

JUAN D. MIRELES
ASSISTANT DIRECTOR OF
COMMUNITY DEVELOPMENT
(818) 580-2056

October 12, 1995

Executive Advisory Committee
c/o Mr. Frank Kuo
County of Los Angeles
Department of Public Works
Division of Waste Management
900 South Fremont Avenue
Alhambra, CA 91802-1460

Dear Members of the Executive Advisory Committee:

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If you have any questions, please do not hesitate to call me at (818) 580-2061.

Very truly yours,

Kev Tcharkhoutian
City Engineer

KT/VM/cs

Enclosures

cc: Victor Mendez

NPDES\RESPONSE.LTR

VOL 24

0193

CITY OF EL MONTE'S RESPONSE TO
EXECUTIVE ADVISORY COMMITTEE'S
"WASTE DISCHARGE REQUIREMENTS FOR STORMWATER MANAGEMENT/URBAN RUNOFF DISCHARGES"

We suggest that the following be stricken from:

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I–G–1, last sentence.
I–G–2, entire paragraph.
II–A, first paragraph
III–C–5–e, entire paragraph.
III–D–2–p, entire paragraph.
III–E–c, entire line.
IV–B–2, 3, 4, entire lines.
IV–B–7–a–iii–c and d, entire lines.
IV–D, entire paragraph.
IV–E–2, entire paragraph.
IV–E–3–d. entire line.
IV–F–1 and 2, entire lines.
IV–G–1–f, entire line.
IV–G–2, entire paragraph.
V–D–1–a–i, entire line.
V–D–2–e
VI General Education Strategy – C, entire paragraph.
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III-C-5	Change "the EAC" to "the Permittee".
III-E	Change "Permittee" to "EAC".
III-F	Change "Permittees" to "Principal Permittee".
IV-A-2	Change "minimum requirements" to "recommendations".
IV-B-1	Change "guidance" to "guidelines".
IV-B-7	Add "for a parcel of over five acres".

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IV–C–1	Change to "the EAC shall establish guidelines for screening criteria for construction sites to be listed in a database that are over five acres".
IV–C–2	Change to "the Permittees shall develop a database listing sites of construction activity of over five acres within each Permittee's jurisdiction which shall be updated quarterly".
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IV–G–1	Each year, the Permittee shall evaluate the results and progress of their storm water quality management program for construction activity sites of over five acres.
V–C–1	EAC will develop pollution prevention plan guidelines for each public vehicle maintenance/material storage facility category.
V–D–2–f	"The discharge of swimming pool water shall only be allowed under a City permit.
VIII	Change third paragraph to read, "The Permittee is responsible for collecting data needed for program evaluation, conducting self-evaluation, and reporting the results of the evaluation to the Regional Board."

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VIII–C–2–c	Strike the sentence that reads, "A table shall also be included to summarize the status of the program elements for which the watershed management committee bears the primary implementation responsibility."

VOL 24

0197

City of El Segundo

EDUARD SCHRODER, Director of Public Works

October 10, 1995

Ms. Catherine Tyrrell
Assistant Executive Officer
California Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Subject: Comments to September 15, 1995 Draft NPDES Permit

Dear Ms. Tyrrell:

Thank you for providing the City of El Segundo an opportunity to comment on the latest Draft NPDES permit. I know it has taken a great amount of effort by the State, County, and Cities to get to this point. However, based on the extensive number of problems we found in the draft, it is obvious we still have a long way to go.

Attached are the City's comments to the draft permit. We have taken the liberty of developing a "substitute permit" showing by red-line/strike-out El Segundo's proposed changes. We felt that, given the numerous comments, that this was the clearest manner in which to relay our concerns.

The City's comments fall into the following three (3) general areas:

1. The draft permit, as presented, far exceeds present Federal and State requirements;

2. The draft permit does not clearly delineate the relationship between the various parties, i.e. the State, the principal permittee, permittees, the EAC, WMC's, etc. and;

3. There are numerous grammatical, typographical, and terminology errors, and inconsistencies which adds to the ambiguity of the draft.

350 Main Street, El Segundo, California 90245-0989
Phone (310) 322-4670   *FAX (310) 322-4167*

R0067200

(continued)

In addition, attached to our red-line/strike-out comments, there are two (2) items which are presently not covered in the draft but we feel warrant inclusion.

I hope that you find our comments helpful. The City is very interested in the State reconciliation of the issues we have raised. We look forward to another opportunity to review and comment on a revised draft before the permit is sent to the Board for consideration.

If you have any questions or wish to discuss our concerns in more detail, please do not hesitate to call me at 310.607.2230.

Sincerely,

Ed Schroder
Director of Public Works

ES:dr

Enclosures

cc: Gary Hildebrand, Los Angeles County Public Works

This redlined draft shows the differences between I:\RCYOUNG\PUBL\137989.1 and I:\RCYOUNG\PUBL\137989.2. Deletions appear as ~~struck-through~~ text and Additions appear as double underlined text.

INTRODUCTORY NOTE TO "SUBSTITUTE DRAFT" VERSION OF DRAFT ORDER

The September 15, 1995, RWQCB draft is replete with provisions not required by the federal Clean Water Act or any other law. In addition, it appears that some provisions required by the EPA for stormwater permits are missing. For these reasons, the next "official draft" circulated for comment should clearly identify the specific section of the Clean Water Act, or other law, which provides the basis for a requirement proposed to be included in this permit. Only then can an informed judgment be made as to the appropriateness of inclusion of permit provisions.

This Substitute Draft provides revisions which should be made to the draft, in order to link the draft to the underlying legal authority, the Clean Water Act, which itself is under consideration for major revisions. For this reason, the term "to the extent required by the Clean Water Act" has been inserted at numerous places throughout this Substitute Draft. Other cleanup provisions are also included.

Italicized text is intended as commentary on the draft, it is not intended to be included in the text.

September 15, 1995

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

ORDER NO. 95-XXX

WASTE DISCHARGE REQUIREMENTS
FOR
STORMWATER MANAGEMENT/URBAN RUNOFF DISCHARGES
WITHIN THE COUNTY OF LOS ANGELES

(NPDES NO. CAS0051654)

The California Regional Water Quality Control Board, Los Angeles Region, finds:

(The findings are currently being developed.)

This redlined draft shows the differences between L:\RCYOUNG\PUBL\137989.1 and I:\RCYOUNG\PUBL\137989.2. Deletions appear as struck-through text and Additions appear as double underlined text.

[NOTE: It is essential that the findings be drafted in a manner which does not needlessly implicate the County and the Cities with respect to liability asserted against them by the alleged industrial polluters in the case of United States and State of California v. Montrose Chemical Corporation of California, et al., now pending in the U.S. District Court for the Central District of California. This case is a Natural Resources Damages Claim case filed under the federal Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" or "Superfund") 42 U.S.C. §§ 9601 et seq. The alleged industrial polluter defendants have filed third party against the County, the Cities and the State. Damages could reach into the hundreds of millions of dollars.]

This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the federal Clean Water Act, ~~or~~ and amendments thereto, and shall take effect at the end of ten (10) days from the date of its adoption provided the Regional Administrator, USEPA, has no objections.

IT IS HEREBY ORDERED that the County of Los Angeles and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardens, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the California Water Code, and regulations ~~and guidelines~~ adopted thereunder, and the provisions of the Federal Clean Water Act, and regulations ~~and guidelines~~ adopted thereunder, shall comply with the following for the areas under their respective jurisdictions within the drainage area of the County of Los Angeles:

This redlined draft shows the differences between L:\RCYOUNG\PUBL\137989.1 and I:\RCYOUNG\PUBL\137989.2. Deletions appear as struck-through text and Additions appear as double underlined text.

September 15, 1995

A. Discharge Prohibitions

(Currently under discussion with the negotiation team.)

[NOTE: Should conform to, but not exceed, prohibitions required by the Clean Water Act.]

B. Receiving Water Limitations

(Currently under discussion with the negotiation team.)

[NOTE: Should conform to, but not exceed, prohibitions required by the Clean Water Act.]

C. Provisions

i. The Dischargers shall comply with Discharge Prohibitions (above), and Receiving Water Limitations (above), through the timely implementation of control measures ~~and other actions~~ as required by the Clean Water Act, to reduce ~~pollutants in the~~ pollutant discharge as proposed in this Order.

I. PROGRAM MANAGEMENT

A. Principal Permits

1. The County of Los Angeles is designated as the Principal Permittee.

2. The Principal Permittee shall, to the extent required by the Clean Water Act:

a. Coordinate permit activities and, by _____, convene and chair the area-wide Executive Advisory Committee and the Watershed Management Committees;

b. Provide personnel and fiscal resources and by _____, develop a Baseline Stormwater Management Plan (Plan) for use in developing a watershed management plan (WMP) for each watershed;

This redlined draft shows the differences between I:\RCYOUNG\PUBL\137989.1 and I:\RCYOUNG\PUBL\137989.2. Deletions appear as struck-through text and Additions appear as double underlined text.

c. Provide personnel and fiscal resources for the development of the WMPs;

d. Provide personnel and fiscal resources for the updating and modification of the Plan and the WMPS;

e. Provide technical and administrative support for both the Executive Advisory and Watershed Management Committees;

f. Implement watershed water quality monitoring programs;

g. Provide the personnel and fiscal resources to complete by _____, the annual reports including evaluations of monitoring program data and BMP effectiveness;

h. Coordinate the implementation of stormwater quality management activities of regional significance (this shall mean that the Principal Permittee shall identify BMPs which are ~~applicable for implementation~~ suitable for adoption by Permittees watershed-wide and area-wide), such as public outreach and education, pollution prevention, waste minimization, and other similar actions;

i. Act as liaison between all Permittees and the Regional Board on Permit issues; and

j. Meet all the responsibilities outlined below for a Permittee.

B. Permittees

1. The ~~other~~ cities and agencies *[Note: What Agencies? If Caltrans, specify.]* are designated as Permittees.

2. Each Permittee shall, to the extent required by the Clean Water Act:

a. Participate in the development and amendment of the Baseline Stormwater Management Plan ~~(Plan)~~("Plan") by advising the Principal Permittee with respect to the Plan and by _____, ~~jointly~~ prepare the portion of the watershed specific management ~~plans (WMPS)~~ plan (WMP) applicable to its jurisdiction via their WMC;

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This redlined draft shows the differences between I:\RCYOUNG\PUBL\137989.1 and I:\RCYOUNG\PUBL\137989.2. Deletions appear as struck-through text and Additions appear as double underlined text.

b. Provide an Implementation Plan describing specific stormwater programs, projects and/or activities which are to be conducted within ~~their~~ its jurisdictional ~~boundaries~~ boundary, including the storm drainage system ~~they own and operate, and which demonstrate compliance with the WMP(S) requirements~~ it owns and operates, in compliance with those portions of the WMP which are required by the Clean Water Act, by _____; and

c. Provide in a timely manner all information needed by the Principal Permittee for completing ~~the~~ annual reports which comply with the requirements of the Clean Water Act.

3. The City ~~Administrator/Public Director~~ Council of each Permittee shall appoint a ~~representative(s)~~ City representative and alternate(s) to the WMC.

~~C.~~ 4. Agency Coordination. Each Permittee shall coordinate implementation of permit requirements and pollution prevention activities among each Permittee's internal departments and agencies (i.e. public works, planning, utilities, water supply, etc...)~~.~~, to the extent required by the Clean Water Act.

~~D~~ C. Executive Advisory Committee ("EAC")

1. The EAC shall consist of ~~a~~ one representative ~~of~~ from the County of Los Angeles, one representative from the City of Los Angeles, ~~a~~ and one representative each from the Malibu Creek, Santa Clara~~,~~ and Dominguez Channel Watershed Management Areas, and two representatives each from ~~each of~~ the San Gabriel River, Los Angeles River~~,~~ and the Ballona Creek Watershed Management Areas.

   a. ~~One representative from~~ A member of the EAC shall chair the Watershed Management Committee for that Permittee's main watershed management area.

2. The City Administrator/Public Works Director for the County of Los Angeles and for the City of Los Angeles shall each appoint a representative to the EAC. Other members will be appointed by the WMCs.

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3. The EAC shall, to the extent required by the Clean Water Act, be responsible for:

   a. Making recommendations on area-wide issues to each of the Watershed Management Committees;

   b. Assisting the Principal Permittee in the development of the Baseline Storm Water Management Plan; and

   c. Reviewing the Watershed Management Plans as developed by each Watershed Management Committee and provide direction and guidance on the plans for consideration by the Watershed Management Committees;

   d. Preparing and forwarding unified submittals to the Regional Board upon receipt of information and materials submitted by the Watershed Management Committee in compliance with Permit requirements;

   e. Mediating conflict among the ~~Permittee~~ Permittees; and

   f. Coordinating the implementation of pilot projects to target pollutant sources, evaluate BMT appropriateness, and assess effectiveness.

~~E~~ D. Watershed Management Committee

1. A Watershed Management ~~Committees~~ Committee (WMC) shall consist of a representative of each ~~of the Permittees for that~~ Permittee within a particular watershed management area. ~~Regular~~ All WMC meetings shall be open to attendance by the public.

~~The WMC may hold closed sessions, at its discretion, to discuss permit related issues.~~

2. The Malibu Creek, Santa Clara, and Dominguez Channel WMCs shall each appoint one representative to serve on the EAC and to chair the WMC. The San Gabriel River, Los Angeles River, and the Ballona Creek WMCs shall each appoint two representative to serve on the EAC, one of whom will chair the WMC.

3. The WMC shall, to the extent required by the Clean Water Act, be responsible for:

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a. Establishing goals and objectives for the watershed;

b. Prioritizing pollution control efforts;

c. Participating in the development of a specific watershed management plan (WMP), based on the Baseline Stormwater Management Plan (Plan);

d. Assessing the effectiveness of, preparing revisions for and making appropriate changes to the Plan and the WMP;

e. Coordinating and facilitating the preparation of the annual reports on Permit activities within the watershed for submittal to the Regional Board -- a draft of the annual report shall be circulated to each Permittee and the Executive Advisory Committee for ~~their review and comments~~ review and comment, and the WMC shall respond to each comment, in writing, prior to submittal to the Regional Board; and

f. Facilitating the implementation of this Order among the Permittees in the watershed.

~~START SPELL CHECK~~

~~F~~ E. Watershed Management Subcommittees

1. Subcommittees ~~will~~ may be established ~~where needed~~, to the extent required by the Clean Water Act, as determined by the WMC and/or the EAC.

2. The Subcommittees will be focused on specific program areas and ~~can~~ to provide more specific ~~oversight~~ advice on the development, implementation, and evaluation of selected program areas.

~~G~~ F. Fiscal Resources

Each Permittee shall submit *[NOTE: TO WHOM?]* an annual budget for its Implementation Plan within 30 days after the budget adoption. The budget shall be summarized and put into a format which identifies the necessary capital and operation and maintenance expenditures necessary to implement the storm water management program. The budget shall provide information such as funding

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sources, staff resources, equipment, support capabilities, contract services, and cost sharing arrangements for the storm water management programs. Also included shall be a description of any funding shortfalls.

1. Area-Wide Resources - In implementing this Order and the Plan, to the extent required by the Clean Water Act, Permittees may elect to jointly fund a single program for certain BMPS, such as Public Education, that are area-wide in nature. Funding agreements, including budgets and cost per agency, shall be developed.

2. City-Specific Resources - As stated above, each Permittee shall develop an annual budget detailing the cost of implementing Permit-related activities within its jurisdiction.

~~H~~ G. Legal Authority

1. The legal authority that was required of each Permittee under Order No. 90-079, to the extent consistent with the Clean Water Act, shall continue in effect.

2. ~~The Co-Permittees shall exercise their~~ Each Co-Permittee *[NOTE: The terminology should be consistent, make it Permittee or Co-Permittee]* shall exercise its legal authority and require compliance with this Order and tile Plan within its jurisdiction, to the extent consistent with the Clean Water Act.

3. Each Permittee shall certify that it has legal authority to control discharges to and from those portions of the drainage system over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements between permittees with adequate existing legal authority and shall, ~~at a minimum,~~ in an effort to accomplish Items a-f below, within its jurisdiction:

   a. Control the contribution of pollutants to the storm drainage system by storm water discharges ~~associate~~ associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

   b. Prohibit illicit discharges and illicit connections to the storm drainage system and require removal of illicit connections;

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c. Control the intentional discharge of spills and the dumping or disposal of materials other ~~that~~ than storm water (e.g. industrial and commercial wastes, trash, debris, motor vehicle fluids, green waste, animal wastes, leaves, dirt, or other landscape debris etc.) to the storm drainage system;

d. Control, through interagency or inter-jurisdictional agreements among permittees, the contribution of pollutants from one portion *[NOTE: needs definition. What is meant by "one portion?"]* of the storm drainage system to another;

e. Require compliance with conditions in ordinances, permits, contracts or orders; and

f. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the storm drainage system.

4. Each ~~Permittee's~~ Permittee shall direct its legal counsel ~~shall complete a~~ to review of its existing legal authority to ensure that its existing legal authority complies with the requirements in this Order.

5. Upon its completion of the legal authority review, or within 60 days of permit adoption, (whichever is sooner) each Permittee shall demonstrate that it has adequate legal authority or provide a schedule for obtaining the adequate legal authority. Note: Guidance for demonstrating adequate legal authority is included within the EPA document entitled Guidance Manual For The Preparation Of Part 2 Of The NPDES Permit Applications For Discharges from Municipal Separate Storm Sewer Systems, (EPA 833-B-92-002, November 1992), Section 3-3, page 3-4.

~~I~~ H. Administrative Review

The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the RWQCB under this Permit. In addition, it provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement actions. The RWQCB recognizes that the goal of reducing the level of pollutants in stormwater/urban runoff is best accomplished by cooperation and communication between the RWQCB, the permittee, the co-permittees and the

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public. The Board further appreciates that cooperation and communication is reduced by enforcement actions and legal suits, which force parties to become defensive and react slowly while wasting scarce local government resources. Los Angeles County is undergoing a severe recession which limits the resources of local governments; to achieve the goal of clean water it is essential to reduce wasteful litigation actions to the greatest extent possible and allow resources to be spent to achieve the goals of this permit. The RWQCB recognizes the following facts: (1) that stormwater programs will vary from jurisdiction to jurisdiction; and (2) that such variation may make it difficult for a permittee to determine whether or not it is in complete conformance with the terms and conditions of this permit; and (3) that the goal of this permit is clean water not lawsuits. Accordingly, for the purposes of this permit, a permittee or co-permittee shall not be in violation of any term or condition of this permit until the following administrative process has been completed:

1. If the Executive Officer ~~finds~~ has reason to believe that a Permittee's stormwater program ~~is~~ may be insufficient to meet the provision of the Permit, the Executive Officer shall send a "Notice of Intent to Meet and Confer (NIMC)" to the Permittee. The NIMC shall include a date by which the Permittee must meet with RWQCB staff. (Failure of the RWQCB to issue a NIMC to any jurisdiction shall constitute evidence that the RWQCB has determined that the jurisdiction in question is in compliance with the terms and conditions of this permit.)

2. Upon receipt of a NIMC, the Permittee shall meet and confer with RWQCB staff to clarify whether the Permittee is in compliance with the permit, and if not, the steps to be taken to ~~completely~~ meet the provisions of this permit. The effect and confer sessions shall be for the purpose of developing additions and enhancements to the jurisdiction's stormwater program, if needed to comply with the legal requirements of the Clean Water Act. The meet and confer period shall conclude with the submittal to and acceptance by the Executive Officer of a written "Stormwater Program Compliance Amendment (SPCA)" which shall include implementation deadlines. The Executive Officer may terminate the meet and confer period after a reasonable period due to a lack of progress on issues and may order submittal of the ~~SPEP~~ SPCA by a specified date. Failure to submit an acceptable SPCA by the specified date shall constitute a violation of the Permit.

3. The Executive Officer will approve or reject the submitted SPCA within a reasonable amount of time. Rejection of a submitted ~~SPEP~~ SPCA by

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the Executive Officer shall state the reasons for the failure to approve the SPCA. A Permittee that receives a rejection of an SPCA shall have thirty (30) days to remedy the specified deficiency in the SPCA and receive administrative approval from the Executive Officer of the amended SPCA. Approval of the SPCA by the RWQCB shall be evidence that the RWQCB has determined that the jurisdiction in question is in full compliance with the permit and that there has been no violation of the permit. Rejection of a submitted SPCA by the RWQCB shall state in writing the reasons for the failure to approve the SPCA. A jurisdiction that receives a rejection of a SPCA shall have fifteen (15) days to cure the specified defects in the SPCA and receive administrative approval from the RWQCB of the amended SPCA. Failure to have a SPCA approved by the RWQCB within thirty (30) days from the conclusion of the meet and confer period shall be a violation of the permit.

4. The Permittee shall comply with the terms of the SPCA. The Permittee shall submit reports to the Executive Officer of progress made under the SPCA. The frequency of progress report submittal shall be as prescribed by the Executive Officer. Failure ~~1,0~~ to comply with the terms and conditions of the SPCA shall constitute a violation of the Permit and shall be cause for immediate Administrative Civil Liability as prescribed by the Executive Officer.

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II. ILLICIT DISCHARGES\DISPOSAL

A. Illicit Connections

By _____, the EAC shall develop a consistent program including investigative standard procedures to eliminate illicit connections to the storm drain system.

By _____, each Permittee shall implement a program to identify and eliminate illicit connections to the maximum extent practicable and to the extent required by the Clean Water Act.

1. The program shall, ~~at a minimum~~ to the extent required by the Clean Water Act:

   a. standardize, per EAC guidelines, storm drain inspection procedures, and illicit connection ~~and~~ identification and elimination procedures;

   b. prioritize major problem areas, to include but not be limited to older business areas, and areas with heavy industry such as those listed under subchapter N of 40 CFR Parts 405 - 471

   c. utilize results of field screening activities, and other appropriate information.

   d. contain an industrial/commercial education/outreach component to inform businesses about the problem of illicit discharges/dumping and proper discharge/disposal practices,

   e. schedule inspections of storm drains ~~for inspection~~ for illicit connections within its jurisdiction.

   f. maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

   g. establish enforcement procedures to terminate illicit connections.

B. Illegal Discharges\Disposal

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1. By _____, the EAC shall develop a consistent program including investigative standard procedure, to eliminate illegal discharges/disposal practices to the storm drain system.

2. By _____, the EAC shall develop a standard enforcement procedures, including administrative and judicial, to eliminate illegal discharges/disposal practices.

3. By _____, the EAC shall develop standard procedures for spill response, including a procedure to ensure hat, in a spill response, sewage treated with disinfection agents will not be discharged into the storm drainage system, to the maximum extent practicable. The standard procedures will address investigation, containment, and cleanup activities as appropriate.

4. By _____, each Permittee shall implement a program to identify and eliminate illegal discharges/disposal practices to the ~~maximum extent practicable~~ extent required by the Clean Water Act.

The program shall, ~~at a minimum~~ to the extent required by the Clean Water Act:

a. Identify and prioritize problem areas of illegal disposal where inspection, clean up, and enforcement are necessary to prevent the discharge of contaminants;

b. Maintain a surveillance program to detect illegal discharges and disposal into the street system, including, but not be limited to, street use inspections and inspections of vacant facilities;

c. Establish procedures to educate inspectors, maintenance workers, and other field staff in their jurisdiction to notice illicit dischargers/disposal practices during the course of their daily activities, and report such occurrences;

d. Maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

e. Establish per EAC guidelines spill response procedures; and

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f. Establish, per EAC guidelines enforcement procedures to eliminate illegal discharges/disposal practices.

C. Non-Storm Water Discharges

1. Exempted Discharges

(Currently under discussion with the negotiation team.)

2. Conditionally Exempted Discharges

(Currently under discussion with the negotiation team.)

D. Other Prohibited Activities

1. The Permittees shall prohibit any person from:

a. causing or allowing illicit discharges to be made into the storm drain system;

b. establishing, using or maintaining an illicit connection to the storm drain system;

c. littering.

d. disposing of leaves, dirt or other landscape debris into a storm drain; and

e. using any pesticide, fungicide, or herbicide which has either been voluntarily discontinued or prohibited by the USEPA.

f. washing down toxic materials from paved or unpaved areas.

g. washing down impervious surfaces in industrial and/or commercial areas ~~is prohibited~~ unless ~~significantly~~ required ~~to~~ under the Health and Safety ~~Codes~~ Code or other laws.

2. Storage of Materials, Machinery and Equipment

The Permittees shall require:

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a. that objects, such as motor vehicle parts, containing grease, oil, or other hazardous substances, and unsealed receptacles containing hazardous materials, be stored away *[NOTE: WHAT DOES "AWAY" MEAN]* from areas susceptible to runoff;

b. that machinery or equipment which is to be repaired or maintained in areas susceptible to runoff~~;~~ be placed on a pad of absorbent material, or an equivalent, to contain leaks, spills or small discharges;

c. that owners of commercial/industrial motor vehicle parking lots and structures located in areas susceptible to runoff to be swept to remove debris. *[NOTE: This says that permittees shall require "that owners ... be swept." Illustrates sloppy drafting. Change to:*

> that commercial/industrial motor vehicle parking lots *[NOTE: minimum size?]* and structures located in areas susceptible to runoff be swept to remove debris.

Lots with more than ten (10) parking spaces and all public parking facilities ~~;~~ shall ~~also~~ be vacuum swept, or by equivalent method, to remove chemical ~~residue~~ residues;

d. that all fuel and chemical residue, animal waste, garbage, batteries, or other ~~types of~~ potentially harmful materials which are located in areas susceptible to runoff, be removed immediately *[NOTE: why "immediate" here and not elsewhere? Suggest that "immediate" be deleted.]* and disposed of properly.

e. that hazardous waste be disposed of through the Permittee's hazardous waste program or at any other appropriate disposal site, and not be placed in a trash container for regular trash disposal. *[NOTE: THIS SHOULD BE DELETED AS IT IS REDUNDANT WITH NUMEROUS OTHER LAWS.]*

E. Public Reporting

1. By _____, the EAC shall develop a standard program, for Permittees to implement by _____, to promote, publicize, and facilitate public reporting

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of illicit discharges and illegal disposal practices that may adversely impact water quality.

2. By _____, EAC shall develop a standard program for the reporting of incidents of a hazardous substance entering the storm drain, where the responsible party is not known, to the Regional Board and State of California Office of Emergency Services (OES) at (800) ___-___ and the Federal Hazardous Response Number at (800) ___-___. *[NOTE: IS THIS INTENDED TO REFER TO THE NATIONAL RESPONSE CENTER? IF SO, THE CORRECT TERM, "National Response Center" SHOULD BE USED.]* The Permittees shall implement this program by _____. *[NOTE: THE CONCEPT OF "REPORTABLE QUANTITY" IS MISSING HERE, BUT IS REQUIRED BY NEARLY ALL OTHER LAWS IMPOSING REPORTING REQUIREMENTS. IT IS SUGGESTED THAT THE OTHER LAWS BE INCORPORATED BY REFERENCE.] [NOTE: what is the purpose of this requirement? Why report incidents where the "responsible party" is not known, but not incidents where the "responsible party" is known?]*

F. Reporting

1. A quarterly summary of illicit connections eliminated shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the investigation; what was being discharged; estimated length of time the practice was on-going; ~~what~~ remedial action ~~was~~ taken; and what happened to the discharger.

2. A quarterly summary of illegal discharge/disposal practices reported through the standardized public reporting system shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the incident; what was spilled/dumped; quantity; ~~what~~ remedial action was taken; and what happened to the discharger/dumper.

G. Coordination With State Permits

1. The Principal Permittee will be provided an updated list of NPDES Permits on a quarterly basis, through the Regional Board's electronic bulletin board, to verify permitted sources of the existing non-storm water discharges in the storm water drainage system.

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2. The Permittees ~~will work~~ may cooperate with other regulatory agencies ~~and~~ may report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies. These agencies, include but are not limited to:

a. California Department of Fish and Game
b. California Department of Toxic Substances Control
c. California Coastal Commission
d. United States Environmental Protection Agency
e. California Department of Transportation
f. California Air Resources Board

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III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES

A. Identification of Sources

1. By _____, ~~the Permittees~~ and to the extent required by the Clean Water Act, each Permittee shall develop a database listing industrial/commercial facilities by four digit SIC codes within the Permittee's jurisdiction, which shall be updated annually. The database shall include at a minimum:

   a. Facility owner's name, address, and telephone number;

   b. Site address, telephone number, and contact person;

   c. Closest receiving water and watershed;

   d. Applicable SIC code(s);

      i. For each four digit SIC sector, the Permittees shall identify primary activities that might impact runoff discharges;

      ii. For each four digit SIC sector, the Permittees shall identify primary materials at might impact runoff discharges; and

2. By _____, the EAC shall develop a pollutant source identification program for the control of storm water pollutant discharges from industrial/ commercial facilities. The objective of the source identification program is to gather data on specific and/or interrelated set of pollutant generating activities occurring on very small areas (< 5 acres) of industrial/commercial activity and to provide information for developing and implementing BMPs for specific activities.

B. Prioritization of Sources

1. By _____, ~~the Permittees~~ and to the extent required by the Clean Water Act, each Permittee shall prioritize industrial and commercial facilities, if any, within ~~their~~ its jurisdiction ~~on~~ by their relative potential for ~~the~~ contamination of storm water and urban runoff. The prioritized list shall include

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a. Categorical List

i. All industries regulated under Phase I of the Federal storm water program (4 CFR 122.26).

ii. All industrial/commercial SIC codes selected by the USEPA for screening under Phase II of the Federal storm water program.

iii. Other business sectors considered by the EAC or the Regional Board conduct industrial/commercial activity with a high potential for storm water contamination (e.g, restaurants).

The categorical list shall be grouped by ~~Permittees and~~ the Permittee. The list shall provide an ~~organized~~ overview of the ~~target~~ facilities based on land use, operation, and activities, ~~could~~ ~~potentially~~ and whether the facilities are likely to contribute significant amounts of pollutants into storm water runoff.

2. By _____, and to the extent required by the Clean Water Act, Permittees shall rank the industrial and commercial facilities, identified as potential pollutant sources of storm water and urban runoff pollutants in ~~III. B.1.a~~ III.B.1.a, in order of priority for oversight of implementation of storm water management measures. *[NOTE: what is meant by the term: "oversight of implementation of storm water management measures?"]*

C. Source Control Measures

1. By, _____, and to the extent required by the Clean Water Act, Permittees shall develop a checklist of specific storm water and urban runoff control measures for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutant; into storm water runoff. The control measures must

a. address multiple pollutant sources

b. initially focus on source control measures such as source minimization, education, good housekeeping, and site design alternatives.

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c. target industrial/source areas and activities with the potential to generate pollutant loadings

2. By _____, and to the extent required by the Clean Water Act, Permittees shall develop a process to ensure implementation of storm water and urban runoff control measures for industrial/commercial facilities identified in III.C.1.

3. By _____, and to the extent required by the Clean Water Act, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutants into storm water runoff. The structural control measures must be evaluated as to

a. effectiveness in reducing toxic pollutants and pollutants of concern

b. ease of maintenance

c. current frequency of use

d. feasibility and cost-effectiveness

e. possible methods to ensure implementation if necessary

By _____, the Permittees shall, in addition, describe any studies and pilot projects they intend to conduct to assess the feasibility and effectiveness of specific control measures.

4. By _____, and to the extent required by the Clean Water Act, Permittees shall require the following:

a. The proper disposal of food wastes by restaurants and food wholesalers.

b. Persons owning or operating a gas station, auto repair garage, or similar structure must clean those facilities in a manner that does not result in discharge of pollutants to the storm drain system; and

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c. Machinery and equipment, including motor vehicles, which are visibly leaking oil, fluid or antifreeze must be repaired.

5. The EAC may seek coverage under this Order, for industrial facilities listed in III.B.I.a.1 which are owned and operated by Permittees if it,

a. establishes a procedure for notifying the Regional Board of industrial sites owned and operated by Permittees

b. prepares a checklist of industrial BMPs using BAT/BCT criteria for implementation by Permittees at these industrial sites

c. standardizes procedures to ensure implementation of industrial BMPs by Permittees,

d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee industrial facilities

e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each site, and certify compliance with this Order.

~~START SPELL CHECK~~

D. Source Inspection

1. By _____, and to the extent required by the Clean Water Act, Permittees shall submit a schedule for inspection of industrial/commercial facilities in III.B.I.a. for adequacy of storm water pollution prevention measures. The schedule shall include, for a five year period,

a. for municipalities with a population of less than 250,000, all facilities identified in III,B.I.a.1, and all facilities identified in III.B.I.a.2 and III. B.I.a.3,

b. for municipalities with a population of greater than 250,000, all facilities identified in III.E.I.a.1, and, a subset of facilities identified in III.B. I.a.2 and III.B. 1.a.3 but not less than ten times the number identified in III.B.I.a.1

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Industrial/commercial facilities in III.B.I.a.2 and III.B.I.a.3 that are not included in the inspection schedule shall be surveyed by phone, mail-out, or a similar method, as to their conformance with good stormwater quality management measures.

2. By _____, and to the extent required by the Clean Water Act, Permittees shall develop and implement a industrial/commercial facilities inspection program. The inspection program shall include, but is not limited to:

   a. procedures for facility inspections

   b. procedures for industrial/commercial sectors outreach on pollution prevention, waste minimization, and storm water quality management

   c. procedures to ensure corrective action is undertaken by non complying facilities

   d. procedures to follow-up on violations of municipal standards

   e. procedures for enforcement action against non-complying facilities;

   f. an electronic recording system to document the status of facility inspections; and,

   g. appropriate training for program staff.

3. During inspection of group III.B.1.a.1, inspectors shall request to see a copy of the SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may ~~deem it necessary to~~ report problematic facilities to the Regional Board.

E. Reporting

Each year, ~~the Permittees~~ and to the extent required by the Clean Water Act, each Permittee shall evaluate the results and progress of ~~their~~ its storm water quality management program for industrial/commercial sources, if any. The annual report submitted to the Regional Board ~~shall recommend a strategy~~ may include recommended strategies for the management of storm water from

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industrial/commercial sources for the following year based upon any or all of the following:

a. priority industrial/commercial sources listing
b. priority on-site inspection
c. phone/mail-out survey inspections
d. priority checklists of stormwater urban runoff control measures
e. evaluations of structural arid treatment control measures
f. special studies and pilot projects needs
g. specific site and activity monitoring needs

The EAC shall make available to the Regional Board the industrial/commercial database developed in III.B.I.a.1 in the appropriate format when so requested.

F. Coordination

The Permittees, to the extent required by the Clean Water Act, shall develop a process for the exchange of information between ~~the~~ Permittees and the Regional Board. Appropriate formats for such reports shall be developed as required.

G. Conflicts with Other Mandates

1. The Permittees ~~will~~ may work with ~~other~~ other regulatory agencies and report to the Regional Board on recommendations to resolve ~~any~~ conflicts ~~which are identified~~, if any, between the provisions of this permit and the requirements of other regulatory agencies.

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IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT

A. Regional Policy

1. By _____, the EAC shall develop and adopt a regional policy to promote watershed protection considerations during planning, project review, and permitting of new development and redevelopment, to:

   a. preserve to the extent feasible, and where possible, create or restore areas that provide water quality benefits, such as riparian corridors and wetlands, and promote the design of new development so that it protects the natural integrity of drainage systems and water bodies.

   b. avoid conversions of areas particularly susceptible to erosion or sediment loss and/or establish development guidance that identifies these areas and protects them from erosion and sediment loss. Such areas include steep slopes, highly erodible soils, periods of intense rainfall, and inability to revegetate once disturbed.

   c. require the integration ~~em~~ of storm water quality protection into construction and post-construction activities at all development sites, including the minimization of toxic material use and their careful containment on site.

   d. maintain peak runoff rates at pre-development levels, wherever practicable.

2. By _____, the EAC shall establish minimum requirements consistent with the regional policy for new development and redevelopment, for

   a. site planning practices

   b. construction best management practices

   c. post-construction best management practices

   d. reporting erosion and storm water control strategies

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e. redevelopment and infill

B. Planning Process

In order to integrate storm water management considerations into new development projects at the time that ~~th(y~~ they are first proposed to jurisdictions, and to support other provisions of this permit:

1. By _____, the EAC shall develop guidance for permittees to use in preparing/reviewing EIRS, and in linking EIR mitigation conditions to local permits approvals.

2. By _____, ~~permittees~~ and to the extent required by the Clean Water Act, Permittees shall adopt and use the guidance in their internal procedures.

3. By _____, the EAC shall develop a model CEQA checklist form that explicitly addresses watershed, water quality, and nonpoint source pollution impacts.

4. By _____, the permittees ~~shall~~ may use the model CEQA checklist for the review of projects within the matters addressed by this Permit. *[NOTE: Cities, not the RWQCB or other author of the "model CEQA Checklist" are responsible for CEQA compliance, and the adequacy of their checklists.]*

5. Whenever a permittee ~~rewrites either of the following mandated general plan elements the~~ amends its general plan's conservation element or ~~the~~ open space element, watershed and stormwater management/urban runoff considerations shall be incorporated, to the extent required by the Clean Water Act.

6. By _____, to the extent required by the Clean Water Act, permittees shall implement a program to encourage developers to maximize pervious areas and storm water infiltration (in areas where the geology and topography allow), minimize directly connected imperious areas, and include justifiable treatment control measures.

7. Permittees, to the extent required by the Clean Water Act, shall require that prior to the submittal of an application for the first planning or

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building approval for a new development project, an applicant shall submit an Urban Runoff Mitigation Plan.

a. The Urban Runoff Mitigation Plan, to the extent required by the Clean Water Act, shall:

i. Be designed to reduce the runoff volume from the site and the pollutant load contributed by the site through incorporation of design elements and practices that address each of the goals set forth below in subsection (c). (Applicants should refer to the most recent edition of the Construction Best Management Practices Handbook, produced and published by the Storm Water Quality Task Force, for specific guidance on selecting best management practices for reducing pollutants in stormwater discharges from urbanized arias.)

ii. Discuss compliance with the development requirements set forth by Permittee's legal authority; and

iii. Address the following goals in connection with both construction and long term operation of the site:

(a) Maximize, to the extent practicable, the percentage of permeable surfaces in order to allow more percolation of runoff into the ground.

(b) Minimize, to the extent practicable, the amount of runoff directed to impermeable areas to the City's stormwater system.

(c) Maximize, to the extent practicable, stormwater filtration and storage for reuse through the use of sediment traps, cisterns or other means.

(d) Minimize, to the extent practicable, parking lot pollution through the use of porous materials to allow percolation of runoff, through the installation of appropriate treatment controls, or through other means.

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iv. Compliance with an approval Urban Runoff Mitigation Plan shall be a condition of any required planning approval.

v. Failure to comply with an approved Urban Runoff Mitigation Plan after receiving any required planning approval shall be a misdemeanor.

C. Identification of Sources

1. By _____, the EAC shall establish a screening criteria for construction sites to be listed in a database.

2. By _____, to the extent required by the Clean Water Act, the Permittees shall develop a database listing sites of construction activity within each Permittees' jurisdiction which shall be updated quarterly. The database shall include at a minimum:

a. Facility owner's name, address, and telephone number;

b. Site address, telephone number, and contact person;

c. Closest receiving water;

d. Type of construction activity

e. Duration of project with start and end dates

f. Total size of project in acres or square feet.

D. Prioritization of Sources

1. By _____, to the extent required by the Clean Water Act, the Permittees shall prioritize sites of construction activity within their jurisdiction on their relative potential for the contamination of storm water and urban runoff. The categorical list shall include:

a. All construction activity sites regulated under Phase I of the Federal storm water program (40 CFR 122.26).

b. All construction activity with sites greater than the size criteria established by the EAC rut less than five acres in size.

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c. Other construction activity sites considered by the EAC or the Regional Board to have high potential for the contamination of storm water and urban off.

2. By _____, to the extent required by the Clean Water Act, Permittees shall rank the construction activity sites, identified as potential pollutant sources of storm water and urban runoff pollutants in IV.B.1.a, in order of priority for oversight of implementation of storm water management measures.

E. Control Measures

1. By _____, to the extent required by the Clean Water Act, Permittees shall develop a checklist of specific storm water and urban runoff control measures for construction activity sites in IV. B.I.a. The control measures must

   a. address multiple pollutant sources

   b. initially focus on source control measures such as source minimization, education, good housekeeping, good waste management and good planning.

   c. target construction activity source areas and activities with the potential to generate substantial pollutant loadings

2. By_____, to the extent, if any, then required by the Clean Water Act, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for construction sites in IV.B.I.a. The structural control measures must be evaluated as to:

   a. effectiveness in reducing sediment, toxic pollutants and pollutants of concern;

   b. ease of maintenance;

   c. current frequency of use;

   d. feasibility and cost-effectiveness; and

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e. possible methods to ensure implementation.

By _____, Permittees shall describe any studies and pilot projects that may be conducted to assess e feasibility and effectiveness of specific control measures.

~~3.~~ By _____, to the extent required by the Clean Water Act, Permittees shall have in place a process to ensure implementation and proper maintenance of storm water and urban runoff control measures for sites associated with construction activity in IV.B.I.a., including

a. use of qualified personnel to design, install, and maintain BMPS.

b. proper maintenance of BMPs incorporated into private developments (e.g., through deed restrictions, covenants, conditions and restrictions (CCR).

c. proper installation and maintenance of post-construction BMPS.

d. prohibition on grading daring the wet season (Oct 15 -Apr 15) except for emergency action unless adequate erosion and sediment control measures are in place and maintained.

4. Permittees, to the extent required by the Clean Water Act, shall require the following for demolition/construction activity:

a. Sediment, construction waste and other pollutants from construction sites and parking areas shall be retained on the site to the maximum extent practicable.

b. Any sediments or other materials which are not retained on the site shall be removed within 24 hours or where determined necessary by the Director of Department of Public Works, or a designated representative, a temporary sediment barrier shall be installed.

c. Excavated soil shall be located on the site in a manner that eliminates the amount of sediments running into the street or adjoining properties. Soil piles shall be covered until the soil is either used or removed.

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d. Drainage controls shall be utilized as needed, depending on the extent of proposed grading and topography of the site, including but not limited to the following:

i. Detention ponds, sediment ponds, or infiltration pits.

ii. Dikes, filter beams or ditches.

iii. Downdrains, chutes or flumes.

iv. Silt fences.

e. No washing of construction or other industrial vehicles shall be allowed adjacent to a construction site. No water from washing vehicles on a site is allowed to run off into the City's storm drain system.

f. Roof drainage shall be oriented towards permeable areas on site to maximum extent practicable.

g. Lot drainage shall be oriented towards permeable areas to the maximum extent practicable.

h. All parking lots shall be designed to contain one inch of precipitation in a 24 hour period.

i. Runoff from parking lots shall be directed to permeable areas to the Maximum Extent Practicable.

5. Permittees, to the extent required by the Clean Water Act, shall require the following for construction activity:

a. All construction sites in hillside areas or in areas adjacent to natural water-ways (soft bottom creeks), lakes or the ocean must develop and implement sedimentation and erosion control plans that incorporate the following elements: timing of construction, BMPs to reduce erosion of cleared hillsides (revegetation, jute netting, etc.), BMPs to reduce the velocity of runoff and sediment from the construction site, and BMPs to detain the flow of sediments from the site;

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b. As a condition of granting a construction permit, set forth reasonable limits on the clearing of vegetation from construction sites, including, but not limited to, regulating the length of time during which soil may be bare, and, in certain sensitive cases, prohibiting bare soil.

6. The EAC may seek coverage under this Order, for construction activity sites listed in III.B.I.(a) 1 which are owned and operated by Permittees if it:

a. establishes a procedure for notifying the Regional Board of construction activity on sites owned or operated by Permittees;

b. prepares a checklist of construction BMPs using BAT/BCT criteria for implementation by Permittees at these construction sites;

c. standardizes procedures to ensure implementation of construction BMPs by Permittees;

d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee construction sites; and

e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each construction site, and certify compliance with this Order.

F. Source Inspection

1. By _____, to the extent required by the Clean Water Act, Permittees shall submit a schedule for inspection of construction activity sites in IV.B.1.a. for adequacy of storm water pollution prevention measures and erosion control measures. The schedule shall include, for a five year period,
   a. all construction activity identified in IV.B.I.a.1, and all construction activity identified in III.B.I.a.2 and III. B.I.a.3,

2. By _____, to the extent required by the Clean Water Act, Permittees shall develop and implement a construction activity inspection program. The inspection program shall include, but is not limited to:

   a. procedures for construction site inspections

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b. procedures for construction and building industry outreach on pollution prevention, waste minimization, and storm water quality management

c. procedures to ensure corrective action is undertaken by non complying sites

d. procedures to follow-up on violations of municipal codes

e. procedures for enforcement action against non-complying construction activity;

f. an electronic recording system to document the status of construction activity inspections; and,

g. appropriate training for program staff.

3. During inspection of group IV.B.1.a.1 sites, inspectors shall request to see a copy of the SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may deem it necessary to report problematic construction sites to the Regional Board.

G. Reporting

1. Each year, to the extent required by the Clean Water Act, the Permittees shall evaluate the results and progress of their storm water quality management program for construction activity sites. The annual report submitted to the Regional Board shall recommend a strategy for the management of storm water from construction activity sites for the following year based on

a. priority construction site sources listing

b. priority site inspections

c. priority checklists of stormwater urban runoff control measures

d. evaluations of structural and treatment control measures

e. special studies and pilot projects needs

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f. specific site and activity monitoring needs

2. The EAC shall make available to the Regional Board the construction activity database developed in IV.B.1.a.1 in the appropriate format when so requested.

H. Conflicts with Other Mandates

1. The Permittees ~~shall work~~ may cooperate with ~~other~~ regulatory agencies ~~and report~~ may make recommendations to the Regional Board ~~on recommendations~~ to resolve ~~any~~ conflicts ~~which are identified~~ between the provisions of this permit and the requirements of other regulatory agencies.

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September 14, 1995

V. PUBLIC AGENCY REQUIREMENTS

A. Examination of Existing Activities

By _____, to the extent required by the Clean Water Act, the Permittees shall develop and begin implementation of a program to examine their existing activities and measures described below to reduce the impact on stormwater quality from their operations.

B. Sewage Systems

1. All reasonable efforts shall be undertaken to keep sewage spills or leaks from entering the storm drain system. The EAC shall develop procedures for spill response by _____.

2. Control procedures for identifying, repairing, and remediating sewer blockages, exfiltration, overflow, and wet weather overflows from the sewers to the storm drain system shall be implemented to protect stormwater quality by _____. These procedures shall include, but are not limited to, quick field response to overflows, follow-up testing, and complaint investigation.

3. By _____, ~~the Permittees~~ to the extent required by the Clean Water Act, each Permittee shall insure that its field personnel who operate and/or maintain sewer systems have procedural training for field screening, sampling, smoke/dye testing, and TV inspection, if appropriate, to be able to ~~properly~~ investigate properly any suspect connections or cross connections to the storm drain system.

C. Vehicle Maintenance/Material Storage Facilities.

1. By _____, EAC will develop pollution prevention plans for each public vehicle maintenance/material storage facility category. Public vehicle maintenance/material storage facilities include any Permittee-owned and/or operated facility in which any of the following occur: vehicle or equipment maintenance; repair; washing; fueling; and/or any facility at which there is storage of toxic chemicals or hazardous materials.

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2. Best Management Practices (BMPS)

a. By _____, to the extent required by the Clean Water Act, Permittees will have site specific pollutant control measures implemented at all vehicle ~~maintenance/material~~ maintenance/ material storage facilities per EAC guidelines, together with an on-site pollution prevention plan.

b. Any BMPs to be implemented must be part of a comprehensive plan designed to address the various pollutant sources at each public vehicle maintenance/material storage facility. To achieve this goal, the Permittees shall first identify the potential pollution sources and who is responsible for implementing the stormwater management measures.

c. Based on ~~the~~ facility type, management practices and schedule of implementation shall be developed by the EAC. BMPs that ~~can~~ could be used to improve the quality of runoff include, but are not limited to:

i. Housekeeping practices;

ii. Material storage control;

iii. Vehicle leak and spill control; and

iv. Illegal dumping control.

d. Loading/Unloading of Materials

i. Employees or contractors of the Permittees who handle potentially harmful materials shall be trained in good housekeeping practices to prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

ii. Applicable BMPs shall be selected based on the following three factors:

(a) Eliminating exposure of material to rainfall;

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(b) Checking equipment regularly for leaks; and

(c) Containing spills.

e. Material Storage Control

A program shall be developed to prevent or reduce the discharge of pollutants to stormwater from outdoor container storage areas using measures such as:

i. Installing safeguards against accidental releases;

ii. Secondary containment;

iii. Conducting regular inspections; and

iv. Training employees in standard operating procedures and spill cleanup techniques.

f. Vehicle and Equipment Washing and Maintenance

i. Washing of vehicles or equipment on-site shall be performed in a designated area equipped with an oil/water separator.

ii. The sumps and separators shall be maintained/cleaned on a regularly scheduled basis appropriate to the facility.

iii. BMPs to be implemented as appropriate for vehicle and equipment maintenance shall include but not be limited to:

(a) Waste reduction;

(b) Use of alternate product

(c) Pollution prevention;

(d) Recycling; and

(e) Spill prevention and clean up.

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3. Waste Handling and Disposal

Wastes shall be managed to prevent stormwater pollution.

D. Parks and Recreation

1. Fertilizers/Pesticides

a. Permittees, to the extent required by the Clean Water Act, shall develop procedures on the proper application of pesticides, herbicides, and fertilizers by Procedures shall include:

i. List of approved pesticides and selected use;

ii. Product and application information;

iii. Equipment use an(i maintenance procedures; and

iv. Record keeping.

b. Landscape waste shall not be discharged into the storm drain system.

c. Storage areas for fertilizers and pesticides shall be designed and maintained to reduce exposure to stormwater. The following BMPs shall be utilized where appropriate:

i. Store materials inside or under cover on paved surfaces;

ii. Use secondary containment;

iii. Minimize storage and handling of hazardous materials;

iv. Inspect storage areas regularly.

2. Facility Management

a. Wash waters ~~cannot~~ shall not be discharged into the storm drain system without appropriate treatment.

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b. Landscape maintenance involving the use of pesticides and fertilizers shall ensure the proper use of these materials to minimize loss to storm water.

c. Retention and planting of native vegetation to reduce water, fertilizer, and pesticide needs shall be encouraged.

d. Use of Integrated Pest Management (IPM) shall be encouraged.

e. A schedule for irrigation and fertilization shall be developed by _____, to minimize

i. Chemical application during wet season and no chemical application during storms; and,

ii. Over watering that may lead to runoff that contains nutrients and pesticides.

f. The drainage of commercial/municipal swimming pool water shall ~~only~~ be discharged only under separate Waste Discharge Requirements.

g. Each Permittee shall develop BMPs to minimize trash, debris, and other pollutants from entering Permittee owned recreational water bodies by _____. These measures shall include:

i. Routine trash collection along, on, and/or in, water bodies, where feasible; and

ii. Public outreach to educate the public about impacts of illegal dumping.

E. Storm Drain System Operation and Management

1. Inlet Maintenance

BMPs to be implemented by each Permittee, to the extent required by the Clean Water Act, for effective catch basin cleaning shall include, but not be limited to the following:

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a. Basins shall be inspected and cleaned between May 1 and October 15 of each year;

b. Between October 15 and April 15, catch basins shall be maintained as necessary.

c. Records shall be kept of the number of catch basins cleaned; and

d. Track the amount of waste collected.

2. Storm Drain Maintenance

a. Material removed from storm drains and catch basins shall be disposed of properly.

b. Trash and debris from open channel storm drains shall be removed at least annually between May 1 and October 15 of each year.

c. Open channels shall also be monitored during the rainy season for any debris buildup and cleaned where needed.

3. Waste Management

The Permittees ~~shall implement a program by _____~~, to the extent required by the Clean Water Act, shall, by _____, implement a to identify problem areas of illegal dumping so regular inspection and clean up can maintain the channel's optimum capacity and prevent the discharge of contaminants.

4. Dry Weather Storm Drain Diversion

The Permittees, to the extent required by the Clean Water Act, shall investigate the feasibility of diverting dry-weather flows from the storm drain system to POTWs where appropriate. The investigation, to the extent required by the Clean Water Act, shall be completed by _____.

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F. Streets and Roads

1. Sweeping of curbed streets:

a. Sweeping of curbed streets shall occur at least monthly.

b. Where feasible, areas generating excessive refuse shall be swept more frequently.

2. Maintenance

a. Existing saw-cut management and paving practices conducted by the Permittees shall be evaluated and appropriate control measures developed.

b. Paving control measures to be considered that would help reduce the impacts to stormwater include, but are not limited to:

i. Avoid paving during wet weather; and

ii. Store materials away from drainage courses to prevent pollution of stormwater runoff.

c. Refuse collected shall be transported to appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations.

d. Good housekeeping practices shall be implemented to insure proper management of any waste products that may be generated during maintenance activities.

e. To reduce stormwater pollution from concrete materials and wastes:

i. Washout of concrete trucks should be conducted off- or on-site in designated areas. ~~Do not wash out~~ Rinseate from concrete trucks shall not be permitted to flow into storm drains, open ditches, streets, or streams;

ii. Store materials *[NOTE: Please BE SPECIFIC, what materials?]* under cover, away from drainage areas; and

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iii. Avoid mixing excess amounts of concrete or cement on-site.

f. Employees shall be trained in the implementation of good housekeeping measures. Training shall:

i. Promote a clear understanding of the potential for maintenance activities to pollute storm water;

ii. Identify solutions (BMPs selection);

G. Flood Control

1. By _____, the Permittees, to the extent required by the Clean Water Act, shall develop and implement procedures to assess the impact(s) of new flood management projects on the quality of receiving water bodies.

2. The Permittees, to the extent required by the Clean Water Act, shall undertake pilot projects/studies to determine the applicability of altered structural flood control system elements to provide pollutant removal in stormwater.

3. ~~During construction~~ To the extent required by the Clean Water Act, appropriate BMPs shall be utilized to control pollutants during construction .

4. Current maintenance activities with regards to desilting/sediment removal, vegetation management, and waste management shall be reviewed, to the extent required by the Clean Water Act, to assure that appropriate management measures are developed to comply with the stormwater regulations.

H. Parking Facilities

By _____, to the extent required by the Clean Water Act, each Permittee shall develop a program to implement periodic hardscape and catch basin cleaning, in order to reduce concentrations of oil, grease, suspended particulates, and metals, as well as the petroleum byproducts.

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September 15, 1995 (To be negotiated)

VI. PUBLIC INFORMATION AND PARTICIPATION

To reach as many Los Angeles County residents as possible, a comprehensive educational outreach approach shall be undertaken under this permit. ~~Each~~ to the extent required by the Clean Water Act. To the extent required by the Clean Water Act, each Permittee shall choose an appropriate combination of outreach tools and activities to raise public awareness of storm water issues and improve water quality.

Outreach Materials

Outreach programs shall consist of written, audio, and visual materials and, when necessary, translated into appropriate languages or structured for appropriate ages. Permittees, to the extent required by the Clean Water Act, shall incorporate interactive methods of distributing outreach materials and provide for public participation in activities developed under this section.

A. Written Material

1. The Permittees, to the extent required by the Clean Water Act, shall produce a variety of written materials to convey information regarding storm waste management within County watersheds.

2. Written materials shall include, but are not limited to: flyers, brochures, door-hangers, newspaper articles, mail-inserts, and newsletters.

B. Audio Material

1. All Permittees ~~shall singularly or collectively~~, to the extent required by the Clean Water Act, shall individually or jointly utilize radio broadcast public service announcements to convey information regarding storm water management except in areas where public access radio stations are not available.

2. Examples of audio materials include radio advertisements, public service announcements, and informational recordings.

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C. Visual Material

1. All Permittees, to the extent required by the Clean Water Act, shall implement a catch basin labelling program as well as other strategies such as banners, displays and posters to educate the public on the ultimate destination of storm drain system flows.

2. Each Watershed Management Committee shall produce at least one informational video. The video shall be shown on televised public service stations and cable access programs except in areas where cable access programs are not available. Further methods of distribution may include workshops, libraries, etc.

D. Distribution of Materials

Outreach materials shall be made available to the public at appropriate public counters and distributed at public events. Examples include fairs, festivals, public meetings, community events, school assemblies, etc.

General Education Strategy

A. The EAC shall develop and the Permittees shall implement a 5-year urban runoff education strategy. The intent of the strategy shall be to enhance public awareness of the impact of storm water pollution on receiving waters and to discourage improper waste disposal practices. Outreach efforts shall be conducted throughout the watershed. The public shall be made aware of their responsibility for both the problems and solutions to storm water pollution. A watershed-wide program shall be implemented by _____.

Development and implementation of the education strategy shall be based on the four objectives listed below:

1. Promoting clear identification and understanding of the problem, including activities with the potential to pollute storm water;

2. Identifying solutions or applicable measures (Best Management Practices) that can be taken to prevent storm water pollution;

3. Raising public awareness of the problems and solutions; and

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4. Incorporating solutions back into programs, training and BMP implementation.

B. Efforts shall be made to identify land uses and activities that have a higher potential for storm water/urban runoff pollution by focusing on specific pollutants, disposal practices, materials used, etc, To prevent storm water/urban runoff pollution, outreach materials shall be provided on the appropriate selection and implementation of BMPs accordingly A watershed-wide program shall be developed by _____.

1. Pollutant Specific: The reduction of specific pollutants of concern in a particular watershed shall be addressed in a focused public education and outreach program.

2. Activity-specific: Activity-specific outreach programs shall be developed and implemented throughout watershed. Written, audio, or visual outreach tools should address primary topics:

   a. Identification of activities potentially causing storm water pollution;

   b. Implementation of Best Management Practices to prevent storm water pollution.

   c. Recognizing and reporting occurrences of storm water polluting activities.

   The Permittees shall continue to develop activity-specific outreach programs that inform residents about the problem of illicit discharges and dumping and that promote, publicize, and facilitate public reporting of these activities. The program shall also include continuing operation, maintenance, and promotion of the county-wide reporting hotline.

C. The Permittees shall ~~list pertinent~~ submit to telephone directory publishers, City phone numbers to be listed under the City government directory located in the front section of local area phone books. This shall ~~be updated annually as necessary and shall, at a minimum,~~ include numbers for reporting on clogged catch basin inlets, reporting illegal discharges/dumping and a general informational number for storm water. These phone numbers may be city-specific or area-wide.

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D. All efforts deemed to be reasonable ~~efforts~~ by a permittee to coordinate public outreach efforts shall be undertaken. This may include coordinating with environmental groups and public agencies such as the California Coastal Commission, the Department of Beaches and Harbors, Resource Agencies, etc.

Outreach to Target Audiences

Permittees, to the extent required by the Clean Water Act, shall develop and implement an educational program that stresses pollution prevention for a variety of audiences, including local residents, school-aged children, businesses and public employees whose job functions and daily lives may impact storm water quality. The program may be developed locally or regionally and shall include ~~at a minimum~~, to the extent required by the Clean Water Act:

- Education on the proper use and disposal of pesticides, herbicides and fertilizers;
- Education on the definition of, identification of, and impacts associated with illicit discharges and procedures for reporting.
- Promotion of proper management of ad disposal practices for used oil and hazardous substances.

A. Local Residents

1. Permittees, to the extent required by the Clean Water Act, shall develop a program to educate local residents on types of household hazardous wastes along with proper management and disposal methods. The program shall at a minimum include:

   a. Information on the availability of collection services, such as location and schedule;

   b. Production of public outreach materials that educate residents on source reduction and proper disposal methods for household hazardous wastes; and

   c. Continue to encourage residents to recycle oil, antifreeze, glass, plastics, batteries, etc. and to prevent the improper disposal of such materials to the storm drainage system.

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Educational efforts throughout the watershed should also provide residents with detailed information regarding the Los Angeles County-wide Household Hazardous Waste Management Program. Other local programs shall be advertised as appropriate.

2. Permittees, to the extent required by the Clean Water Act, shall develop and encourage watershed residents to participate in specific storm water outreach programs. Residents shall be informed of and provided with the opportunity to share ideas and comments about the programs. Permittees shall demonstrate that a good faith effort has been made to outreach to different communities within the watershed. The watershed-wide outreach program shall be implemented by _____. This shall at a minimum include:

   a. Where applicable for fire and erosion prevention, mowing shall be encouraged as opposed to disking. An investigation of effectiveness shall be undertaken.

3. Cooperative Public Outreach

   In order to promote public participation, cooperative outreach programs with local residents shall be developed. These cooperative programs should foster awareness and identification of storm water pollution issues among residents in the watershed. Catch basin labelling and other established sign programs are excellent examples of this type of cooperative effort, as are events like the "Storm water Pollution Awareness Week." One possibility for cooperative outreach is an "Adopt-A" program. Residents can "adopt" highways, storm drains, catch basins, streams, etc. to monitor, restore and protect. The purpose of all cooperative outreach programs created is to inform and involve the public in storm water management.

4. Complaint Procedures

   Public comments/complaints shall be requested by the Permittees in order to help gauge the success and effectiveness of storm water programs.

B. K-12 School Children

School children can play an important role in public information and participation programs, as they are generally more easily motivated and any behavior changes

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they make tend to stay with them through adulthood. School children can also convey storm water pollution prevention messages to other family members. School programs shall include information on storm drain systems, the difference between sewers and storm drains, the importance of preventing storm water pollution, and may also address, illegal discharges/dumping and reporting procedures, source minimization, and general pollution prevention. Written materials (workbooks and coloring books), videos, assemblies, and field trips are examples of effective components of a K-12 educational program.

C. Businesses

A detailed public education and outreach program shall be developed for business operations with greater potential of discharging pollutants into the storm drain system. The program shall include employee training on and the effectiveness of implementing BMPs to reduce nonpoint source pollution. In addition to written, audio, and visual materials, other possible means of focused outreach may include: conducting workshops, mass mailing trade/industry magazines, etc.

D. Public Agencies and Employees

~~Public~~ Appropriate public agency employees shall be trained on storm water management and pollution prevention practices and involve employees on many different levels from program managers to field personnel. Training programs shall include, but are not limited to, articles in City newsletters, training classes, checklists for field personnel, and interdepartmental forums or committees. Materials developed for other audiences may also be used in these public agency employee training programs. Appropriate public agency employees shall be trained in:

1. Emergency spill cleanup procedures.

2. Environmentally sensitive alternative products.

3. Good housekeeping practices.

Permittees shall provide outreach materials to the general public through business license renewal counter,; and/or make efforts to outreach through professional and business associations. Additionally, Permittees should consider producing educational materials for professionals and technicians not employed by public agencies.

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Outreach Based on Activity-Type

A. Industrial/Commercial

A watershed-wide, general outreach program shall be set up by the WMC for all industrial and commercial facilities potentially discharging to the storm drain system. Furthermore, the WMC shall provide specific guidance objectives to these facilities regarding storm water program, compliance by _____, and inform and remind all potential commercial and industrial dischargers of their obligations under the storm water program. The Permittees shall also encourage the proper disposal of all materials from industrial and commercial sites.

Prior to the WMC providing specific guidance objectives, subcommittees shall be established, as needed, to develop specific outreach materials for industrial/commercial categories and specific "high priority" activities. This shall include at a minimum: metal ~~platers~~ platters, restaurants, vehicle related facilities, etc...

B. Construction

The Permittees, to the extent required by the Clean Water Act, shall ensure that contractors properly install all necessary post construction, permanent BMPs during initial construction and that any necessary maintenance needed during construction is performed. There shall be specific programs outlining correct practices.

In an effort to prevent concrete waste from entering the storm drain system, contractors shall observe the following guidelines:

1. Washout of concrete trucks should be conducted off-site or on-site in a designated area;

2. Excess concrete should not be dumped on site; and

3. Employees and subcontractors should be trained in proper concrete waste management.

Evaluation

The EAC shall develop a process to evaluate the effectiveness of all public outreach programs implemented under this permit. Surveys and focus groups are examples of

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methods that can be used to gauge a program's effectiveness. They can also be used to provide insight into the program's direction and to help formulate attainable goals. Results of any evaluation method used shall indicate the community's level of awareness of storm water pollution. A watershed-wide program shall be implemented by _____.

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August 25, 1995 (To be negotiated)

VIII. PROGRAM EVALUATION AND REPORTING

The program may be modified subject to comments received under the Annual Review.

A procedure shall be developed and utilized for program evaluation and reporting by the Principal Permittee during the course of this permit. Under this procedure as outlined below, the EAC shall develop action-specific performance indicators and criteria, perform evaluation of compliance and effectiveness based on the performance criteria, establish schedules and mechanism for initial record keeping and reporting, and submit semi-annual and annual reports to the Regional Board using a standardized format.

The EAC, WMC, and/or each Permittee, to the extent required by the Clean Water Act, are responsible for collecting data needed for program evaluation, conducting self-evaluation, and reporting the results of evaluation to the Regional Board. The results reported to the Regional Board shall include both the collected data and analysis of the data. The reports shall include detailed explanation on how the evaluations are conducted, how and why certain provisions of the permits are met or not met, how the effectiveness of certain BMPs is determined or is not, and should a problem arise, how it shall be corrected. The Regional Board will make a compliance determination based on information submitted under this procedure.

A. Demonstration of Compliance

1. Each Permittee, to the extent required by the Clean Water Act, is responsible for demonstrating that the required BMPs as prescribed under this permit, as well as other BMPs included in the Watershed Management Plans, are implemented to the "maximum extent practicable." Each Permittee shall implement the required BMPs to the maximum extent practicable.

2. The Watershed Management Committees are responsible for demonstrating the effectiveness of other BMPs through conducting and reporting the results of pilot/demonstration projects for evaluating the effectiveness of BMPs in the watershed.

3. The degree and the effectiveness of BMP implementation shall be evaluated and reported by the Permittees, to the extent required by the Clean Water Act, using environmental and/or administrative indicators whenever possible. When environmental indicators are not readily and/or

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easily available, administrative indicators shall be used. These shall include indicators prescribed under relevant provisions of this permit, and/or other indicators deemed appropriate by the Watershed Management Committee, the Executive Advisory Committee, and/or ultimately the Regional Board. Examples of the quantitative indicators include the number of inspections conducted, number of staff increase, number of audience reached through public education, waste recycled, water conserved, hazardous waste collected, oil recycled, catchbasin waste removed, etc. Quantitative indicators of environmental conditions should also be reported if they can be linked to the effects of the BMP implementation.

4. In order to yield comparable results for year to year evaluation on the success, the progress, and/or the failure in BMP implementation, and comparable results from area to area, a uniform data collection methodology shall be established for each of the required BMPS. The uniform data collection methodology shall be developed by the Executive Advisory Committee. Subsequently, each report on BMP implementation shall provide comparison with the implementation status during the previous reporting period and the scheduled implementation timeline for the current and future reporting periods, based on data collected using the uniform collection methodology.

B. Internal Reporting and Record Keeping

1. In order to facilitate the preparation of semi-annual and annual reports, the EAC shall develop standard forms for internal reporting to be used by all Permittees within the watershed. The forms shall collect all the information essential to the preparation of the annual and semi-annual reports and to the needs of other management actions by the Watershed Management Committees, EAC, and/or the Permittees. Reported information shall be quantifiable, and specific for each program area and/or BMP. The dates for submitting the internal reports shall allow sufficient time for compilation and analysis by the Watershed Management Committees and/or the EAC for the preparation of semi-annual and annual reports to the Regional Board.

2. All records shall be retained by the Permittees for a period of 5 years or longer as required by the Regional Board or USEPA.

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C. Semi-annual and Annual Reports

1. Semi-annual Report

The requirements under VIII.A shall be met by the submittal of semi annual and annual reports. Semi-annual reports shall succinctly summarize compliance efforts and may consist of simple compliance checklists. Annual reports shall be comprehensive.

a. The EAC shall submit a semi-annual progress report to the Regional Board by _____ of each year. Semi-annual reports must be submitted to the Regional Board within 30 days after the end of the six-month period. These six month periods are Jan - June, and July - Dec. (TO BE DETERMINED).

b. The semi-annual report shall serve as a status report on the progress of the implementation of the Stormwater Management Plan and other permit provisions. The Watershed Management Committee is responsible for collecting and compiling information from each Permittee prior to preparation of the semi-annual report, information along with the information analysis into the report.

c. The semi-annual report shall consist of a summary table illustrating the levels of implementation for all requirements by each Permittee. Tables shall be developed for each program element listing the Permittees, describing the status of implementation by each Permittee of the element, and documenting any modifications of the element from the standard program.

2. Annual Report

a. The Executive Committee shall submit an annual report to the Regional Board not more than 60 days after the end of each permit year (_____). The annual report shall include both a summary of the progress and status of Stormwater Management Plan implementation, a summary on status of compliance with all permit provisions, a report on the evaluation of program effectiveness, and a summary of recommendations for permit provision revisions. The Permittees as a whole (within watershed management areas) shall describe any problems encountered during

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implementation and discuss the modifications to the program in order to solve these problems.

b. The Principal Permittee shall collect, compile, and analyze information from each Permittee within the watershed prior to preparation of the annual report. The Watershed Management Committee shall include the compiled information and its analysis (instead of raw data or copy of internal reports) in the annual reports.

c. The semi-annual report shall include a summary table illustrating the levels of implementation for all Permittees. Tables shall be developed for each program element listing all the participating Permittees and describing the status of implementation by each Permittee of the element. A table shall also be included to summarize the status of the program elements for which the Watershed Management Committee bears the primary implementation responsibility. Besides summary tables, the report should provide detailed explanation on any modifications made of the program elements (delays, changes, etc.) from the standard provisions and provide an analysis of any problems encountered during the implementation and the proposed solutions.

d. The annual report shall include an assessment of the effectiveness of each program elements using the performance evaluation indicators and criteria developed under Section A of this Chapter, and the results of the pilot/demonstration projects conducted within and/or outside the watershed. The findings should be presented graphically for ease of comparison with the established levels of effort.

e. A fiscal analysis and budget as described under I.1 (Fiscal Resources) of this Order shall be submitted annually within 30 days of the Budget adoption date for each Permittee.

D. Storm Water Management Plan Revisions

1. Revisions to provisions of this permit ~~can~~ may be made through the order of the Regional Board. The EAC ~~can~~ may recommend and request revisions to the Stormwater Management Plan through documentation in the annual reports.

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2. Recommended revisions shall be supported by the results of a program evaluation. Recommended revisions to the Stormwater Management Plans may be made if it can be demonstrated that 1) the changes will lead to improvement of the effectiveness of this program, 2) the changes will result in positive impacts of environmental conditions, and 3) that the current measures have been implemented to the "Maximum extent practicable" as defined in Section VIII.A. Any recommended revisions shall not take effect unless approved by the Executive Officer.

3. Revisions may be made to the Storm Water Management Plans by the Executive Officer or the Regional Board based upon public input and/or testimony.

The Discharger shall comply with the attached Monitoring and Reporting Program, which is part of this Order, and any revisions or modifications thereto, as ordered by the Executive Officer.

This Order may be modified, revoked, or reissued, prior to the expiration date as follows:

a. To address changed conditions identified in the required technical reports or other sources deemed significant by the Regional Board;

b. To incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

c. To comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain Icy other requirements of the CWA then applicable; or

d. Any other Federal or State Laws or Regulations become effective which necessitate changes.

The issuance of this permit is not intended to, and does not, absolve the Discharger of liability for conduct which may have constituted a violation of the previous Board Order 90-079 (AN, Cl 6948) adopted by this Regional Board on June 18, 1990.

This Order expires on _____. The Discharger must submit a complete Report of Waste Discharge including a revised Storm Water Management Plan in accordance with Title

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23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Robert P. Ghirelli, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December __, 1995.

ROBERT P. GHIRELLI, D.Env.
Executive Officer

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ATTACHMENT A

NPDES STORM WATER PERMIT
WATERSHED MANAGEMENT AREAS

Santa Monica Bay	Los Angeles River	San Gabriel River
Malibu Creek and Other Rural	Alhambra	Artesia
Agoura Hills	Arcadia	Azusa
Calabasas	Bell	Baldwin Park
Caltrans	Burbank	Bradbury
Los Angeles County	*Caltrans*	*Caltrans*
Malibu	Commerce	Cerritos
Westlake Village	Compton	Claremont
Ventura County	Cudahy	Covina
	El Monte	
Ballona Creek and Other Urban	Glendale	Diamond Bar
Beverly Hills	Hidden Hills	Downey
Caltrans	Huntington Park	Duarte
Culver City	*La Canada Flintridge*	Glendora
El Segundo	*Long Beach*	Hawaiian Gardens
Hermosa Beach	*Los Angeles*	Industry
Los Angeles	*Los Angeles County*	La Mirada
Los Angeles County	Lynwood	La Puente
Manhattan Beach	Maywood	La Verne
Palos Verdes Estates	Monrovia	Lakewood
Rancho Palos Verdes	Montebello	*Long Beach*
Redondo Beach	Monterey Park	*Los Angeles County*
Rolling Hills	Paramount	Norwalk

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Rolling Hills Estates
Santa Monica
West Hollywood

Dominguez Channel/
Los Angeles Harbor Drainage
Caltrans
Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles
Los Angeles County
Torrance

Pasadena
Rosemead
San Fernando
San Gabriel
San Marino

Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

Pico Rivera
San Dimas
Santa Fe Springs

Walnut

West Covina
Whittier

Santa Clara River
Caltrans
Los Angeles County
Santa Clarita

Italicized agencies are present in more than one watershed.

VOL 24

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CONFORMITY WITH THE CLEAN WATER ACT

This permit is issued in compliance with the requirements of the Clean Water Act, as amended. In the event of any proceeding in which it is alleged that this permit does not meet the requirements of the Clean Water Act, or that acts or conduct by the permittee in conformity with this permit are not in conformity with the Clean Water Act, then at the request of the permittee through permittee's attorney, the Regional Board shall intervene on behalf of the holder of the permit, and shall protect, defend, indemnify and hold the holder of the permit harmless with respect to allegations that the permit is not in conformity with the requirements of the Clean Water Act, as it may be amended from time to time, and from allegations that acts or conduct by the holder of the permit in conformity with this permit are not in conformity with the Clean Water Act.

OPEN PROCESS: NO EX PARTE MEETINGS HELD [PROPOSED FINDING]

This Order was openly arrived at, developed through an open process, through series of meetings to which all interested entities, including permittees, were invited to participate. There have been no meetings between representatives or Staff of the California Regional Water Quality Control Board - Los Angeles Region and representatives of special interest groups, including regulated industries or environmental groups which were not open to other interested entities, including permittees.

CITY of GARDENA

1700 WEST 162nd STREET / GARDENA, CALIFORNIA 90247-3778 / (310) 217-9500

MAY Y. DOI, City Clerk
LORENZO F. YBARRA, City Treasurer
KENNETH W. LANDAU, City Manager

September 26, 1995

Los Angeles County Department of Public Works
Waste Management Division
P.O. Box 1460
Alhambra, CA 91802-1460

Attn: Frank Kuo
Program Administrator

Subject: Draft NPDES Municipal Permit
September 15, 1995

Dear Mr. Kuo,

The City of Gardena cannot accept the NPDES permit submitted to the City by the Regional Water Quality Board on September 15, 1995. The proposed permit has significant defects and omissions. The City would like to summarize the major problems as follows:

1. In order to fund the many functions to be performed by the City, a fee structure for permits and investigations should be created. A collection mechanism should be established. The budget process must be defined, who is to evaluate the budget and when should it be submitted? Who develops the funding budget for the area-wide programs?

2. The "Municipal Permit" should be considered by itself. All inspection and enforcement of the requirements for "industrial" and "construction" permits should be deleted. The State Board should continue to administer and enforce the requirements of the"industrial" and "construction" permits.

3. Specific and detailed descriptions and instructions are needed for the following sections:

   a. **Programs to be Developed by the EAC and Cities**

      The Board should define the criteria it will use to evaluate the effectiveness of programs and their acceptance by the Board?

   b. **Compliance and Documentation**

      The parameters by which the Board is to judge a permittees compliance should be defined and quantified. Vague and open-ended descriptions in many sections leave room for significant conflict later.

MAILING ADDRESS: P.O. BOX 47003 GARDENA, CALIFORNIA 90247-6803 FAX (310) 217-9684

c. **Authority**

Definitions of the type of ordinances which will be required should be specified. Many existing city codes already cover most tasks specified, therefore, the Board should establish criteria which would permit existing ordinances to cover the required functions.

d. **Administrative Review**

The Board should determine and publish the Board's standards for evaluation of reports and compliance documentation. Specific standards should be established for all permittees.

e. **Database**

The Board maintains this database and should continue to maintain it.

f. **Grading Activities**

The Board has maintained that there really is no "rainy" reason. Therefore, the grading activity restriction should be established by the EAC and enforced by the cities on a project to project basis.

g. **Pumped Stormwater**

This discharge should be exempted.

Please convey the concerns of the City of Gardena to the Regional Water Quality Board. The City requests more intensive and conclusive negotiations between the Board and the Executive Advisory Committee to accomplish a reasonable and enforceable permit.

If there are any questions, please contact me at (310) 217-9529, fax (310) 217-9676.

Yours truly,

Sherwood Nasuhara
City Engineer

SN/jn

City of El Segundo
EDUARD SCHRODER, Director of Public Works

October 10, 1995

Ms. Catherine Tyrrell
Assistant Executive Officer
California Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Subject: Comments to September 15, 1995 Draft NPDES Permit

Dear Ms. Tyrrell:

Thank you for providing the City of El Segundo an opportunity to comment on the latest Draft NPDES permit. I know it has taken a great amount of effort by the State, County, and Cities to get to this point. However, based on the extensive number of problems we found in the draft, it is obvious we still have a long way to go.

Attached are the City's comments to the draft permit. We have taken the liberty of developing a "substitute permit" showing by red-line/strike-out El Segundo's proposed changes. We felt that, given the numerous comments, that this was the clearest manner in which to relay our concerns.

The City's comments fall into the following three (3) general areas:

1. The draft permit, as presented, far exceeds present Federal and State requirements;

2. The draft permit does not clearly delineate the relationship between the various parties, i.e. the State, the principal permittee, permittees, the EAC, WMC's, etc. and;

3. There are numerous grammatical, typographical, and terminology errors, and inconsistencies which adds to the ambiguity of the draft.

350 Main Street, El Segundo, California 90245-0989
Phone (310) 322-4670 FAX (310) 322-4167

(continued)

In addition, attached to our red-line/strike-out comments, there are two (2) items which are presently not covered in the draft but we feel warrant inclusion.

I hope that you find our comments helpful. The City is very interested in the State reconciliation of the issues we have raised. We look forward to another opportunity to review and comment on a revised draft before the permit is sent to the Board for consideration.

If you have any questions or wish to discuss our concerns in more detail, please do not hesitate to call me at 310.607.2230.

Sincerely,

Ed Schroder
Director of Public Works

ES:dr

Enclosures

cc: Gary Hildebrand, Los Angeles County Public Works

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INTRODUCTORY NOTE TO "SUBSTITUTE DRAFT" VERSION OF DRAFT ORDER

The September 15, 1995, RWQCB draft is replete with provisions not required by the federal Clean Water Act or any other law. In addition, it appears that some provisions required by the EPA for stormwater permits are missing. For these reasons, the next "official draft" circulated for comment should clearly identify the specific section of the Clean Water Act, or other law, which provides the basis for a requirement proposed to be included in this permit. Only then can an informed judgement be made as to the appropriateness of inclusion of permit provisions.

This Substitute Draft provides revisions which should be made to the draft, in order to link the draft to the underlying legal authority, the Clean Water Act, which itself is under consideration for major revisions. For this reason, the term "to the extent required by the Clean Water Act" has been inserted at numerous places throughout this Substitute Draft. Other cleanup provisions are also included.

Italicized text is intended as commentary on the draft, it is not intended to be included in the text.

September 15, 1995

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

ORDER NO. 95-XXX

WASTE DISCHARGE REQUIREMENTS
FOR
STORMWATER MANAGEMENT/URBAN RUNOFF DISCHARGES
WITHIN THE COUNTY OF LOS ANGELES

(NPDES NO. CAS0051654)

The California Regional Water Quality Control Board, Los Angeles Region, finds:

(The findings are currently being developed.)

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[NOTE: It is essential that the findings be drafted in a manner which does not needlessly implicate the County and the Cities with respect to liability asserted against them by the alleged industrial polluters in the case of United States and State of California v. Montrose Chemical Corporation of California, et al., now pending in the U.S. District Court for the Central District of California. This case is a Natural Resources Damages Claim case filed under the federal Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" or "Superfund") 42 U.S.C. §§ 9601 et seq. The alleged industrial polluter defendants have filed third party against the County, the Cities and the State. Damages could reach into the hundreds of millions of dollars.]

This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the federal Clean Water Act, ~~or~~ and amendments thereto, and shall take effect at the end of ten (10) days from the date of its adoption provided the Regional Administrator, USEPA, has no objections.

IT IS HEREBY ORDERED that the County of Los Angeles and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardens, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the California Water Code, and regulations ~~and guidelines~~ adopted thereunder, and the provisions of the Federal Clean Water Act, and regulations ~~and guidelines~~ adopted thereunder, shall comply with the following for the areas under their respective jurisdictions within the drainage area of the County of Los Angeles:

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September 15, 1995

A. Discharge Prohibitions

(Currently under discussion with the negotiation team.)

[NOTE: Should conform to, but not exceed, prohibitions required by the Clean Water Act.]

B. Receiving Water Limitations

(Currently under discussion with the negotiation team.)

[NOTE: Should conform to, but not exceed, prohibitions required by the Clean Water Act.]

C. Provisions

i. The Dischargers shall comply with Discharge Prohibitions (above), and Receiving Water Limitations (above), through the timely implementation of control measures ~~and other actions~~ as required by the Clean Water Act, to reduce ~~pollutants in the~~ pollutant discharge as proposed in this Order.

I. PROGRAM MANAGEMENT

A. Principal Permits

1. The County of Los Angeles is designated as the Principal Permittee.

2. The Principal Permittee shall, to the extent required by the Clean Water Act:

   a. Coordinate permit activities and, by _____, convene and chair the area-wide Executive Advisory Committee and the Watershed Management Committees;

   b. Provide personnel and fiscal resources and by _____, develop a Baseline Stormwater Management Plan (Plan) for use in developing a watershed management plan (WMP) for each watershed;

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c. Provide personnel and fiscal resources for the development of the WMPs;

d. Provide personnel and fiscal resources for the updating and modification of the Plan and the WMPS;

e. Provide technical and administrative support for both the Executive Advisory and Watershed Management Committees;

f. Implement watershed water quality monitoring programs;

g. Provide the personnel and fiscal resources to complete by _____, the annual reports including evaluations of monitoring program data and BMP effectiveness;

h. Coordinate the implementation of stormwater quality management activities of regional significance (this shall mean that the Principal Permittee shall identify BMPs which are ~~applicable for implementation~~ suitable for adoption by Permittees watershed-wide and area-wide), such as public outreach and education, pollution prevention, waste minimization, and other similar actions;

i. Act as liaison between all Permittees and the Regional Board on Permit issues; and

j. Meet all the responsibilities outlined below for a Permittee.

B. Permittees

1. The ~~other~~ cities and agencies *[Note: What Agencies? If Caltrans, specify.]* are designated as Permittees.

2. Each Permittee shall, to the extent required by the Clean Water Act:

a. Participate in the development and amendment of the Baseline Stormwater Management Plan ~~(Plan)~~("Plan") by advising the Principal Permittee with respect to the Plan and by _____, ~~jointly~~ prepare the portion of the watershed specific management ~~plans (WMPS)~~ plan (WMP) applicable to its jurisdiction via their WMC;

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b. Provide an Implementation Plan describing specific stormwater programs, projects and/or activities which are to be conducted within ~~their~~ its jurisdictional ~~boundaries~~ boundary, including the storm drainage system ~~they own and operate, and which demonstrate compliance with the WMP(S) requirements~~ it owns and operates, in compliance with those portions of the WMP which are required by the Clean Water Act, by _____; and

c. Provide in a timely manner all information needed by the Principal Permittee for completing ~~the~~ annual reports which comply with the requirements of the Clean Water Act.

3. The City ~~Administrator/Public Director~~ Council of each Permittee shall appoint a ~~representative(s)~~ City representative and alternate(s) to the WMC.

~~C.~~ 4. Agency Coordination. Each Permittee shall coordinate implementation of permit requirements and pollution prevention activities among each Permittee's internal departments and agencies (i.e. public works, planning, utilities, water supply, etc...)~~.~~, to the extent required by the Clean Water Act.

~~D~~ C. Executive Advisory Committee ("EAC")

1. The EAC shall consist of ~~a~~ one representative ~~of~~ from the County of Los Angeles, one representative from the City of Los Angeles, ~~a~~ and one representative each from the Malibu Creek, Santa Clara~~,~~ and Dominguez Channel Watershed Management Areas, and two representatives each from ~~each of~~ the San Gabriel River, Los Angeles River~~,~~ and the Ballona Creek Watershed Management Areas.

   a. ~~One representative from~~ A member of the EAC shall chair the Watershed Management Committee for that Permittee's main watershed management area.

2. The City Administrator/Public Works Director for the County of Los Angeles and for the City of Los Angeles shall each appoint a representative to the EAC. Other members will be appointed by the WMCs.

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3. The EAC shall, to the extent required by the Clean Water Act, be responsible for:

   a. Making recommendations on area-wide issues to each of the Watershed Management Committees;

   b. Assisting the Principal Permittee in the development of the Baseline Storm Water Management Plan; and

   c. Reviewing the Watershed Management Plans as developed by each Watershed Management Committee and provide direction and guidance on the plans for consideration by the Watershed Management Committees;

   d. Preparing and forwarding unified submittals to the Regional Board upon receipt of information and materials submitted by the Watershed Management Committee in compliance with Permit requirements;

   e. Mediating conflict among the ~~Permittee~~ Permittees; and

   f. Coordinating the implementation of pilot projects to target pollutant sources, evaluate BMT appropriateness, and assess effectiveness.

~~E~~ D. Watershed Management Committee

1. A Watershed Management ~~Committees~~ Committee (WMC) shall consist of a representative of each ~~of the Permittees for that~~ Permittee within a particular watershed management area. ~~Regular~~ All WMC meetings shall be open to attendance by the public.

~~The WMC may hold closed sessions, at its discretion, to discuss permit related issues.~~

2. The Malibu Creek, Santa Clara, and Dominguez Channel WMCs shall each appoint one representative to serve on the EAC and to chair the WMC. The San Gabriel River, Los Angeles River, and the Ballona Creek WMCs shall each appoint two representative to serve on the EAC, one of whom will chair the WMC.

3. The WMC shall, to the extent required by the Clean Water Act, be responsible for:

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a. Establishing goals and objectives for the watershed;

b. Prioritizing pollution control efforts;

c. Participating in the development of a specific watershed management plan (WMP), based on the Baseline Stormwater Management Plan (Plan);

d. Assessing the effectiveness of, preparing revisions for and making appropriate changes to the Plan and the WMP;

e. Coordinating and facilitating the preparation of the annual reports on Permit activities within the watershed for submittal to the Regional Board -- a draft of the annual report shall be circulated to each Permittee and the Executive Advisory Committee for ~~their review and comments~~ review and comment, and the WMC shall respond to each comment, in writing, prior to submittal to the Regional Board; and

f. Facilitating the implementation of this Order among the Permittees in the watershed.

~~START SPELL CHECK~~

~~F~~ E. Watershed Management Subcommittees

1. Subcommittees ~~will~~ may be established ~~where needed~~, to the extent required by the Clean Water Act, as determined by the WMC and/or the EAC.

2. The Subcommittees will be focused on specific program areas and ~~can~~ to provide more specific ~~oversight~~ advice on the development, implementation, and evaluation of selected program areas.

~~G~~ F. Fiscal Resources

Each Permittee shall submit *[NOTE: TO WHOM?]* an annual budget for its Implementation Plan within 30 days after the budget adoption. The budget shall be summarized and put into a format which identifies the necessary capital and operation and maintenance expenditures necessary to implement the storm water management program. The budget shall provide information such as funding

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sources, staff resources, equipment, support capabilities, contract services, and cost sharing arrangements for the storm water management programs. Also included shall be a description of any funding shortfalls.

1. Area-Wide Resources - In implementing this Order and the Plan, to the extent required by the Clean Water Act, Permittees may elect to jointly fund a single program for certain BMPS, such as Public Education, that are area-wide in nature. Funding agreements, including budgets and cost per agency, shall be developed.

2. City-Specific Resources - As stated above, each Permittee shall develop an annual budget detailing the cost of implementing Permit-related activities within its jurisdiction.

~~H~~ G. Legal Authority

1. The legal authority that was required of each Permittee under Order No. 90-079, to the extent consistent with the Clean Water Act, shall continue in effect.

2. ~~The Co-Permittees shall exercise their~~ Each Co-Permittee *[NOTE: The terminology should be consistent, make it Permittee or Co-Permittee]* shall exercise its legal authority and require compliance with this Order and tile Plan within its jurisdiction, to the extent consistent with the Clean Water Act.

3. Each Permittee shall certify that it has legal authority to control discharges to and from those portions of the drainage system over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements between permittees with adequate existing legal authority and shall, ~~at a minimum,~~ in an effort to accomplish Items a-f below, within its jurisdiction:

   a. Control the contribution of pollutants to the storm drainage system by storm water discharges ~~associate~~ associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

   b. Prohibit illicit discharges and illicit connections to the storm drainage system and require removal of illicit connections;

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c. Control the intentional discharge of spills and the dumping or disposal of materials other ~~that~~ than storm water (e.g. industrial and commercial wastes, trash, debris, motor vehicle fluids, green waste, animal wastes, leaves, dirt, or other landscape debris etc.) to the storm drainage system;

d. Control, through interagency or inter-jurisdictional agreements among permittees, the contribution of pollutants from one portion *[NOTE: needs definition. What is meant by "one portion?"]* of the storm drainage system to another;

e. Require compliance with conditions in ordinances, permits, contracts or orders; and

f. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the storm drainage system.

4. Each ~~Permittee's~~ Permittee shall direct its legal counsel ~~shall complete a~~ to review of its existing legal authority to ensure that its existing legal authority complies with the requirements in this Order.

5. Upon its completion of the legal authority review, or within 60 days of permit adoption, (whichever is sooner) each Permittee shall demonstrate that it has adequate legal authority or provide a schedule for obtaining the adequate legal authority. Note: Guidance for demonstrating adequate legal authority is included within the EPA document entitled Guidance Manual For The Preparation Of Part 2 Of The NPDES Permit Applications For Discharges from Municipal Separate Storm Sewer Systems, (EPA 833-B-92-002, November 1992), Section 3-3, page 3-4.

H. Administrative Review

The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the RWQCB under this Permit. In addition, it provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement actions. The RWQCB recognizes that the goal of reducing the level of pollutants in stormwater/urban runoff is best accomplished by cooperation and communication between the RWQCB, the permittee, the co-permittees and the

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public. The Board further appreciates that cooperation and communication is reduced by enforcement actions and legal suits, which force parties to become defensive and react slowly while wasting scarce local government resources. Los Angeles County is undergoing a severe recession which limits the resources of local governments; to achieve the goal of clean water it is essential to reduce wasteful litigation actions to the greatest extent possible and allow resources to be spent to achieve the goals of this permit. The RWQCB recognizes the following facts: (1) that stormwater programs will vary from jurisdiction to jurisdiction; and (2) that such variation may make it difficult for a permittee to determine whether or not it is in complete conformance with the terms and conditions of this permit; and (3) that the goal of this permit is clean water not lawsuits. Accordingly, for the purposes of this permit, a permittee or co-permittee shall not be in violation of any term or condition of this permit until the following administrative process has been completed:

1. If the Executive Officer ~~finds~~ has reason to believe that a Permittee's stormwater program ~~is~~ may be insufficient to meet the provision of the Permit, the Executive Officer shall send a "Notice of Intent to Meet and Confer (NIMC)" to the Permittee. The NIMC shall include a date by which the Permittee must meet with RWQCB staff. (Failure of the RWQCB to issue a NIMC to any jurisdiction shall constitute evidence that the RWQCB has determined that the jurisdiction in question is in compliance with the terms and conditions of this permit.)

2. Upon receipt of a NIMC, the Permittee shall meet and confer with RWQCB staff to clarify whether the Permittee is in compliance with the permit, and if not, the steps to be taken to ~~completely~~ meet the provisions of this permit. The effect and confer sessions shall be for the purpose of developing additions and enhancements to the jurisdiction's stormwater program, if needed to comply with the legal requirements of the Clean Water Act. The meet and confer period shall conclude with the submittal to and acceptance by the Executive Officer of a written "Stormwater Program Compliance Amendment (SPCA)" which shall include implementation deadlines. The Executive Officer may terminate the meet and confer period after a reasonable period due to a lack of progress on issues and may order submittal of the ~~SPEP~~ SPCA by a specified date. Failure to submit an acceptable SPCA by the specified date shall constitute a violation of the Permit.

3. The Executive Officer will approve or reject the submitted SPCA within a reasonable amount of time. Rejection of a submitted ~~SPEP~~ SPCA by

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the Executive Officer shall state the reasons for the failure to approve the SPCA. A Permittee that receives a rejection of an SPCA shall have thirty (30) days to remedy the specified deficiency in the SPCA and receive administrative approval from the Executive Officer of the amended SPCA. Approval of the SPCA by the RWQCB shall be evidence that the RWQCB has determined that the jurisdiction in question is in full compliance with the permit and that there has been no violation of the permit. Rejection of a submitted SPCA by the RWQCB shall state in writing the reasons for the failure to approve the SPCA. A jurisdiction that receives a rejection of a SPCA shall have fifteen (15) days to cure the specified defects in the SPCA and receive administrative approval from the RWQCB of the amended SPCA. Failure to have a SPCA approved by the RWQCB within thirty (30) days from the conclusion of the meet and confer period shall be a violation of the permit.

4. The Permittee shall comply with the terms of the SPCA. The Permittee shall submit reports to the Executive Officer of progress made under the SPCA. The frequency of progress report submittal shall be as prescribed by the Executive Officer. Failure ~~1,0~~ to comply with the terms and conditions of the SPCA shall constitute a violation of the Permit and shall be cause for immediate Administrative Civil Liability as prescribed by the Executive Officer.

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II. ILLICIT DISCHARGES\DISPOSAL

A. Illicit Connections

By _____, the EAC shall develop a consistent program including investigative standard procedures to eliminate illicit connections to the storm drain system.

By _____, each Permittee shall implement a program to identify and eliminate illicit connections to the maximum extent practicable and to the extent required by the Clean Water Act.

1. The program shall, ~~at a minimum~~ to the extent required by the Clean Water Act:

   a. standardize, per EAC guidelines, storm drain inspection procedures, and illicit connection ~~and~~ identification and elimination procedures;

   b. prioritize major problem areas, to include but not be limited to older business areas, and areas with heavy industry such as those listed under subchapter N of 40 CFR Parts 405 - 471

   c. utilize results of field screening activities, and other appropriate information.

   d. contain an industrial/commercial education/outreach component to inform businesses about the problem of illicit discharges/dumping and proper discharge/disposal practices,

   e. schedule inspections of storm drains ~~for inspection~~ for illicit connections within its jurisdiction.

   f. maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

   g. establish enforcement procedures to terminate illicit connections.

B. Illegal Discharges\Disposal

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1. By _____, the EAC shall develop a consistent program including investigative standard procedure, to eliminate illegal discharges/disposal practices to the storm drain system.

2. By _____, the EAC shall develop a standard enforcement procedures, including administrative and judicial, to eliminate illegal discharges/disposal practices.

3. By _____, the EAC shall develop standard procedures for spill response, including a procedure to ensure hat, in a spill response, sewage treated with disinfection agents will not be discharged into the storm drainage system, to the maximum extent practicable. The standard procedures will address investigation, containment, and cleanup activities as appropriate.

4. By _____, each Permittee shall implement a program to identify and eliminate illegal discharges/disposal practices to the ~~maximum extent practicable~~ extent required by the Clean Water Act.

   The program shall, ~~at a minimum~~ to the extent required by the Clean Water Act:

   a. Identify and prioritize problem areas of illegal disposal where inspection, clean up, and enforcement are necessary to prevent the discharge of contaminants;

   b. Maintain a surveillance program to detect illegal discharges and disposal into the street system, including, but not be limited to, street use inspections and inspections of vacant facilities;

   c. Establish procedures to educate inspectors, maintenance workers, and other field staff in their jurisdiction to notice illicit dischargers/disposal practices during the course of their daily activities, and report such occurrences;

   d. Maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

   e. Establish per EAC guidelines spill response procedures; and

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f. Establish, per EAC guidelines enforcement procedures to eliminate illegal discharges/disposal practices.

C. Non-Storm Water Discharges

1. Exempted Discharges

(Currently under discussion with the negotiation team.)

2. Conditionally Exempted Discharges

(Currently under discussion with the negotiation team.)

D. Other Prohibited Activities

1. The Permittees shall prohibit any person from:

a. causing or allowing illicit discharges to be made into the storm drain system;

b. establishing, using or maintaining an illicit connection to the storm drain system;

c. littering.

d. disposing of leaves, dirt or other landscape debris into a storm drain; and

e. using any pesticide, fungicide, or herbicide which has either been voluntarily discontinued or prohibited by the USEPA.

f. washing down toxic materials from paved or unpaved areas.

g. washing down impervious surfaces in industrial and/or commercial areas ~~is prohibited~~ unless ~~significantly~~ required ~~to~~ under the Health and Safety ~~Codes~~ Code or other laws.

2. Storage of Materials, Machinery and Equipment

The Permittees shall require:

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a. that objects, such as motor vehicle parts, containing grease, oil, or other hazardous substances, and unsealed receptacles containing hazardous materials, be stored away *[NOTE: WHAT DOES "AWAY" MEAN]* from areas susceptible to runoff;

b. that machinery or equipment which is to be repaired or maintained in areas susceptible to runoff~~;~~ be placed on a pad of absorbent material, or an equivalent, to contain leaks, spills or small discharges;

c. that owners of commercial/industrial motor vehicle parking lots and structures located in areas susceptible to runoff to be swept to remove debris. *[NOTE: This says that permittees shall require "that owners ... be swept." Illustrates sloppy drafting. Change to:*

> that commercial/industrial motor vehicle parking lots *[NOTE: minimum size?]* and structures located in areas susceptible to runoff be swept to remove debris.

Lots with more than ten (10) parking spaces and all public parking facilities ~~:~~ shall ~~also~~ be vacuum swept, or by equivalent method, to remove chemical ~~residue~~ residues;

d. that all fuel and chemical residue, animal waste, garbage, batteries, or other ~~types of~~ potentially harmful materials which are located in areas susceptible to runoff, be removed immediately *[NOTE: why "immediate" here and not elsewhere? Suggest that "immediate" be deleted.]* and disposed of properly.

e. that hazardous waste be disposed of through the Permittee's hazardous waste program or at any other appropriate disposal site, and not be placed in a trash container for regular trash disposal. *[NOTE: THIS SHOULD BE DELETED AS IT IS REDUNDANT WITH NUMEROUS OTHER LAWS.]*

E. Public Reporting

1. By _____, the EAC shall develop a standard program, for Permittees to implement by _____, to promote, publicize, and facilitate public reporting

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of illicit discharges and illegal disposal practices that may adversely impact water quality.

2. By _____, EAC shall develop a standard program for the reporting of incidents of a hazardous substance entering the storm drain, where the responsible party is not known, to the Regional Board and State of California Office of Emergency Services (OES) at (800) ___-___ and the Federal Hazardous Response Number at (800) ___-___. *[NOTE: IS THIS INTENDED TO REFER TO THE NATIONAL RESPONSE CENTER? IF SO, THE CORRECT TERM, "National Response Center" SHOULD BE USED.]* The Permittees shall implement this program by _____. *[NOTE: THE CONCEPT OF "REPORTABLE QUANTITY" IS MISSING HERE, BUT IS REQUIRED BY NEARLY ALL OTHER LAWS IMPOSING REPORTING REQUIREMENTS. IT IS SUGGESTED THAT THE OTHER LAWS BE INCORPORATED BY REFERENCE.] [NOTE: what is the purpose of this requirement? Why report incidents where the "responsible party" is not known, but not incidents where the "responsible party" is known?]*

F. Reporting

1. A quarterly summary of illicit connections eliminated shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the investigation; what was being discharged; estimated length of time the practice was on-going; ~~what~~ remedial action ~~was~~ taken; and what happened to the discharger.

2. A quarterly summary of illegal discharge/disposal practices reported through the standardized public reporting system shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the incident; what was spilled/dumped; quantity; ~~what~~ remedial action was taken; and what happened to the discharger/dumper.

G. Coordination With State Permits

1. The Principal Permittee will be provided an updated list of NPDES Permits on a quarterly basis, through the Regional Board's electronic bulletin board, to verify permitted sources of the existing non-storm water discharges in the storm water drainage system.

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2. The Permittees ~~will work~~ may cooperate with other regulatory agencies ~~and~~ may report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies. These agencies, include but are not limited to:

a. California Department of Fish and Game
b. California Department of Toxic Substances Control
c. California Coastal Commission
d. United States Environmental Protection Agency
e. California Department of Transportation
f. California Air Resources Board

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III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES

A. Identification of Sources

1. By _____, ~~the Permittees~~ and to the extent required by the Clean Water Act, each Permittee shall develop a database listing industrial/commercial facilities by four digit SIC codes within the Permittee's jurisdiction, which shall be updated annually. The database shall include at a minimum:

   a. Facility owner's name, address, and telephone number;

   b. Site address, telephone number, and contact person;

   c. Closest receiving water and watershed;

   d. Applicable SIC code(s);

      i. For each four digit SIC sector, the Permittees shall identify primary activities that might impact runoff discharges;

      ii. For each four digit SIC sector, the Permittees shall identify primary materials at might impact runoff discharges; and

2. By _____, the EAC shall develop a pollutant source identification program for the control of storm water pollutant discharges from industrial/ commercial facilities. The objective of the source identification program is to gather data on specific and/or interrelated set of pollutant generating activities occurring on very small areas (< 5 acres) of industrial/commercial activity and to provide information for developing and implementing BMPs for specific activities.

B. Prioritization of Sources

1. By _____, ~~the Permittees~~ and to the extent required by the Clean Water Act, each Permittee shall prioritize industrial and commercial facilities, if any, within ~~their~~ its jurisdiction ~~on~~ by their relative potential for ~~the~~ contamination of storm water and urban runoff. The prioritized list shall include

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a. Categorical List

i. All industries regulated under Phase I of the Federal storm water program (4 CFR 122.26).

ii. All industrial/commercial SIC codes selected by the USEPA for screening under Phase II of the Federal storm water program.

iii. Other business sectors considered by the EAC or the Regional Board conduct industrial/commercial activity with a high potential for storm water contamination (e.g, restaurants).

The categorical list shall be grouped by ~~Permittees and~~ the Permittee. The list shall provide an ~~organized~~ overview of the ~~target~~ facilities based on land use, operation, and activities, ~~could potentially~~ and whether the facilities are likely to contribute significant amounts of pollutants into storm water runoff.

2. By _____, and to the extent required by the Clean Water Act, Permittees shall rank the industrial and commercial facilities, identified as potential pollutant sources of storm water and urban runoff pollutants in ~~III. B.1.a~~ III.B.1.a, in order of priority for oversight of implementation of storm water management measures. *[NOTE: what is meant by the term: "oversight of implementation of storm water management measures?"]*

C. Source Control Measures

1. By, _____, and to the extent required by the Clean Water Act, Permittees shall develop a checklist of specific storm water and urban runoff control measures for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutant; into storm water runoff. The control measures must

a. address multiple pollutant sources

b. initially focus on source control measures such as source minimization, education, good housekeeping, and site design alternatives.

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c. target industrial/source areas and activities with the potential to generate pollutant loadings

2. By _____, and to the extent required by the Clean Water Act, Permittees shall develop a process to ensure implementation of storm water and urban runoff control measures for industrial/commercial facilities identified in III.C.1.

3. By _____, and to the extent required by the Clean Water Act, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutants into storm water runoff. The structural control measures must be evaluated as to

a. effectiveness in reducing toxic pollutants and pollutants of concern

b. ease of maintenance

c. current frequency of use

d. feasibility and cost-effectiveness

e. possible methods to ensure implementation if necessary

By _____, the Permittees shall, in addition, describe any studies and pilot projects they intend to conduct to assess the feasibility and effectiveness of specific control measures.

4. By _____, and to the extent required by the Clean Water Act, Permittees shall require the following:

a. The proper disposal of food wastes by restaurants and food wholesalers.

b. Persons owning or operating a gas station, auto repair garage, or similar structure must clean those facilities in a manner that does not result in discharge of pollutants to the storm drain system; and

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c. Machinery and equipment, including motor vehicles, which are visibly leaking oil, fluid or antifreeze must be repaired.

5. The EAC may seek coverage under this Order, for industrial facilities listed in III.B.I.a.1 which are owned and operated by Permittees if it,

a. establishes a procedure for notifying the Regional Board of industrial sites owned and operated by Permittees

b. prepares a checklist of industrial BMPs using BAT/BCT criteria for implementation by Permittees at these industrial sites

c. standardizes procedures to ensure implementation of industrial BMPs by Permittees,

d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee industrial facilities

e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each site, and certify compliance with this Order.

~~START SPELL CHECK~~

D. Source Inspection

1. By _____, and to the extent required by the Clean Water Act, Permittees shall submit a schedule for inspection of industrial/commercial facilities in III.B.I.a. for adequacy of storm water pollution prevention measures. The schedule shall include, for a five year period,

a. for municipalities with a population of less than 250,000, all facilities identified in III,B.I.a.1, and all facilities identified in III.B.I.a.2 and III. B.I.a.3,

b. for municipalities with a population of greater than 250,000, all facilities identified in III.E.I.a.1, and, a subset of facilities identified in III.B. I.a.2 and III.B. I.a.3 but not less than ten times the number identified in III.B.I.a.1

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Industrial/commercial facilities in III.B.I.a.2 and III.B.I.a.3 that are not included in the inspection schedule shall be surveyed by phone, mail-out, or a similar method, as to their conformance with good stormwater quality management measures.

2. By _____, and to the extent required by the Clean Water Act, Permittees shall develop and implement a industrial/commercial facilities inspection program. The inspection program shall include, but is not limited to:

   a. procedures for facility inspections

   b. procedures for industrial/commercial sectors outreach on pollution prevention, waste minimization, and storm water quality management

   c. procedures to ensure corrective action is undertaken by non complying facilities

   d. procedures to follow-up on violations of municipal standards

   e. procedures for enforcement action against non-complying facilities;

   f. an electronic recording system to document the status of facility inspections; and,

   g. appropriate training for program staff.

3. During inspection of group III.B.1.a.1, inspectors shall request to see a copy of the SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may ~~deem it necessary to~~ report problematic facilities to the Regional Board.

E. Reporting

Each year, ~~the Permittees~~ and to the extent required by the Clean Water Act, each Permittee shall evaluate the results and progress of ~~their~~ its storm water quality management program for industrial/commercial sources, if any. The annual report submitted to the Regional Board ~~shall recommend a strategy~~ may include recommended strategies for the management of storm water from

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industrial/commercial sources for the following year based upon any or all of the following:

a. priority industrial/commercial sources listing
b. priority on-site inspection
c. phone/mail-out survey inspections
d. priority checklists of stormwater urban runoff control measures
e. evaluations of structural arid treatment control measures
f. special studies and pilot projects needs
g. specific site and activity monitoring needs

The EAC shall make available to the Regional Board the industrial/commercial database developed in III.B.I.a.1 in the appropriate format when so requested.

F. Coordination

The Permittees, to the extent required by the Clean Water Act, shall develop a process for the exchange of information between the Permittees and the Regional Board. Appropriate formats for such reports shall be developed as required.

G. Conflicts with Other Mandates

1. The Permittees ~~will~~ may work with ~~other~~ other regulatory agencies and report to the Regional Board on recommendations to resolve ~~any~~ conflicts ~~which are identified~~, if any, between the provisions of this permit and the requirements of other regulatory agencies.

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IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT

A. Regional Policy

1. By _____, the EAC shall develop and adopt a regional policy to promote watershed protection considerations during planning, project review, and permitting of new development and redevelopment, to:

   a. preserve to the extent feasible, and where possible, create or restore areas that provide water quality benefits, such as riparian corridors and wetlands, and promote the design of new development so that it protects the natural integrity of drainage systems and water bodies.

   b. avoid conversions of areas particularly susceptible to erosion or sediment loss and/or establish development guidance that identifies these areas and protects them from erosion and sediment loss. Such areas include steep slopes, highly erodible soils, periods of intense rainfall, and inability to revegetate once disturbed.

   c. require the integration ~~em~~ of storm water quality protection into construction and post-construction activities at all development sites, including the minimization of toxic material use and their careful containment on site.

   d. maintain peak runoff rates at pre-development levels, wherever practicable.

2. By _____, the EAC shall establish minimum requirements consistent with the regional policy for new development and redevelopment, for

   a. site planning practices

   b. construction best management practices

   c. post-construction best management practices

   d. reporting erosion and storm water control strategies

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e. redevelopment and infill

B. Planning Process

In order to integrate storm water management considerations into new development projects at the time that ~~th(y~~ they are first proposed to jurisdictions, and to support other provisions of this permit:

1. By _____, the EAC shall develop guidance for permittees to use in preparing/reviewing EIRS, and in linking EIR mitigation conditions to local permits approvals.

2. By _____, ~~permittees~~ and to the extent required by the Clean Water Act, Permittees shall adopt and use the guidance in their internal procedures.

3. By _____, the EAC shall develop a model CEQA checklist form that explicitly addresses watershed, water quality, and nonpoint source pollution impacts.

4. By _____, the permittees ~~shall~~ may use the model CEQA checklist for the review of projects within the matters addressed by this Permit. *[NOTE: Cities, not the RWQCB or other author of the "model CEQA Checklist" are responsible for CEQA compliance, and the adequacy of their checklists.]*

5. Whenever a permittee ~~rewrites either of the following mandated general plan elements the~~ amends its general plan's conservation element or ~~the~~ open space element, watershed and stormwater management/urban runoff considerations shall be incorporated, to the extent required by the Clean Water Act.

6. By _____, to the extent required by the Clean Water Act, permittees shall implement a program to encourage developers to maximize pervious areas and storm water infiltration (in areas where the geology and topography allow), minimize directly connected imperious areas, and include justifiable treatment control measures.

7. Permittees, to the extent required by the Clean Water Act, shall require that prior to the submittal of an application for the first planning or

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building approval for a new development project, an applicant shall submit an Urban Runoff Mitigation Plan.

a. The Urban Runoff Mitigation Plan, to the extent required by the Clean Water Act, shall:

i. Be designed to reduce the runoff volume from the site and the pollutant load contributed by the site through incorporation of design elements and practices that address each of the goals set forth below in subsection (c). (Applicants should refer to the most recent edition of the Construction Best Management Practices Handbook, produced and published by the Storm Water Quality Task Force, for specific guidance on selecting best management practices for reducing pollutants in stormwater discharges from urbanized arias.)

ii. Discuss compliance with the development requirements set forth by Permittee's legal authority; and

iii. Address the following goals in connection with both construction and long term operation of the site:

(a) Maximize, to the extent practicable, the percentage of permeable surfaces in order to allow more percolation of runoff into the ground.

(b) Minimize, to the extent practicable, the amount of runoff directed to impermeable areas to the City's stormwater system.

(c) Maximize, to the extent practicable, stormwater filtration and storage for reuse through the use of sediment traps, cisterns or other means.

(d) Minimize, to the extent practicable, parking lot pollution through the use of porous materials to allow percolation of runoff, through the installation of appropriate treatment controls, or through other means.

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iv. Compliance with an approval Urban Runoff Mitigation Plan shall be a condition of any required planning approval.

v. Failure to comply with an approved Urban Runoff Mitigation Plan after receiving any required planning approval shall be a misdemeanor.

C. Identification of Sources

1. By _____, the EAC shall establish a screening criteria for construction sites to be listed in a database.

2. By _____, to the extent required by the Clean Water Act, the Permittees shall develop a database listing sites of construction activity within each Permittees' jurisdiction which shall be updated quarterly. The database shall include at a minimum:

a. Facility owner's name, address, and telephone number;

b. Site address, telephone number, and contact person;

c. Closest receiving water;

d. Type of construction activity

e. Duration of project with start and end dates

f. Total size of project in acres or square feet.

D. Prioritization of Sources

1. By _____, to the extent required by the Clean Water Act, the Permittees shall prioritize sites of construction activity within their jurisdiction on their relative potential for the contamination of storm water and urban runoff. The categorical list shall include:

a. All construction activity sites regulated under Phase I of the Federal storm water program (40 CFR 122.26).

b. All construction activity with sites greater than the size criteria established by the EAC rut less than five acres in size.

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c. Other construction activity sites considered by the EAC or the Regional Board to have high potential for the contamination of storm water and urban off.

2. By _____, to the extent required by the Clean Water Act, Permittees shall rank the construction activity sites, identified as potential pollutant sources of storm water and urban runoff pollutants in IV.B.1.a, in order of priority for oversight of implementation of storm water management measures.

E. Control Measures

1. By _____, to the extent required by the Clean Water Act, Permittees shall develop a checklist of specific storm water and urban runoff control measures for construction activity sites in IV. B.I.a. The control measures must

a. address multiple pollutant sources

b. initially focus on source control measures such as source minimization, education, good housekeeping, good waste management and good planning.

c. target construction activity source areas and activities with the potential to generate substantial pollutant loadings

2. By_____, to the extent, if any, then required by the Clean Water Act, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for construction sites in IV.B.I.a. The structural control measures must be evaluated as to:

a. effectiveness in reducing sediment, toxic pollutants and pollutants of concern;

b. ease of maintenance;

c. current frequency of use;

d. feasibility and cost-effectiveness; and

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e. possible methods to ensure implementation.

By _____, Permittees shall describe any studies and pilot projects that may be conducted to assess e feasibility and effectiveness of specific control measures.

3. By _____, to the extent required by the Clean Water Act, Permittees shall have in place a process to ensure implementation and proper maintenance of storm water and urban runoff control measures for sites associated with construction activity in IV.B.I.a., including

a. use of qualified personnel to design, install, and maintain BMPS.

b. proper maintenance of BMPs incorporated into private developments (e.g., through deed restrictions, covenants, conditions and restrictions (CCR).

c. proper installation and maintenance of post-construction BMPS.

d. prohibition on grading daring the wet season (Oct 15 -Apr 15) except for emergency action unless adequate erosion and sediment control measures are in place and maintained.

4. Permittees, to the extent required by the Clean Water Act, shall require the following for demolition/construction activity:

a. Sediment, construction waste and other pollutants from construction sites and parking areas shall be retained on the site to the maximum extent practicable.

b. Any sediments or other materials which are not retained on the site shall be removed within 24 hours or where determined necessary by the Director of Department of Public Works, or a designated representative, a temporary sediment barrier shall be installed.

c. Excavated soil shall be located on the site in a manner that eliminates the amount of sediments running into the street or adjoining properties. Soil piles shall be covered until the soil is either used or removed.

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d. Drainage controls shall be utilized as needed, depending on the extent of proposed grading and topography of the site, including but not limited to the following:

i. Detention ponds, sediment ponds, or infiltration pits.

ii. Dikes, filter beams or ditches.

iii. Downdrains, chutes or flumes.

iv. Silt fences.

e. No washing of construction or other industrial vehicles shall be allowed adjacent to a construction site. No water from washing vehicles on a site is allowed to run off into the City's storm drain system.

f. Roof drainage shall be oriented towards permeable areas on site to maximum extent practicable.

g. Lot drainage shall be oriented towards permeable areas to the maximum extent practicable.

h. All parking lots shall be designed to contain one inch of precipitation in a 24 hour period.

i. Runoff from parking lots shall be directed to permeable areas to the Maximum Extent Practicable.

5. Permittees, to the extent required by the Clean Water Act, shall require the following for construction activity:

a. All construction sites in hillside areas or in areas adjacent to natural water-ways (soft bottom creeks), lakes or the ocean must develop and implement sedimentation and erosion control plans that incorporate the following elements: timing of construction, BMPs to reduce erosion of cleared hillsides (revegetation, jute netting, etc.), BMPs to reduce the velocity of runoff and sediment from the construction site, and BMPs to detain the flow of sediments from the site;

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b. As a condition of granting a construction permit, set forth reasonable limits on the clearing of vegetation from construction sites, including, but not limited to, regulating the length of time during which soil may be bare, and, in certain sensitive cases, prohibiting bare soil.

6. The EAC may seek coverage under this Order, for construction activity sites listed in III.B.I.(a) 1 which are owned and operated by Permittees if it:

a. establishes a procedure for notifying the Regional Board of construction activity on sites owned or operated by Permittees;

b. prepares a checklist of construction BMPs using BAT/BCT criteria for implementation by Permittees at these construction sites;

c. standardizes procedures to ensure implementation of construction BMPs by Permittees;

d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee construction sites; and

e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each construction site, and certify compliance with this Order.

F. Source Inspection

1. By _____, to the extent required by the Clean Water Act, Permittees shall submit a schedule for inspection of construction activity sites in IV.B.1.a. for adequacy of storm water pollution prevention measures and erosion control measures. The schedule shall include, for a five year period,
   a. all construction activity identified in IV.B.I.a.1, and all construction activity identified in III.B.I.a.2 and III. B.I.a.3,

2. By _____, to the extent required by the Clean Water Act, Permittees shall develop and implement a construction activity inspection program. The inspection program shall include, but is not limited to:

   a. procedures for construction site inspections

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b. procedures for construction and building industry outreach on pollution prevention, waste minimization, and storm water quality management

c. procedures to ensure corrective action is undertaken by non complying sites

d. procedures to follow-up on violations of municipal codes

e. procedures for enforcement action against non-complying construction activity;

f. an electronic recording system to document the status of construction activity inspections; and,

g. appropriate training for program staff.

3. During inspection of group IV.B.I.a.1 sites, inspectors shall request to see a copy of the SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may deem it necessary to report problematic construction sites to the Regional Board.

G. Reporting

1. Each year, to the extent required by the Clean Water Act, the Permittees shall evaluate the results and progress of their storm water quality management program for construction activity sites. The annual report submitted to the Regional Board shall recommend a strategy for the management of storm water from construction activity sites for the following year based on

a. priority construction site sources listing

b. priority site inspections

c. priority checklists of stormwater urban runoff control measures

d. evaluations of structural and treatment control measures

e. special studies and pilot projects needs

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f. specific site and activity monitoring needs

2. The EAC shall make available to the Regional Board the construction activity database developed in IV.B.1.a.1 in the appropriate format when so requested.

H. Conflicts with Other Mandates

1. The Permittees ~~shall work~~ may cooperate with ~~other~~ regulatory agencies ~~and report~~ may make recommendations to the Regional Board ~~on recommendations~~ to resolve ~~any~~ conflicts ~~which are identified~~ between the provisions of this permit and the requirements of other regulatory agencies.

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September 14, 1995

V. PUBLIC AGENCY REQUIREMENTS

A. Examination of Existing Activities

By _____, to the extent required by the Clean Water Act, the Permittees shall develop and begin implementation of a program to examine their existing activities and measures described below to reduce the impact on stormwater quality from their operations.

B. Sewage Systems

1. All reasonable efforts shall be undertaken to keep sewage spills or leaks from entering the storm drain system. The EAC shall develop procedures for spill response by _____.

2. Control procedures for identifying, repairing, and remediating sewer blockages, exfiltration, overflow, and wet weather overflows from the sewers to the storm drain system shall be implemented to protect stormwater quality by _____. These procedures shall include, but are not limited to, quick field response to overflows, follow-up testing, and complaint investigation.

3. By _____, ~~the Permittees~~ to the extent required by the Clean Water Act, each Permittee shall insure that its field personnel who operate and/or maintain sewer systems have procedural training for field screening, sampling, smoke/dye testing, and TV inspection, if appropriate, to be able to ~~properly~~ investigate properly any suspect connections or cross connections to the storm drain system.

C. Vehicle Maintenance/Material Storage Facilities.

1. By _____, EAC will develop pollution prevention plans for each public vehicle maintenance/material storage facility category. Public vehicle maintenance/material storage facilities include any Permittee-owned and/or operated facility in which any of the following occur: vehicle or equipment maintenance; repair; washing; fueling; and/or any facility at which there is storage of toxic chemicals or hazardous materials.

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2. Best Management Practices (BMPS)

a. By _____, to the extent required by the Clean Water Act, Permittees will have site specific pollutant control measures implemented at all vehicle ~~maintenance/material~~ maintenance/ material storage facilities per EAC guidelines, together with an on-site pollution prevention plan.

b. Any BMPs to be implemented must be part of a comprehensive plan designed to address the various pollutant sources at each public vehicle maintenance/material storage facility. To achieve this goal, the Permittees shall first identify the potential pollution sources and who is responsible for implementing the stormwater management measures.

c. Based on ~~the~~ facility type, management practices and schedule of implementation shall be developed by the EAC. BMPs that ~~can~~ could be used to improve the quality of runoff include, but are not limited to:

i. Housekeeping practices;

ii. Material storage control;

iii. Vehicle leak and spill control; and

iv. Illegal dumping control.

d. Loading/Unloading of Materials

i. Employees or contractors of the Permittees who handle potentially harmful materials shall be trained in good housekeeping practices to prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

ii. Applicable BMPs shall be selected based on the following three factors:

(a) Eliminating exposure of material to rainfall;

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(b) Checking equipment regularly for leaks; and

(c) Containing spills.

e. Material Storage Control

A program shall be developed to prevent or reduce the discharge of pollutants to stormwater from outdoor container storage areas using measures such as:

i. Installing safeguards against accidental releases;

ii. Secondary containment;

iii. Conducting regular inspections; and

iv. Training employees in standard operating procedures and spill cleanup techniques.

f. Vehicle and Equipment Washing and Maintenance

i. Washing of vehicles or equipment on-site shall be performed in a designated area equipped with an oil/water separator.

ii. The sumps and separators shall be maintained/cleaned on a regularly scheduled basis appropriate to the facility.

iii. BMPs to be implemented as appropriate for vehicle and equipment maintenance shall include but not be limited to:

(a) Waste reduction;

(b) Use of alternate product

(c) Pollution prevention;

(d) Recycling; and

(e) Spill prevention and clean up.

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3. Waste Handling and Disposal

Wastes shall be managed to prevent stormwater pollution.

D. Parks and Recreation

1. Fertilizers/Pesticides

a. Permittees, to the extent required by the Clean Water Act, shall develop procedures on the proper application of pesticides, herbicides, and fertilizers by Procedures shall include:

i. List of approved pesticides and selected use;

ii. Product and application information;

iii. Equipment use an(i maintenance procedures; and

iv. Record keeping.

b. Landscape waste shall not be discharged into the storm drain system.

c. Storage areas for fertilizers and pesticides shall be designed and maintained to reduce exposure to stormwater. The following BMPs shall be utilized where appropriate:

i. Store materials inside or under cover on paved surfaces;

ii. Use secondary containment;

iii. Minimize storage and handling of hazardous materials;

iv. Inspect storage areas regularly.

2. Facility Management

a. Wash waters ~~cannot~~ shall not be discharged into the storm drain system without appropriate treatment.

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b. Landscape maintenance involving the use of pesticides and fertilizers shall ensure the proper use of these materials to minimize loss to storm water.

c. Retention and planting of native vegetation to reduce water, fertilizer, and pesticide needs shall be encouraged.

d. Use of Integrated Pest Management (IPM) shall be encouraged.

e. A schedule for irrigation and fertilization shall be developed by _____, to minimize

i. Chemical application during wet season and no chemical application during storms; and,

ii. Over watering that may lead to runoff that contains nutrients and pesticides.

f. The drainage of commercial/municipal swimming pool water shall ~~only~~ be discharged only under separate Waste Discharge Requirements.

g. Each Permittee shall develop BMPs to minimize trash, debris, and other pollutants from entering Permittee owned recreational water bodies by _____. These measures shall include:

i. Routine trash collection along, on, and/or in, water bodies, where feasible; and

ii. Public outreach to educate the public about impacts of illegal dumping.

E. Storm Drain System Operation and Management

1. Inlet Maintenance

BMPs to be implemented by each Permittee, to the extent required by the Clean Water Act, for effective catch basin cleaning shall include, but not be limited to the following:

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a. Basins shall be inspected and cleaned between May 1 and October 15 of each year;

b. Between October 15 and April 15, catch basins shall be maintained as necessary.

c. Records shall be kept of the number of catch basins cleaned; and

d. Track the amount of waste collected.

2. Storm Drain Maintenance

a. Material removed from storm drains and catch basins shall be disposed of properly.

b. Trash and debris from open channel storm drains shall be removed at least annually between May 1 and October 15 of each year.

c. Open channels shall also be monitored during the rainy season for any debris buildup and cleaned where needed.

3. Waste Management

The Permittees ~~shall implement a program by _____~~, to the extent required by the Clean Water Act, shall, by _____, implement a to identify problem areas of illegal dumping so regular inspection and clean up can maintain the channel's optimum capacity and prevent the discharge of contaminants.

4. Dry Weather Storm Drain Diversion

The Permittees, to the extent required by the Clean Water Act, shall investigate the feasibility of diverting dry-weather flows from the storm drain system to POTWs where appropriate. The investigation, to the extent required by the Clean Water Act, shall be completed by _____.

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F. Streets and Roads

1. Sweeping of curbed streets:

a. Sweeping of curbed streets shall occur at least monthly.

b. Where feasible, areas generating excessive refuse shall be swept more frequently.

2. Maintenance

a. Existing saw-cut management and paving practices conducted by the Permittees shall be evaluated and appropriate control measures developed.

b. Paving control measures to be considered that would help reduce the impacts to stormwater include, but are not limited to:

i. Avoid paving during wet weather; and

ii. Store materials away from drainage courses to prevent pollution of stormwater runoff.

c. Refuse collected shall be transported to appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations.

d. Good housekeeping practices shall be implemented to insure proper management of any waste products that may be generated during maintenance activities.

e. To reduce stormwater pollution from concrete materials and wastes:

i. Washout of concrete trucks should be conducted off- or on-site in designated areas. ~~Do not wash out~~ Rinseate from concrete trucks shall not be permitted to flow into storm drains, open ditches, streets, or streams;

ii. Store materials *[NOTE: Please BE SPECIFIC, what materials?]* under cover, away from drainage areas; and

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iii. Avoid mixing excess amounts of concrete or cement on-site.

f. Employees shall be trained in the implementation of good housekeeping measures. Training shall:

i. Promote a clear understanding of the potential for maintenance activities to pollute storm water;

ii. Identify solutions (BMPs selection);

G. Flood Control

1. By _____, the Permittees, to the extent required by the Clean Water Act, shall develop and implement procedures to assess the impact(s) of new flood management projects on the quality of receiving water bodies.

2. The Permittees, to the extent required by the Clean Water Act, shall undertake pilot projects/studies to determine the applicability of altered structural flood control system elements to provide pollutant removal in stormwater.

3. ~~During construction~~ To the extent required by the Clean Water Act, appropriate BMPs shall be utilized to control pollutants during construction .

4. Current maintenance activities with regards to desilting/sediment removal, vegetation management, and waste management shall be reviewed, to the extent required by the Clean Water Act, to assure that appropriate management measures are developed to comply with the stormwater regulations.

H. Parking Facilities

By _____, to the extent required by the Clean Water Act, each Permittee shall develop a program to implement periodic hardscape and catch basin cleaning, in order to reduce concentrations of oil, grease, suspended particulates, and metals, as well as the petroleum byproducts.

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VI. PUBLIC INFORMATION AND PARTICIPATION

To reach as many Los Angeles County residents as possible, a comprehensive educational outreach approach shall be undertaken under this permit. ~~Each~~ to the extent required by the Clean Water Act. To the extent required by the Clean Water Act, each Permittee shall choose an appropriate combination of outreach tools and activities to raise public awareness of storm water issues and improve water quality.

Outreach Materials

Outreach programs shall consist of written, audio, and visual materials and, when necessary, translated into appropriate languages or structured for appropriate ages. Permittees, to the extent required by the Clean Water Act, shall incorporate interactive methods of distributing outreach materials and provide for public participation in activities developed under this section.

A. Written Material

1. The Permittees, to the extent required by the Clean Water Act, shall produce a variety of written materials to convey information regarding storm waste management within County watersheds.

2. Written materials shall include, but are not limited to: flyers, brochures, door-hangers, newspaper articles, mail-inserts, and newsletters.

B. Audio Material

1. All Permittees ~~shall singularly or collectively~~, to the extent required by the Clean Water Act, shall individually or jointly utilize radio broadcast public service announcements to convey information regarding storm water management except in areas where public access radio stations are not available.

2. Examples of audio materials include radio advertisements, public service announcements, and informational recordings.

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C. Visual Material

1. All Permittees, to the extent required by the Clean Water Act, shall implement a catch basin labelling program as well as other strategies such as banners, displays and posters to educate the public on the ultimate destination of storm drain system flows.

2. Each Watershed Management Committee shall produce at least one informational video. The video shall be shown on televised public service stations and cable access programs except in areas where cable access programs are not available. Further methods of distribution may include workshops, libraries, etc.

D. Distribution of Materials

Outreach materials shall be made available to the public at appropriate public counters and distributed at public events. Examples include fairs, festivals, public meetings, community events, school assemblies, etc.

General Education Strategy

A. The EAC shall develop and the Permittees shall implement a 5-year urban runoff education strategy. The intent of the strategy shall be to enhance public awareness of the impact of storm water pollution on receiving waters and to discourage improper waste disposal practices. Outreach efforts shall be conducted throughout the watershed. The public shall be made aware of their responsibility for both the problems and solutions to storm water pollution. A watershed-wide program shall be implemented by _____.

Development and implementation of the education strategy shall be based on the four objectives listed below:

1. Promoting clear identification and understanding of the problem, including activities with the potential to pollute storm water;

2. Identifying solutions or applicable measures (Best Management Practices) that can be taken to prevent storm water pollution;

3. Raising public awareness of the problems and solutions; and

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4. Incorporating solutions back into programs, training and BMP implementation.

B. Efforts shall be made to identify land uses and activities that have a higher potential for storm water/urban runoff pollution by focusing on specific pollutants, disposal practices, materials used, etc, To prevent storm water/urban runoff pollution, outreach materials shall be provided on the appropriate selection and implementation of BMPs accordingly A watershed-wide program shall be developed by _____.

1. Pollutant Specific: The reduction of specific pollutants of concern in a particular watershed shall be addressed in a focused public education and outreach program.

2. Activity-specific: Activity-specific outreach programs shall be developed and implemented throughout watershed. Written, audio, or visual outreach tools should address primary topics:

   a. Identification of activities potentially causing storm water pollution;

   b. Implementation of Best Management Practices to prevent storm water pollution.

   c. Recognizing and reporting occurrences of storm water polluting activities.

   The Permittees shall continue to develop activity-specific outreach programs that inform residents about the problem of illicit discharges and dumping and that promote, publicize, and facilitate public reporting of these activities. The program shall also include continuing operation, maintenance, and promotion of the county-wide reporting hotline.

C. The Permittees shall ~~list pertinent~~ submit to telephone directory publishers, City phone numbers to be listed under the City government directory located in the front section of local area phone books. This shall ~~be updated annually as necessary and shall, at a minimum,~~ include numbers for reporting on clogged catch basin inlets, reporting illegal discharges/dumping and a general informational number for storm water. These phone numbers may be city-specific or area-wide.

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D. All efforts deemed to be reasonable ~~efforts~~ by a permittee to coordinate public outreach efforts shall be undertaken. This may include coordinating with environmental groups and public agencies such as the California Coastal Commission, the Department of Beaches and Harbors, Resource Agencies, etc.

Outreach to Target Audiences

Permittees, to the extent required by the Clean Water Act, shall develop and implement an educational program that stresses pollution prevention for a variety of audiences, including local residents, school-aged children, businesses and public employees whose job functions and dally lives may impact storm water quality. The program may be developed locally or regionally and shall include ~~at a minimum~~, to the extent required by the Clean Water Act:

- Education on the proper use and disposal of pesticides, herbicides and fertilizers;
- Education on the definition of, identification of, and impacts associated with illicit discharges and procedures for reporting.
- Promotion of proper management of ad disposal practices for used oil and hazardous substances.

A. Local Residents

1. Permittees, to the extent required by the Clean Water Act, shall develop a program to educate local residents on types of household hazardous wastes along with proper management and disposal methods. The program shall at a minimum include:

   a. Information on the availability of collection services, such as location and schedule;

   b. Production of public outreach materials that educate residents on source reduction and proper disposal methods for household hazardous wastes; and

   c. Continue to encourage residents to recycle oil, antifreeze, glass, plastics, batteries, etc. and to prevent the improper disposal of such materials to the storm drainage system.

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Educational efforts throughout the watershed should also provide residents with detailed information regarding the Los Angeles County-wide Household Hazardous Waste Management Program. Other local programs shall be advertised as appropriate.

2. Permittees, to the extent required by the Clean Water Act, shall develop and encourage watershed residents to participate in specific storm water outreach programs. Residents shall be informed of and provided with the opportunity to share ideas and comments about the programs. Permittees shall demonstrate that a good faith effort has been made to outreach to different communities within the watershed. The watershed-wide outreach program shall be implemented by _____. This shall at a minimum include:

   a. Where applicable for fire and erosion prevention, mowing shall be encouraged as opposed to disking. An investigation of effectiveness shall be undertaken.

3. Cooperative Public Outreach

   In order to promote public participation, cooperative outreach programs with local residents shall be developed. These cooperative programs should foster awareness and identification of storm water pollution issues among residents in the watershed. Catch basin labelling and other established sign programs are excellent examples of this type of cooperative effort, as are events like the "Storm water Pollution Awareness Week." One possibility for cooperative outreach is an "Adopt-A" program. Residents can "adopt" highways, storm drains, catch basins, streams, etc. to monitor, restore and protect. The purpose of all cooperative outreach programs created is to inform and involve the public in storm water management.

4. Complaint Procedures

   Public comments/complaints shall be requested by the Permittees in order to help gauge the success and effectiveness of storm water programs.

B. K-12 School Children

School children can play an important role in public information and participation programs, as they are generally more easily motivated and any behavior changes

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they make tend to stay with them through adulthood. School children can also convey storm water pollution prevention messages to other family members. School programs shall include information on storm drain systems, the difference between sewers and storm drains, the importance of preventing storm water pollution, and may also address, illegal discharges/dumping and reporting procedures, source minimization, and general pollution prevention. Written materials (workbooks and coloring books), videos, assemblies, and field trips are examples of effective components of a K-12 educational program.

C. Businesses

A detailed public education and outreach program shall be developed for business operations with greater potential of discharging pollutants into the storm drain system. The program shall include employee training on and the effectiveness of implementing BMPs to reduce nonpoint source pollution. In addition to written, audio, and visual materials, other possible means of focused outreach may include: conducting workshops, mass mailing trade/industry magazines, etc.

D. Public Agencies and Employees

~~Public~~ Appropriate public agency employees shall be trained on storm water management and pollution prevention practices and involve employees on many different levels from program managers to field personnel. Training programs shall include, but are not limited to, articles in City newsletters, training classes, checklists for field personnel, and interdepartmental forums or committees. Materials developed for other audiences may also be used in these public agency employee training programs. Appropriate public agency employees shall be trained in:

1. Emergency spill cleanup procedures.

2. Environmentally sensitive alternative products.

3. Good housekeeping practices.

Permittees shall provide outreach materials to the general public through business license renewal counter,; and/or make efforts to outreach through professional and business associations. Additionally, Permittees should consider producing educational materials for professionals and technicians not employed by public agencies.

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Outreach Based on Activity-Type

A. Industrial/Commercial

A watershed-wide, general outreach program shall be set up by the WMC for all industrial and commercial facilities potentially discharging to the storm drain system. Furthermore, the WMC shall provide specific guidance objectives to these facilities regarding storm water program, compliance by _____, and inform and remind all potential commercial and industrial dischargers of their obligations under the storm water program. The Permittees shall also encourage the proper disposal of all materials from industrial and commercial sites.

Prior to the WMC providing specific guidance objectives, subcommittees shall be established, as needed, to develop specific outreach materials for industrial/commercial categories and specific "high priority" activities. This shall include at a minimum: metal ~~platers~~ platters, restaurants, vehicle related facilities, etc...

B. Construction

The Permittees, to the extent required by the Clean Water Act, shall ensure that contractors properly install all necessary post construction, permanent BMPs during initial construction and that any necessary maintenance needed during construction is performed. There shall be specific programs outlining correct practices.

In an effort to prevent concrete waste from entering the storm drain system, contractors shall observe the following guidelines:

1. Washout of concrete trucks should be conducted off-site or on-site in a designated area;

2. Excess concrete should not be dumped on site; and

3. Employees and subcontractors should be trained in proper concrete waste management.

Evaluation

The EAC shall develop a process to evaluate the effectiveness of all public outreach programs implemented under this permit. Surveys and focus groups are examples of

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methods that can be used to gauge a program's effectiveness. They can also be used to provide insight into the program's direction and to help formulate attainable goals. Results of any evaluation method used shall indicate the community's level of awareness of storm water pollution. A watershed-wide program shall be implemented by _____.

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double underlined text.

August 25, 1995 (To be negotiated)

VIII. PROGRAM EVALUATION AND REPORTING

The program may be modified subject to comments received under the Annual Review.

A procedure shall be developed and utilized for program evaluation and reporting by the Principal Permittee during the course of this permit. Under this procedure as outlined below, the EAC shall develop action-specific performance indicators and criteria, perform evaluation of compliance and effectiveness based on the performance criteria, establish schedules and mechanism for initial record keeping and reporting, and submit semi-annual and annual reports to the Regional Board using a standardized format.

The EAC, WMC, and/or each Permittee, to the extent required by the Clean Water Act, are responsible for collecting data needed for program evaluation, conducting self-evaluation, and reporting the results of evaluation to the Regional Board. The results reported to the Regional Board shall include both the collected data and analysis of the data. The reports shall include detailed explanation on how the evaluations are conducted, how and why certain provisions of the permits are met or not met, how the effectiveness of certain BMPs is determined or is not, and should a problem arise, how it shall be corrected. The Regional Board will make a compliance determination based on information submitted under this procedure.

A. Demonstration of Compliance

1. Each Permittee, to the extent required by the Clean Water Act, is responsible for demonstrating that the required BMPs as prescribed under this permit, as well as other BMPs included in the Watershed Management Plans, are implemented to the "maximum extent practicable." Each Permittee shall implement the required BMPs to the maximum extent practicable.

2. The Watershed Management Committees are responsible for demonstrating the effectiveness of other BMPs through conducting and reporting the results of pilot/demonstration projects for evaluating the effectiveness of BMPs in the watershed.

3. The degree and the effectiveness of BMP implementation shall be evaluated and reported by the Permittees, to the extent required by the Clean Water Act, using environmental and/or administrative indicators whenever possible. When environmental indicators are not readily and/or

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easily available, administrative indicators shall be used. These shall include indicators prescribed under relevant provisions of this permit, and/or other indicators deemed appropriate by the Watershed Management Committee, the Executive Advisory Committee, and/or ultimately the Regional Board. Examples of the quantitative indicators include the number of inspections conducted, number of staff increase, number of audience reached through public education, waste recycled, water conserved, hazardous waste collected, oil recycled, catchbasin waste removed, etc. Quantitative indicators of environmental conditions should also be reported if they can be linked to the effects of the BMP implementation.

4. In order to yield comparable results for year to year evaluation on the success, the progress, and/or the failure in BMP implementation, and comparable results from area to area, a uniform data collection methodology shall be established for each of the required BMPS. The uniform data collection methodology shall be developed by the Executive Advisory Committee. Subsequently, each report on BMP implementation shall provide comparison with the implementation status during the previous reporting period and the scheduled implementation timeline for the current and future reporting periods, based on data collected using the uniform collection methodology.

B. Internal Reporting and Record Keeping

1. In order to facilitate the preparation of semi-annual and annual reports, the EAC shall develop standard forms for internal reporting to be used by all Permittees within the watershed. The forms shall collect all the information essential to the preparation of the annual and semi-annual reports and to the needs of other management actions by the Watershed Management Committees, EAC, and/or the Permittees. Reported information shall be quantifiable, and specific for each program area and/or BMP. The dates for submitting the internal reports shall allow sufficient time for compilation and analysis by the Watershed Management Committees and/or the EAC for the preparation of semi-annual and annual reports to the Regional Board.

2. All records shall be retained by the Permittees for a period of 5 years or longer as required by the Regional Board or USEPA.

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C. Semi-annual and Annual Reports

1. Semi-annual Report

The requirements under VIII.A shall be met by the submittal of semi annual and annual reports. Semi-annual reports shall succinctly summarize compliance efforts and may consist of simple compliance checklists. Annual reports shall be comprehensive.

a. The EAC shall submit a semi-annual progress report to the Regional Board by _____ of each year. Semi-annual reports must be submitted to the Regional Board within 30 days after the end of the six-month period. These six month periods are Jan - June, and July - Dec. (TO BE DETERMINED).

b. The semi-annual report shall serve as a status report on the progress of the implementation of the Stormwater Management Plan and other permit provisions. The Watershed Management Committee is responsible for collecting and compiling information from each Permittee prior to preparation of the semi-annual report, information along with the information analysis into the report.

c. The semi-annual report shall consist of a summary table illustrating the levels of implementation for all requirements by each Permittee. Tables shall be developed for each program element listing the Permittees, describing the status of implementation by each Permittee of the element, and documenting any modifications of the element from the standard program.

2. Annual Report

a. The Executive Committee shall submit an annual report to the Regional Board not more than 60 days after the end of each permit year (_____). The annual report shall include both a summary of the progress and status of Stormwater Management Plan implementation, a summary on status of compliance with all permit provisions, a report on the evaluation of program effectiveness, and a summary of recommendations for permit provision revisions. The Permittees as a whole (within watershed management areas) shall describe any problems encountered during

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implementation and discuss the modifications to the program in order to solve these problems.

b. The Principal Permittee shall collect, compile, and analyze information from each Permittee within the watershed prior to preparation of the annual report. The Watershed Management Committee shall include the compiled information and its analysis (instead of raw data or copy of internal reports) in the annual reports.

c. The semi-annual report shall include a summary table illustrating the levels of implementation for all Permittees. Tables shall be developed for each program element listing all the participating Permittees and describing the status of implementation by each Permittee of the element. A table shall also be included to summarize the status of the program elements for which the Watershed Management Committee bears the primary implementation responsibility. Besides summary tables, the report should provide detailed explanation on any modifications made of the program elements (delays, changes, etc.) from the standard provisions and provide an analysis of any problems encountered during the implementation and the proposed solutions.

d. The annual report shall include an assessment of the effectiveness of each program elements using the performance evaluation indicators and criteria developed under Section A of this Chapter, and the results of the pilot/demonstration projects conducted within and/or outside the watershed. The findings should be presented graphically for ease of comparison with the established levels of effort.

e. A fiscal analysis and budget as described under I.1 (Fiscal Resources) of this Order shall be submitted annually within 30 days of the Budget adoption date for each Permittee.

D. Storm Water Management Plan Revisions

1. Revisions to provisions of this permit ~~can~~ may be made through the order of the Regional Board. The EAC ~~can~~ may recommend and request revisions to the Stormwater Management Plan through documentation in the annual reports.

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2. Recommended revisions shall be supported by the results of a program evaluation. Recommended revisions to the Stormwater Management Plans may be made if it can be demonstrated that 1) the changes will lead to improvement of the effectiveness of this program, 2) the changes will result in positive impacts of environmental conditions, and 3) that the current measures have been implemented to the "Maximum extent practicable" as defined in Section VIII.A. Any recommended revisions shall not take effect unless approved by the Executive Officer.

3. Revisions may be made to the Storm Water Management Plans by the Executive Officer or the Regional Board based upon public input and/or testimony.

The Discharger shall comply with the attached Monitoring and Reporting Program, which is part of this Order, and any revisions or modifications thereto, as ordered by the Executive Officer.

This Order may be modified, revoked, or reissued, prior to the expiration date as follows:

a. To address changed conditions identified in the required technical reports or other sources deemed significant by the Regional Board;

b. To incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

c. To comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain Icy other requirements of the CWA then applicable; or

d. Any other Federal or State Laws or Regulations become effective which necessitate changes.

The issuance of this permit is not intended to, and does not, absolve the Discharger of liability for conduct which may have constituted a violation of the previous Board Order 90-079 (AN, Cl 6948) adopted by this Regional Board on June 18, 1990.

This Order expires on _____. The Discharger must submit a complete Report of Waste Discharge including a revised Storm Water Management Plan in accordance with Title

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23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Robert P. Ghirelli, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December __, 1995.

ROBERT P. GHIRELLI, D.Env.
Executive Officer

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ATTACHMENT A

NPDES STORM WATER PERMIT
WATERSHED MANAGEMENT AREAS

Santa Monica Bay	Los Angeles River	San Gabriel River
Malibu Creek and Other Rural	Alhambra	Artesia
Agoura Hills	Arcadia	Azusa
Calabasas	Bell	Baldwin Park
Caltrans	Burbank	Bradbury
Los Angeles County	*Caltrans*	*Caltrans*
Malibu	Commerce	Cerritos
Westlake Village	Compton	Claremont
Ventura County	Cudahy	Covina
	El Monte	
Ballona Creek and Other Urban	Glendale	Diamond Bar
Beverly Hills	Hidden Hills	Downey
Caltrans	Huntington Park	Duarte
Culver City	*La Canada Flintridge*	Glendora
El Segundo	*Long Beach*	Hawaiian Gardens
Hermosa Beach	*Los Angeles*	Industry
Los Angeles	*Los Angeles County*	La Mirada
Los Angeles County	Lynwood	La Puente
Manhattan Beach	Maywood	La Verne
Palos Verdes Estates	Monrovia	Lakewood
Rancho Palos Verdes	Montebello	*Long Beach*
Redondo Beach	Monterey Park	*Los Angeles County*
Rolling Hills	Paramount	Norwalk

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Rolling Hills Estates
Santa Monica
West Hollywood

Dominguez Channel/
Los Angeles Harbor Drainage

Caltrans
Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles
Los Angeles County
Torrance

Pasadena
Rosemead
San Fernando
San Gabriel
San Marino

Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

Pico Rivera
San Dimas
Santa Fe Springs

Walnut

West Covina
Whittier

Santa Clara River

Caltrans
Los Angeles County
Santa Clarita

Italicized agencies are present in more than one watershed.

CITY OF Glendale CALIFORNIA
633 E. Broadway, Room 205, Glendale, CA 91206-4388 • (818) 548-3945

Public Works Division
ENGINEERING SECTION

VOL 24

October 13, 1995

Catherine Tyrrell
Assistant Executive Director
California Regional Water Quality Control Board, Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

RE: Comments on the September 15th Draft Permit

Dear Ms. Tyrell:

This letter is in response to your memo requesting comments regarding the NPDES draft permit dated September 15, 1995.

Before getting to the specifics, I would like to discourage the circulation of more than one draft at a time. Within a few days, two different versions of the draft permit were circulated. This made our reviewing process more difficult given that either version was confusing enough. Also, we must have a reasonable amount of time for review; without it adequate comments are impossible.

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Comments/concerns on the draft permit:

- In general, the draft permit is too lengthy, too complex and cumbersome. The details and extensive requirements both in the development of the program and reporting phases would probably make it cost prohibitive to implement. The permit needs to be simple, clear and concise.

- We question the designation of the Executive Advisory Committee (EAC) as an entity responsible for the implementation and regulation of the program. It would seem that only the entities covered by the permit (i.e. the principal permittee and the co-permittees) could be held legally accountable for complying with the different aspects of the permit. The EAC should only be an advisory and coordinating body.

- The amount of work and responsibility put on the EAC and its volunteer members is enormous. Most of the tasks assigned to EAC should be divided between the Board and the principal permittee.

- The reporting requirements would be a substantial burden on the co-permittee staff. We recommend a simple checklist method. This reporting should demonstrate the compliance of the permittee with the intent of the permit. Written justification should only be submitted in the event that compliance is either delayed or not being achieved.

- The draft does not include compliance deadlines. The amount of work for implementation will be considerable; so it is hoped that when the time schedule is considered it will be based on realistically achievable goals.

We appreciate the opportunity to comment on the draft permit. Again, we urge the EAC and the CRWQCB to take into consideration available resources and the need for the permit to be as simple, clear and concise as possible.

Sincerely,

Donald M. Campbell
City Engineer

CC: Donald Wolfe, EAC Chairperson

FH/Letter

VOL 24

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CITY OF GLENDORA CITY HALL (818) 914-8200
116 EAST FOOTHILL BLVD., GLENDORA, CALIFORNIA 91741

LOS ANGELES REGION

VOL 24

October 10, 1995

Catherine Tyrell
Assistant Executive Director
CALIFORNIA WATER QUALITY CONTROL BOARD, LOS ANGELES REGION
101 Centre Plaza Drive
Monterey Park, CA. 91754-2156

Subject: Comments September 15th Draft NPDES Permit CAS0061654

Dear Ms. Tyrell:

This letter is in response to the Draft NPDES permit dated September 15, 1995. In general, the draft permit is too lengthy and complex for effective implementation. The permit should provide a framework for watershed management and not concentrate on specifics. The specifics should be developed as part of an overall watershed management plan, and be realistic in relation to the financial resources available to local Cities. Other comments are:

1. The draft permit contains many phrases such as:

   "The_____shall develop by_____"
   "The_____shall establish by_____"

   Since the new permit has not yet been adopted, it is unlikely that many permittees have budgeted for high cost items such as inspection programs for this fiscal year. All high cost items should be scheduled to begin no earlier that July 1, since that is the beginning of the fiscal year for most permittees.

2. The EAC should be an advisory and coordinating body, not an implementation or regulatory body. The amount of work and responsibility for the members of the Executive Advisory Committee is enormous. This will make membership on the EAC a nearly full time position (and volunteers for the EAC may become very scarce).

   The tasks assigned to the EAC in the draft permit should be divided among the Board, the principle permittee and the co-permittees. This most recent draft appears to have placed many regulatory and semi-regulatory responsibilities on the shoulders of the EAC. These responsibilities should be assigned to the Board.

3. The number of groups required by the permit to develop and implement the many tasks will lead to confusion. There should be three groups identified by the permit:

   The Board,
   The principle permittee, and
   The co-permittees

   Participation in the Executive Advisory Committee and the Watershed management committees should be voluntary (although encouraged).

4. The reporting requirements could be an enormous burden on co-permittee staff. Reports should be required no more than once per year. A simplified check list which demonstrates the permittees compliance with the intent of the permit should be used rather than concentrating on minutiae such as how much debris was collected from catch basins (which have been regularly cleaned since well before the stormwater program) and how often streets are swept (which also has been done since well before the stormwater program).

   Written descriptions should be required only for anomalies.

5. A specific comment on Section IV.F.3. (pg 23) and similar sections:

   In a program of this magnitude, it is likely than many problem sites will be encountered which will need direct Board involvement for problem resolution. If a problem site is refereed to the Board, does that relieve the permittee from the responsibility of taking further actions until a ruling is made by the Board?

6. The amount of work required for Implementation of this permit will be considerable. During the first five years. the work should concentrate on realistically achievable goals. The exempted stormwater discharges, as proposed by the EAC, should be fully adopted.

7. It has been suggested that the guidance document currently under development be incorporated as part of the permit. We are concerned that this will make any modifications to operating procedures, no matter how minor, difficult to make without prior board approval.

   Overall this Draft NPDES permit is un-realistic from an implementation point of view. For example, the creation of a Storm Water Utility Tax to fund the proposed activities is virtually impossible. In todays local political climate anything that smacks of additional City intrusion into the daily lives of residents and businesses is strongly resisted. The harsh reality is that reductions in staff and resources will continue to affect the ability of our City to maintain even traditional City services, let alone comply with these proposed additional responsibilities!

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We appreciate the opportunity to offer our comments to you. Please call Brad Miller at (818)914-8246 if you have any questions.

Sincerely,

R. Cantwell

Richard Cantwell
Public Works Director/City Engineer

cc: City Manager

City of Hermosa Beach

Civic Center, 1315 Valley Drive, Hermosa Beach, California 90254-3885

VOL 24

October 16, 1995

Catherine Tyrell
Assistant Executive Director
California Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Re: Comments on September 15, 1995 Draft Waste Discharge Requirements For Stormwater Management/Urban Runoff Discharges Within The County of Los Angeles (NPDES No. CAS0061654)

Dear Ms. Tyrell:

At the meeting of the municipal co-permittees on September 27, the Regional Water Quality Control Board asked that comments regarding the draft of "Waste Discharge Requirements For Stormwater Management/Urban Runoff Discharges Within The County of Los Angeles (NPDES No. CAS0061654)" be submitted in writing to the Board. The short comment period did not provide us with a sufficient opportunity to carefully review and evaluate the current draft permit or to obtain outside input. The City of Hermosa Beach, nevertheless, considers it very important to provide its initial and preliminary comments.

We have appreciated the opportunity for involvement in a process which will ultimately lead to a permit that will have a significant impact upon the City's operations and its fiscal resources and, most importantly, upon Hermosa Beach's residents and businesses. As a beach city, Hermosa Beach is acutely aware of the problems associated with stormwater pollution. Our residents and businesses which depend upon our coastal resources, as well as visitors, share a common concern regarding the water quality of the Santa Monica Bay. We are committed to doing everything we reasonably can achieve with our limited administrative and physical resources.

However, as the negotiation of the terms of the proposed permit has proceeded, we have become extremely concerned about both the direction the permit has taken and the scheduling for the renewal of the permit. Before addressing specific portions of the

permit, we thought it would be appropriate to first discuss some of our general concerns, which we understand are shared by many of the other co-permittee cities.

I. Scheduling of the New Permit.

One of the biggest concerns which the City of Hermosa Beach has is that neither our staff nor our residents, nor other interested parties, have been provided sufficient time to carefully evaluate either the specific language of the proposed permit or its impact. Board staff informs us that they are hoping to complete the negotiation process as soon as possible so that the permit can be considered by the Regional Board at either its December or January meeting. We do not believe that the current schedule is realistic for a number of reasons.

We have not yet received a full version of the draft permit. Even now, there are numerous versions of the permit which are being discussed. The draft which we have been asked to comment upon has been modified significantly. Since the various sections of the permit are intertwined, the piecemeal modifications have created a moving target. This, of course, makes it very difficult to intelligently comment upon the draft permit when the version we are reviewing has most likely been revised two or three times.

Accordingly, we would like to work with you to develop a realistic schedule for renewal of the permit which allows sufficient time for careful evaluation and meaningful input from our residents and other interested parties. That objective cannot be achieved on the current time schedule.

II. Limitations on Our Efforts.

Hermosa Beach's fiscal and administrative resources for implementing unfunded mandates are limited. Our objective in the permit renewal process is to develop an effective stormwater management program which targets and addresses identifiable, controllable pollutants in a cost-effective manner. Unfortunately, those targets have not yet been identified and we have been provided with no technical or scientific data which have been provided with no technical or scientific data which demonstrates the effectiveness of many of the programs dictated by the current draft of the permit or any cost justification.

To our knowledge, the Board has not yet made any factual findings in connection with the permit that would support or necessitate the many new programs which would be required by the permit if adopted in a form reasonable approximating its present draft.

Also, a number of sections of the draft permit impose a variety of data gathering requirements. We believe it important to ensure that the data proposed to be gathered at considerable cost to the principal permittee and the co-permittees is meaningful and useful, both for the Board's purposes as well as the permittees'.

Hermosa Beach needs to be sure that the money it spends on stormwater management is utilized in a cost-effective manner. The City does not have the resources to implement programs that are neither mandated or funded by federal or state law and are not demonstrably effective in reducing stormwater pollution.

III. Failure To Incorporate Prior Comments.

Over the last three months, the Executive Advisory Committee and the principal permittee and co-permittee members of the negotiation team have commented extensively, both orally and in writing, on the various portions of the permit which have been presented to us. In many cases, we found that our comments were not incorporated or addressed I the draft, nor was any explanation given for not including them. In other cases, we found that portions of the draft which the cities had identified as objectionable, and were told would be deleted, were just moved from one part of the permit to another without any explanation. The failure to incorporate agreed-upon changes in the drafts has been a source of great frustration to Hermosa Beach and other cities.

Similarly, we have commented regarding the draft permit at public meetings. While we have presumed that some note has been made of those comments, they are rarely responded to.

In order to ensure that permittee and public participation in the process is meaningful and that comments are seriously considered, we believe that it would be appropriate for the Board staff to collect and summarize the public comments made regarding the draft permit and directly respond to them either in writing or at a public meeting.

IV. Lack of Involvement By Other Interested Parties.

We are also very concerned that no meaningful opportunity has been provided for involvement in the process by other interested parties. Currently, a representative of various environmental groups who have a stake in the process sits on the negotiating committee. We welcome the involvement of environmental groups, such as Heal The Bay Foundation in the negotiation process. By the same token, local businesses which may be significantly affected by the new permit, have not been involved in the process at all. To our knowledge, no effort has been made by the Board to solicit their input.

We believe that, before the draft permit is presented to the Regional Board, all interested parties who have a stake in the process should be given a fair and meaningful opportunity to participate in the process through workshops and public meetings.

V. Complexity and Length of the Draft.

We are particularly concerned about the length and complexity of the draft permit. We share the concerns previously expressed by the City of Long Beach and the City of

Carson that the permit should establish a framework for a Stormwater Management Plan, rather than an attempt to dictate numerous inflexible management programs. Both the existing permit, as well as other permits currently being issued in other regions, utilize a framework approach that allows the individual co-permittees to select the BMP's which best suit their needs while accomplishing the objectives of the Clean Water Act and state law. The current draft runs over 45 pages and is not even complete and contains numerous inflexible dictates.

The current approach to the proposed permit seems to run contrary to the objective expressed in the State's Stormwater Municipal best Practices Handbook, which allows municipal permittees flexibility in selecting effective BMP's themselves, which would (1) adequately address the pollutants of concern, (2) be compatible with stormwater regulations, as well as other regulations for air, hazardous waste, and solid waste disposal, (3) have public support, (4) be compatible with land uses and facilities, (5) be technologically feasible, considering soils, geography and water resources, and (6) balance the cost for implementing specific programs against the pollution control benefits expected to be achieved.

We believe that the permit needs to be reduced in size to reflect the goal of allowing municipal co-permittees and individual watersheds the flexibility to select the best and most effective BMP's which fit their circumstances.

VI. Specific Dictates of the Permit.

We are concerned that specific programs are being dictated to the cities in the draft permit without a clear understanding of the water quality goals that the permit aims to achieve and, most importantly, without the benefit of an accurate assessment of existing conditions. The specific dictates of the proposed permit do not allow very much flexibility for prioritizing the tasks to be performed or the application of cities' limited funds.

Each of the co-permittee cities has very definite local areas of concern and thoughts as to what actions it can take to address those concerns. These concerns, however, can only be fully determined through public workshops where citizens and interested parties are informed about stormwater pollution problems and are invited to present their views.

VII. Technical Comments.

1. The draft permit contains many phrases such as:

"The_____ shall develop by_____"
"The ____ shall establish by_____"

Since the new permit has not yet been adopted, it is unlikely that many permittees have budgeted for high cost items such as inspection programs for this

fiscal year. All high cost items should be scheduled to begin no earlier than July 1, since that is the beginning of the fiscal year for most permittees.

2. The Executive Advisory Committee (EAC) should be a coordinating body. A consultant can be retained to assist the EAC with all the tasks assigned to them in the draft permit.

3. The number of groups required by the permit to develop and implement the many tasks will lead to confusion. There should be only three groups identified by the permit:

The Board,
The principle permittee, and
The co-permittees

Participation in the Executive Advisory Committee and the Watershed Management Committees should be voluntary (although encouraged).

4. The reporting requirements could be an enormous burden on co-permittee staff. Reports should be required no more than once per year. A simplified check list which demonstrates the permittees compliance with the intent of the permit should be used rather than concentrating on minutiae such as how much debris was collected from catch basins (which have been regularly cleaned since well before the stormwater program) and how often streets are swept (which also has been done since well before the stormwater program).

Written descriptions should be required only for anomalies.

5. A specific comment on Section IV.F.3. (pg. 23) and similar sections:

In a program of this magnitude, it is likely that many problem sites will be encountered which will need direct Board involvement for problem resolution. If a problem site is referred to the Board, does that relieve the permittee from the responsibility of taking further actions until a ruling is made by the Board?

6. The amount of work required for implementation of this permit will be considerable. During the first five years, the work should concentrate on realistically achievable goals. The exempted stormwater discharges, as proposed by the EAC, should be fully adopted.

7. It has been suggested that the guidance document currently under development be incorporated as part of the permit. We are concerned that this will make any modifications to operating procedure, no matter how minor, difficult to make without prior board approval.

VIII. Specific Comments.

1. Part I Section D(3)(b) should be the EAC's responsibility.

2. Part I Section E(2) should include language allowing the Watershed Management Committee to designate the Principal Permittee as chair if the Committee so desires.

3. In Part I Section G the language "The budget shall provide information such as funding sources, staff resources, equipment, support capabilities, contract services, and cost sharing arrangements for the stormwater management programs." should be removed.

4. In Part I Section G(1) the language "Funding agreements, including budgets and cost per agency shall be developed." should be deleted.

5. Part I Section G(2) should be deleted as repetitive.

6. Part I Section H(3) requires rewriting to clarify the Regional Boards expectations of compliance. Subsection H(3)(d) also requires clarification regarding types of agreements and "the contribution of pollutants from one portion of the storm drainage system to another..."

7. The time limit in Part I Section H(5) should be extended from 60 days to 120 days.

8. Part I Section I should include language such as "A Permittee shall not be in violation of any term or condition of this permit until the following administrative review process has been completed."

9. Part I Section J should include an obligation of the Regional Board for timely review of permit submittals (i.e., within 45 days).

10. Part II Section A(1)(b) should be amended to read as follows: "prioritize potential problem areas and areas with heavy industry such as those listed under subchapter N of 40 CFR Parts 405-471." The current wording is vague and open to very broad interpretation.

11. Part II Section B(4), please define maximum extent practicable.

12. Part II Section B(4)(b) should be deleted as Section B(4)(e) serves the same purpose.

13. The list of conditionally exempt discharges in Part II Section C(2) should include waterline flushing, retaining wall drains, and water from hydraulic graffiti abatement. Diverted stream flows and footing drains should be removed from the list.

14. Part II Section D(1)(b) should be deleted as being redundant with Section D(1)(a).

15. Part II Section D(1)(f) should be amended to read "washing down toxic materials from paved or unpaved areas *into the storm drain system*."

16. Part II Section D(1)(g) should be amended to read "washing down impervious surfaces *into the storm drain system* in industrial and/or commercial areas is prohibited unless specifically required *by* Health and Safety Codes."

17. The contents and requirements of Part II Section D(2) are more appropriate to the Industrial/Commercial Sources chapter and should be relocated there for clarity.

18. Part II Section D(2)(c) should be amended to read as follows: "that owners of commercial/industrial motor vehicle parking lots with more than ten (10) parking spaces located in areas susceptible to runoff begin a regular lot sweeping program to remove debris."

19. Part II Section F(1) should be deleted and F(2) should be rewritten. As currently worded, the summaries are far too detailed. The summaries should focus on categories of illicit connection and discharges, the number of connections/discharges discovered per category, the number of each eliminated, the number in process to be eliminated, and the number subject to legal enforcement action.

20. Part II Section G(1) should be amended to read as follows: "The Principal Permittee will be provided an updated list of NPDES Permits on a quarterly basis, through the Regional Board's electronic bulletin board for use by each Permittee in its illicit connection program to identify permitted sources of the existing non-stormwater discharges in the stormwater drainage system. Part II Section G(2) should be deleted.

21. Part III Section A(1) should be amended to read as follows: "By _____, the Permittees shall develop a database listing of the industrial/commercial facilities identified in III.B.1.a. by four digit SIC codes which shall be updated annually. The database shall include at a minimum."

22. Part III Section A(1)(a) and (c) should be deleted as not being required for minimum information.

23. Part III Section A(2) should be deleted. These concerns are to be addressed by the Critical Source Monitoring element of the monitoring program.

24. Part III Section B(1)(a)(ii) should be amended to read as follows: "vehicle repair shops, vehicle body shops, vehicle parts and accessory shops, gasoline stations and restaurants."

25. Part III Section C(2) should be deleted as being redundant with Part III Section D.

26. Part III Section C(3) should be deleted. These concerns are to be addressed by the Critical Source Monitoring element of the monitoring program.

27. Part III Section C(4)(c) should be deleted.

28. Part III Section C(5) should be rewritten as follows: "Each permittee may seek coverage under this Order, for industrial facilities listed in II.B.1.a.i. which are owned and operated by the Permittee, if it:

(a) Established as procedure for notifying the Regional Board of industrial sites owned and operated by the Permittee.
(b) Prepare a checklist of industrial BMP's using BAT/BCT criteria for implementation at these industrial sites.
(c) Standardizes procedures to ensure implementation of industrial BMP's.
(d) Prepare and retain site specific Stormwater Pollution Prevention Plans at its industrial facilities.
(e) Establishes a procedure to report annually on the effectiveness of Stormwater Pollution Plans at each site, and certify compliance with this Order.

29. Part III Section D(1) should be amended to read as follows: "By _____, each Permittee shall submit a schedule for inspection of those industrial/ commercial facilities in III.B.2 which have been selected by the Permittee for inclusion in an inspection program for adequacy of stormwater pollution prevention measures. Facilities selected shall be those identified by the Permittee as potentially contributing the most significant pollution impacts to stormwater discharges." The following subsections D(1)(a) and (b) should be deleted as unnecessary. The last paragraph should substitute III.B.2 for III.B.1.a.ii, and delete reference to III.B.1.a.iii.

30. Part III Section E(d) should be amended to read as follows: "evaluation of stormwater urban runoff control measure implementation." Section E(e) should be changed to read "evaluation of the results from the critical source monitoring

program." Sections E(f) and E(g) should be deleted, and will be addressed in the Critical Source Monitoring Program.

31. Part III Section F(1) should be amended to read as follows: "The Permittees will work with other regulatory agencies as deemed necessary by the Permittees and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies.

32. Part III Section F and G should be deleted as unnecessary.

33. Part IV Section B(2) and B(4) should be deleted. These sections attempt to dictate the planning process to the City, and this is not acceptable.

34. Part IV Section B(7) should be amended to read as follows: "Permittees shall require as part of the submittal of an application for the first planning or building approval for a new development project, the inclusion of an Urban Runoff Mitigation Plan." In addition, this plan should only be required of large scale projects (i.e., 100+ dwelling units or 100,000 square feet of commercial space). Also, subsections (a)(ii) and (a)(iii)(c) should be deleted as being too burdensome.

35. Part IV Section B(7)(a)(v) should be deleted. It is not clear if the Regional Board has the authority to dictate a misdemeanor penalty through this Permit.

36. Part IV Section C(2)(b) should be amended to read as follows: "Site address, general contractor and telephone number." The following subsections (c) and (e) should be deleted as either too onerous or not under the control of the Permittee.

37. Part IV Section D should be deleted in its entirety. The purpose of this section is not apparent. Site inspections and ranking will be handled through existing inspection programs.

38. Part IV Section E(2) should be deleted. The concerns in this area will be addressed by the Critical Source Monitoring Program.

39. Part IV Section E(3)(a) should be deleted as being too burdensome on the Permittees.

40. Part IV Section E(4)(b) should be amended to read as follows: "Any sediments or other materials which are not retained on the site shall be removed within 24 hours from the time of notification of the Director of Public Works, or a designated representative. In lieu of removal, a temporary sediment barrier shall be installed."

41. Part IV Section E94)(e) should be amended to read as follows: "No water from washing vehicles on a construction site may be allowed to run off unless treated to remove sediments and pollutants.

42. Part IV Section E(4)(h) and (I) should be deleted. These steps cannot be supported without clear evidence that their effectiveness exceeds that of normal good housekeeping measure.

43. Part IV Section E(5) should be deleted. Subsection (a) should be relocated to IV.E.4.f., and subsection (b) should be relocated to IV.E.4.g.

44. Part IV Section E(6) should be rewritten as follows: "Each permittee may seek coverage under this Order, for construction activity sites listed in III.B.1.a.i. which are owned and operated by the Permittee, if it:

(a) Establishes as procedure for notifying the Regional Board of construction activity sites owned or operated by the Permittee.
(b) Prepare a checklist of construction BMP's using BAT/BCT criteria for implementation at these construction sites.
(c) Standardizes procedures to ensure implementation of construction BMP's.
(d) Prepare and retain site specific Stormwater Pollution Prevention Plans (SWPPP) at its construction sites; and
(e) Establishes a procedure to report annually on the effectiveness of Stormwater Pollution Prevention Plans at each construction site, and certify compliance with this Order.

45. In Part IV Section F(1) and (2) should be deleted in their entirety as being redundant. The list of typical sites in (2) should be included under Part IV Section E(3). (3) Should be renumbered and rewritten as follows: "During inspection of construction sites regulated under Phase I of the Federal Stormwater Program, inspectors shall request to see a copy of the SWPPP. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee shall report problematic construction sites to the Regional Board."

46. Part IV Section G(1) should be amended as follows: "Each year, the Permittees shall evaluate the results and progress of their stormwater quality management program for construction activity sites. The annual report submitted to the Regional Board shall recommend a strategy for the management of stormwater from construction sites for the following year based on evaluation of stormwater urban runoff control measures implementation and evaluation of results from the critical source monitoring program." In addition, G(2) should be amended to read: "The Permittees shall transmit to the Regional Board a hard copy of the construction activity database developed in IV.C.2 on a quarterly basis."

47. Part IV Section H should be deleted as being redundant.

48. Part V Section C(1) should be amended to read as follows: "By ____, EAC will develop a standard pollution prevention plan for public vehicle maintenance/material storage facilities. Public vehicle maintenance/material storage facilities include any Permittee-owned and/or operated facility in which any of the following occur: vehicle or equipment maintenance; repair; washing; fueling; and/or any facility at which a hazardous materials business plan is required."

49. Part V Section H should be deleted as redundant, it is the same as Part II Section (2)(c).

50. Part VI should be rewritten in its entirety by the Regional Board to better reflect short term needs and long term education strategy.

51. Part IX will need to be rewritten in its entirety by the Regional Board upon receipt of the County/NRDC developed proposal.

The City of Hermosa Beach would appreciate your careful consideration of our preliminary comments in the permit renewal process and a response to them. Please call me at (310) 318-0211 if you have any questions.

Sincerely,

Amy Amirani

Amy Amirani
Director of Public Works

cc: Stephen R. Burrell, City Manager
Don Wolfe, EAC Chairperson
Department of Public Works
County of Los Angeles
P.O. Box 1460
Alhambra, CA 91802-1460

pw/npdes/CRWQCB2

14717 BURIN AVENUE • LAWNDALE, CALIFORNIA 90260 • (310) 970-2100 • FAX (310) 644-4556

VOL 24

October 16, 1995

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QUALITY CONTROL BOARD
LOS ANGELES REGION

Ms. Kathryn Terrell
Assistant Executive Director
California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754-2156

Re: Draft NPDES Permit No. CAS0061654

Dear Ms. Terrell:

The purpose of this letter is to inform you that the City of Lawndale, one of the co-permittees under NPDES Per No. CAS0061654, is in the process of reviewing and commenting on the above referenced draft permit.

As you are well aware, the draft permit is quite lengthy and complicated, and we prefer to provide all of our comments to you on the present draft at one time. We intend to have comments on behalf of the City of Lawndale forwarded to you by no later than October 18, 1995.

If you have any questions or need any additional information with respect to the above, please do not hesitate to contact the undersigned.

Thank you for your attention and assistance in this matter.

Sincerely,

Linda Holmes
Interim City Manager

RM:LH:dl

cc: City Council
Mike Shahbakhti, Public Works Manager
William Wynder, City Attorney
Richard Montevideo, Assistant City Attorney

lbrar\npdes.ltr

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COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

HARRY W. STONE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

October 17, 1995

IN REPLY PLEASE REFER TO FILE: WM-3

Ms. Catherine Tyrrell
California Regional Water
Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Dear Ms. Tyrrell:

REVIEW OF DRAFT NPDES PERMIT

The Executive Advisory Committee (EAC) has reviewed all of the chapters and sections we have been given to date, including those in the September 15th partial draft. Furthermore, the negotiating team of the EAC has met and conferred with you on many separate issues over many months and we have reached agreement on many of the issues. From this point forward, the EAC believes it would be most productive to receive a complete draft permit that encompass all the needed elements of an official NPDES Permit. We ask that such a completed draft include:

1. All of the agreed-upon points negotiated to date, without additional modifications by the Regional Board staff.

2. Changes made in response to the comments from the cities or the EAC based on the September 15 draft.

We recognize that it may not be possible to incorporate all of the cities' or EAC's comments into the draft but we ask that, if you choose not to include a proposal, that you respond to each suggestion and explain your decision to not include it. This process will help satisfy the concerns of agencies which believe their comments have not been given due consideration to date. It also allows your agency to demonstrate that it has reviewed and considered the concerns of the commenting agencies. It is essential that the completed draft or its accompanying memorandum make it clear to recipients that the EAC has neither reviewed nor approved the completed document. Upon receipt of the completed draft, we will be pleased to continue the meet and confer process.

Several cities have expressed concern that many of the requirements of the draft Permit are beyond the tasks mandated by the Federal Clean Water Act. Such concern can be avoided, if the draft Permit cites the section of the Federal Clean Water Act which specifically mandates the requirements.

Finally, the schedule you presented at the October 12th EAC meeting projected the following time lines:

October 23	Revised draft mailed
November 6	Meeting of all Permittees to discuss draft
November 22	Permit revised based on comments and mailed as a tentative order
January 5	Revised Permit available for public review
January 22	Permit presented to the Board

We concur that an additional meeting to allow all Permittees to discuss the draft Permit prior to the 60 days public review period is very important. However, the schedule is clearly not achievable, given that a complete draft has not yet been prepared. We recommend that you revise the schedule based on your estimation as to when your staff can generate a complete draft Permit. Also, we recommend that commenting agencies be given a minimum four-week review period from the time a completed draft is distributed to them. Subsequently, Regional Board staff will need time to make further revisions based on comments received. Additional time may be needed for negotiation between the EAC and the Regional Board staff.

We appreciate your efforts in preparing a complete draft Permit and look forward to its receipt. If you wish to discuss the points raised in this letter, please contact me at (818) 458-4014.

Very truly yours,

DONALD L. WOLFE
Chairman, Executive Advisory Committee

FK:do\Q:\LETTERS\TYRRELL.FK

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
PUBLIC WORKS
BUREAU OF
ENGINEERING
ROBERT S. HORII
CITY ENGINEER
650 SOUTH SPRING ST., SUITE 200
LOS ANGELES, CA 90014-1911

October 11, 1995

Harry W. Stone, Director
Los Angeles County Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803
Attn: Gary Hildebrand

Dear Mr. Stone:

CITY OF LOS ANGELES COMMENTS ON DRAFT NEW STORMWATER PERMIT (VERSION MAILED BY RWQCB ON SEPTEMBER 15, 1995)

The Bureau of Engineering has reviewed the draft of the new Stormwater Permit dated September 15, 1995. We want to thank you for the opportunity we have been given to participate in this collaborative process for developing the proposed language for our new County-wide Stormwater Permit. It is an extremely valuable process and hopefully will result in the adoption of a permit that has widespread acceptance. General comments about this version of the new permit are listed below. We have incorporated our more specific comments and/or suggested revisions into a "redline/strikeout" version, which is enclosed in both hard copy and diskette format.

1. Generally, the permit has far too many specific and individual requirements placed on municipalities. It will be difficult for the City to meet all of these, but we think it can be done. However, we are very concerned about the many other cities under the permit, specifically their lack of familiarity with the permit and their ability to comply with all of its detailed and complex provisions.

2. We need to be careful that we have not put in any requirements for municipalities that are to be put into effect immediately but that indeed will take a period of time for implementation. Municipalities will be in violation of the permit for that period of time. An example, noted in more detail later in this letter is that oil/water separators are required for all municipal vehicle washing, but no time period is given for funding and constructing these devices.

3. We have not yet seen any draft language on the reapplication process for the new permit which would be reissued upon expiration of the permit being negotiated currently. It may also be necessary to add language to allow a "reopener".

4. This draft permit calls for a number of specific action items with the assumption that these items are reasonable efforts to improve water quality. As we move into the permit life, it may become apparent that a specified action is indeed not reasonable or cost effective. The permit doesn't seem to allow for any modification.

5. Receiving Water Limitations - The language for this section needs to be carefully crafted so as to not put the municipalities in violation of the permit immediately upon its adoption. The actions called for in the permit should be allowed to take place and an opportunity given to see their level of effectiveness before any efforts are made to add additional requirements necessitated by failure to meet the receiving water limitations specified in this section.

6. Illicit Discharges/Disposal - The language of the version of the permit we have reviewed for these comments calls out street washing and sidewalk washing as not allowed without a finding by the Executive Officer that they are not sources of pollutants to receiving waters. The City of Los Angeles may be in violation of this provision immediately upon adoption of the permit. This language needs to be modified to give us more latitude in arriving at a reasonable solution to this problem.

7. Program Requirements for Industrial/Commercial Sources - We are very concerned about the number of industrial/commercial inspections required by various versions of the language we have seen for this chapter. As background, we have estimated the number of Phase I industries in the City at over 14,000. The number of Phase II industries is estimated to be another 14,000. The number of restaurants is estimated to be over 12,000. The requirement to inspect a major portion of these will be virtually impossible for the City, using any kind of standard inspection protocols. Our Stormwater Management Division staff can perform a maximum of 5,000 inspections over the 5-year term of the permit. Additional inspections can be accomplished through the use of our Bureau of Sanitation inspection staff and the County's Health Department staff, if satisfactory arrangements can be made. However we need to narrow in on a reasonable effort for the City to commit to in this area.

8. Vehicle Maintenance/Material Storage Facilities - The language in this section of the Public Agency Requirements chapter would require all washing of vehicles or equipment onsite to be performed in an area equipped with an oil/water separator or equivalent method. There is no time frame established for the implementation of this requirement and it would therefore be assumed to take effect immediately. Also, there is no restriction on the size of operation falling under this requirement. Many agencies will be in

noncompliance with this provision upon adoption of the permit. A substantial capital investment is required to set up these facilities, and to be effective, they require careful maintenance. We would not recommend an oil/water separator mandate.

9. We have not commented on either the Public Information and Participation or the Monitoring Program chapters since these chapters are scheduled for a significant re-write.

10. Below we have described the way we envision the relationship between the permit and the plans required under the permit:

* Minimum or Baseline BMPs have been incorporated into the appropriate chapters of the permit. The Permittees will begin to implement these minimum BMPs within the timelines specified in the Permit. These BMPs will also be addressed in the Baseline, Watershed, and Implementation Plans.

* The Principal Permittee, utilizing consultant services, will develop the Baseline Stormwater Management Plan.

* The Baseline Plan will be used to create the Watershed Management Plans (WMPs). The WMPs would also be prepared using consultant services.

* Each Permittee will complete its own Implementation Plan, which will provide details and schedules for the activities necessary to comply with each of the above plans within its jurisdiction.

In the attached "redline" version, we have included language which attempts to create the necessary link between the plans and the permit requirements.

If you have any questions please call Michael E. Kantor of my staff at (213) 847-5209.

Sincerely,

ROBERT S. HORII
City Engineer

By Philip L. Richardson
Division Engineer
Stormwater Management Division

Enclosure
cc: Catherine Tyrrell, RWQCB Los Angeles Region (w/ enc)
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~~Aug 24, 1995~~ September 27, 1995

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

ORDER NO. 95-XXX

WASTE DISCHARGE REQUIREMENTS
FOR
STORMWATER MANAGEMENT/URBAN RUNOFF DISCHARGES
WITHIN THE COUNTY OF LOS ANGELES

(NPDES NO. CAS0061654)

The California Regional Water Quality Control Board, Los Angeles Region, finds:

1. The Regional Board recognizes that ~~the EAC assumes no responsibility for the adequacy or inadequacy of any individual Permittee's efforts and is not viewed as the responsible agency in this sense~~ participation by any Permittee on the EAC is voluntary, and is not an obligation under this Order and shall not increase the responsibility or liability of any Permittee under any portion of this Order.

2. The EAC's main role is to facilitate programs within the six watersheds and to enhance consistency among all of the programs.

3. The Regional Board recognizes that the Principal Permittee assumes no responsibility for ensuring the compliance of any individual Permittee with the requirements of this Order.

4. This Order contains specific action items to be executed by Permittees within stated time frames. These items include the development of a Baseline Stormwater Management Plan by the Principal Permittee, the development of six Watershed Management Plans by the Principal Permittee and the Watershed Management Committees, the development of individual stormwater program Implementation Plans by each of the Permittees, and the implementation of the Best Management Practices (BMPs) contained in this Order.

   The programs, activities, and BMPs contained in this Order are early action items that should begin immediately. These actions are viewed as "minimum" or "baseline" efforts. Since they are early actions, these efforts should begin at once and then be further enhanced in the Baseline, Watershed, and Implementation Plans.

   Sections II - IX of this Order are basically the outline for the development of the Baseline Stormwater Management Plan and all subsequent Plans. Every section in this Order should be addressed in all future Plans to be developed under this Order and enhanced as necessary. Each action item listed in this Order is also to be included in all Plans.

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0340

5.

The Board has notified the interested agencies and persons of its intent to adopt waste discharge requirements for the discharge of municipal stormwater/urban runoff and has provided them with an opportunity to submit their written views and recommendations.

The Board, in a public hearing, heard and considered all comments pertaining to the tentative waste discharge requirements.

This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the federal Clean Water Act, or amendments thereto, and shall take effect at the end of ten (10) days from the date of its adoption provided the Regional Administrator, USEPA, has no objections.

IT IS HEREBY ORDERED that the County of Los Angeles and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens,Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the California Water Code, and regulations adopted thereunder, and the provisions of the Federal Clean Water Act, and regulations and guidelines adopted thereunder, shall comply with the following for the areas under their jurisdictions within the drainage area of the County of Los Angeles:

~~September 15, 1995~~ September 27, 1995

A. Discharge Prohibitions

1. The ~~Dischargers~~ Permittees shall, within their respective jurisdictions, ~~effectively~~ prohibit the discharge of non-storm water ~~(materials other than storm water)~~ into their storm drain systems and watercourses. NPDES permitted discharges are exempt from this prohibition. Compliance with this prohibition shall be ~~demonstrated in accordance~~ accomplished through compliance with Provisions _____ in this Order.

2. The discharge of stormwater from a facility or activity that causes or contributes to the violation of Receiving Water ~~Limitations~~ Goals is prohibited.

B. Receiving Water ~~Limitations~~ Goals

1. The Permittees shall institute comprehensive stormwater management programs as identified in this Order to reduce the discharge of pollutants to the maximum extent practicable. The goal of these stormwater management programs shall be compliance with water quality objectives set forth in the Ocean Plan and Basin Plan. The Regional Board and the Permittees realize that these stormwater management programs may not result in full compliance with identified water quality objectives prior to the expiration of this Order. By complying with the requirements specified

in Sections I - IX of this Order, the Permittee is complying with any "receiving water limitations."

~~12.~~ ~~The discharge shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the State:~~
Stormwater management programs shall be developed so that the following conditions, where they have been demonstrated to be a condition of nuisance or adversely affect beneficial uses of waters of the State, shall be addressed and minimized to the maximum extent practicable:

a. Floating, suspended, or deposited macroscopic particulate matter, or foam;
b. Bottom deposits or aquatic growths;
c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
d. Visible, floating, suspended, or deposited oil or other non-naturally occurring products of petroleum origin; and/or
e. Toxic or deleterious substances present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

~~13.~~ ~~The discharge shall not cause a violation of any applicable water quality objective for receiving waters. If applicable water quality objectives are adopted and approved by the State Board after the date of the adoption of this Order, the Regional Board may revise and modify this Order as appropriate.~~
If different applicable water quality objectives are adopted after the date of adoption of this Order, the Board may revise and modify this Order, as appropriate.

C. ~~PROVISIONS~~ Provisions

i. The ~~Discharger~~Permittees shall demonstrate compliance with Discharge Prohibitions A.1 and A.2, and Receiving Water ~~Limitations~~ Goals B.1, B.2, and B.3, through the timely implementation of control measures and other actions to reduce pollutants in the discharge as required as immediate actions items in this Order and as proposed in the Baseline Stormwater Management Plan. As such, the Baseline Stormwater Management Plan submitted by the ~~Discharger~~Permittees is an integral and enforceable component of this Order. Any subsequent modifications, revisions, or amendments must be approved by the Executive Officer of the Regional Board. Each of the ~~Co-Permittees~~Permittees need only to comply with the ~~permit~~ conditions of this Order (including Discharge Prohibitions A.1, and A.2~~, and A.3,~~ and Receiving Water ~~Limitations~~ Goals B.1, B.2, and B.3) applicable to discharges from the municipal separate storm drains for which they are operators.

ii. The ~~Discharger~~Permittees shall implement the Watershed Management Plans as proposed and amended for the Malibu Creek and rural areas, Ballona Creek and urban areas, Santa Clara River, Los Angeles River, San Gabriel River, and the

Dominguez Channel Watershed Management Areas upon approval by the Executive Officer and in accordance with the schedules therein.

iii. The Permittees shall execute their individual stormwater program Implementation Plans as proposed and amended for their agency upon approval by the Executive Officer and in accordance with the schedules therein.

I. PROGRAM MANAGEMENT

A. Principal Permittee

1. The County of Los Angeles is designated as the Principal Permittee.

2. The Principal Permittee shall:

   a. Coordinate ~~permit~~ activities required under this Order and, by, _____, convene and chair the area-wide Executive Advisory Committee and convene and co-chair the Watershed Management Committees;

   b. Provide personnel and fiscal resources and by _____, develop a Baseline Stormwater Management Plan (Baseline Plan) for use in developing a Wwatershed Mmanagement Pplan (WMP) for each watershed;

      The Plan and the WMPs shall contain, at a minimum, all programs and activities (BMPs) outlined in this Order.

   c. Provide personnel and fiscal resources for the development of the WMPs;

   d. Provide personnel and fiscal resources for the updating and modification of the Plan and the WMPs;

   e. Provide technical and administrative support for both the Executive Advisory and Watershed Management Committees;

   f. Implement watershed water quality monitoring programs as described in Chapter IX(or VII);

   g. Provide the personnel and fiscal resources to complete ~~by~~ _____; the annual reports including evaluations of monitoring program data and BMP effectiveness as described in Chapter VIII(or VII);

   h. Coordinate the implementation of stormwater quality management activities of regional significance ~~(this shall mean that the Principal~~

~~Permittee shall identify BMPs which are applicable for implementation by permitteesPermittees watershed-wide and area-wide);~~ such as public outreach and education, pollution prevention, waste minimization, and other similar actions;

i. Act as liaison between all Permittees and the Regional Board on ~~Permit~~issues regarding this Order; and

j. Meet all the responsibilities outlined below for a Permittee.

B. Permittees

1. The other cities and agencies are designated as Permittees.

2. Each Permittee shall:

a. Participate in the development and amendment of the Baseline Stormwater Management Plan (Baseline Plan) and by _____, jointly prepare the watershed specific management plans (WMPs) via ~~their~~ its Watershed Management Committee (WMC);

b. Provide an Implementation Plan describing specific stormwater programs, projects and/or activities which are to be conducted within ~~their~~its jurisdictional boundaries, including the storm drainage system ~~they own~~it owns and ~~operate~~operates, and which demonstrate compliance with the WMP(s) requirements by _____;

The Implementation Plan shall contain, at a minimum, the baseline programs and activities (BMPs) outlined in this Order.

c. Provide in a timely manner all information needed by the Principal Permittee for completing the annual reports.

3. The City Administrator/Public Works Director of each Permittee shall appoint a representative(s) to the WMC.

C. Agency Coordination

Each Permittee shall coordinate implementation of ~~permit~~ requirements under this Order and pollution prevention activities among ~~each Permittee's~~ its internal departments and agencies (i.e. public works, planning, utilities, water supply, etc...).

D. Executive Advisory Committee

1. The EAC shall consist of a representative of the County of Los Angeles, a representative of the City of Los Angeles, a representative from the Malibu

Creek, Santa Clara, and Dominguez Channel Watershed Management Areas, and two representatives from each of the San Gabriel River, Los Angeles River, and the Ballona Creek Watershed Management Areas.

~~a.~~One representative from the EAC shall ~~chair the~~ co-chair each Watershed Management Committee. ~~for that Permittee's main watershed management area.~~

2. The ~~City Administrator/~~ head of the Department of Public Works ~~Director~~ for the County of Los Angeles and for the City of Los Angeles shall each appoint a representative to the EAC. Other members will be appointed by the WMCs.

3. The EAC shall be responsible for:

   a. Making recommendations on area-wide issues to each of the Watershed Management Committees;

   b. Assisting the Principal Permittee in the development of the Baseline Storm Water Management Plan; ~~and~~

   c. Reviewing the Watershed Management Plans as developed by each Watershed Management Committee and provideing direction and guidance on the plans for consideration by the Watershed Management Committees;

   d. Assisting the Principal Permittee in preparing and forwarding unified submittals to the Regional Board upon receipt of information and materials submitted by the Watershed Management Committee in compliance with ~~Permit~~ requirements of this Order;

   e. Mediating conflict among the Permittees; and

   f. Coordinating the implementation of pilot projects to target pollutant sources, evaluate BMP appropriateness, and assess effectiveness.

E. Watershed Management Committee

1. Watershed Management Committees (WMC) shall consist of a representative of each of the Permittees for that particular watershed management area. Regular WMC meetings shall be open to attendance by the public. The WMC may hold closed sessions, at its discretion, to discuss ~~permit related~~ issues related to this Order.

2. The Malibu Creek, Santa Clara, and Dominguez Channel WMCs shall each appoint one representative to serve on the EAC and to co-chair the WMC. The San Gabriel River, Los Angeles River, and the Ballona Creek WMCs shall each appoint two representatives to serve on the EAC, one of whom will

co-chair the WMC.

3. The WMC shall be responsible for:

   a. Establishing goals and objectives for the watershed;

   b. Prioritizing pollution control efforts;

   c. Participating in the development of a specific Wwatershed Mmanagement Pplan (WMP), based on the Baseline Stormwater Management Plan (Baseline Plan);

   d. Assessing the effectiveness of, ~~preparing~~ recommending revisions for and ~~making~~ identifying appropriate changes to the Baseline Plan and the WMP;

   e. Coordinating and facilitating the preparation of the annual reports on ~~Permit~~stormwater activities within the watershed for submittal to the Regional Board -- a draft of the annual report shall be circulated to each Permittee and the Executive Advisory Committee for their review and comments prior to submittal to the Regional Board; and

   f. Facilitating the implementation of this Order among the Permittees in the watershed.

F. Watershed Management Subcommittees

1. Subcommittees will be established where needed as determined by the WMC and/or the EAC.

2. The Subcommittees will be focused on specific program areas and can provide more specific oversight on the development, implementation, and evaluation of selected program areas.

G. Regional Board

It is the responsibility of the Regional Board to fulfill all of the State and Federal requirements for the development of the public policy required for the legal implementation of the CWA and this Order. The Board shall have responsibility for:

1. Issuing and enforcing all State General Stormwater permits;

2. Promulgating standards; and,

3. Reviewing, commenting when appropriate, and adopting necessary findings establishing the following:

a. Pollutants of concern;
b. Targeted activities;
c. Acceptability of proposed actions; and,
d. Allowable non-stormwater discharges.

~~G~~H. Fiscal Resources

Each Permittee shall submit an annual budget for its Implementation Plan within 30 days after the budget adoption. The budget shall be summarized and put into a format which identifies the necessary capital and operation and maintenance expenditures necessary to implement the storm water management program. ~~The budget shall provide information such as funding sources, staff resources, equipment, support capabilities, contract services, and cost sharing arrangements for the storm water management programs.~~ Also included shall be a description of any funding shortfalls.

~~1.~~ Area-Wide Resources - In implementing this Order and the Plan, the Permittees may elect to jointly fund a single program for certain BMPs, such as Public Education, that are area-wide in nature. ~~Funding agreements, including budgets and cost per agency, shall be developed.~~

~~2. City-Specific Resources - As stated above, each Permittee shall develop an annual budget detailing the cost of implementing Permit-related activities within its jurisdiction.~~

~~H~~I. Legal Authority

1. The legal authority that was required of each Permittee under Order No. 90-079 shall continue in effect.

2. ~~The Co-Permittees~~Each Permittee shall exercise ~~their~~its legal authority and require compliance with this Order and the Implementation Plan ~~within~~ for its jurisdiction.

3. Each Permittee shall ~~certify~~ demonstrate that it has legal authority to control discharges to and from those portions of the storm drainage system over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements between ~~permittees~~Permittees with adequate existing legal authority and shall, at a minimum, accomplish Items a-f below:

   a. Control the contribution of pollutants to the storm drainage system by storm water discharges ~~associate~~associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

   b. Prohibit illicit discharges and illicit connections to the storm drainage

system and require removal of illicit connections;

c. Control the discharge of spills and the dumping or disposal of materials other that storm water (e.g. industrial and commercial wastes, trash, debris, motor vehicle fluids, green waste, animal wastes, leaves, dirt, or other landscape debris etc.) to the storm drainage system;

d. ~~Control through~~ Develop interagency or inter-jurisdictional agreements ~~among permittees the contribution of~~ as necessary to establish protocols for the clean up of pollutants that cross from one ~~portion of the~~ agency's storm drainage system to another's;

e. Require compliance with conditions in ordinances, permits, contracts or orders; and

f. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with ~~permit~~ conditions of this Order, including the prohibition on illicit discharges to the storm drainage system.

4. Each Permittee's legal counsel shall complete a review of its existing legal authority to ensure that its existing legal authority complies with the requirements in this Order.

5. Upon its completion of the legal authority review, or within ~~60~~ 180 days ~~of~~ ~~permit~~from the adoption of this Order, (whichever is sooner) each Permittee shall demonstrate that it has adequate legal authority or provide a schedule for obtaining the adequate legal authority. Guidance for demonstrating adequate legal authority is included within the EPA document entitled *Guidance Manual For The Preparation Of Part 2 Of The NPDES Permit Applications For Discharges from Municipal Separate Storm Sewer Systems, (EPA 833-B-92-002, November 1992)*, page 3-4.

~~H~~J. Administrative Review

The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the RWQCB under this ~~Permit~~Order. In addition, it provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement actions. The Regional Board will not take any administrative action against a Permittee until the following review process is followed:

1. Within forty-five (45) days of receiving documents submitted under the terms of this Order, the RWQCB shall respond with the results of the document review. If no written response has been received by the Principal Permittee within 45 days, the submittal shall be deemed approved.

12. If the Executive Officer finds that a Permittee's stormwater program is insufficient to meet the provisions of ~~the Permit~~this Order, the Executive Officer shall send a "Notice of Intent to Meet and Confer (NIMC)" to the Permittee. The NIMC shall include a date by which the Permittee must meet with RWQCB staff.

23. Upon receipt of a NIMC, the Permittee shall meet and confer with RWQCB staff to clarify the steps to be taken to completely meet the provisions of this ~~permit~~Order. The meet and confer sessions shall be for the purpose of developing additions and enhancements to the jurisdiction's stormwater program. The meet and confer period shall conclude with the submittal to and acceptance by the Executive Officer of a written "Stormwater Program Compliance Amendment (SPCA)" which shall include implementation deadlines. The Executive Officer may terminate the meet and confer period after a reasonable period due to a lack of progress on issues and may order submittal of the ~~SPEP~~SPCA by a specified date. Failure to submit an acceptable SPCA by the specified date shall constitute a violation of ~~the Permit~~this Order.

34. The Executive Officer will approve or reject the submitted SPCA within a ~~reasonable amount of time~~ 45 days (see 1 above). Rejection of a submitted ~~SPEP~~SPCA by the Executive Officer shall state the reasons for the failure to approve the SPCA. A Permittee that receives a rejection of an SPCA shall have thirty (30) days to remedy the specified deficiency in the SPCA and receive administrative approval from the Executive Officer of the amended SPCA.

45. The Permittee shall comply with the terms of the SPCA and incorporate such terms into its Stormwater Implementation Plan. The Permittee shall submit reports to the Executive Officer of progress made under the SPCA. The frequency of progress report submittal shall be as prescribed by the Executive Officer. Failure to comply with the terms and conditions of the SPCA shall constitute a violation of ~~the Permit~~this Order and shall be cause for immediate Administrative Civil Liability as prescribed by the Executive Officer.

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II. ILLICIT DISCHARGES\DISPOSAL

A. Illicit Connections

By _____, the EAC shall develop, ~~for inclusion in the Baseline Stormwater~~ Management Plan, a consistent program, including investigative standard procedures, to eliminate illicit connections to the storm drain system.

By _____, each Permittee shall implement a program to identify and eliminate illicit connections to the maximum extent practicable. Permittees shall develop their program in accordance with the Baseline Stormwater Management Plan. A detailed schedule for implementation shall be included in each Permittees Implementation Plan.

1. The program shall, at a minimum:

   a. standardize, per EAC guidelines, storm drain inspection procedures, and illicit connection and identification and elimination procedures;

   b. prioritize ~~major~~ potential problem areas~~, to include but not be limited to older business areas,~~ and identify areas with heavy industry such as those listed under subchapter N of 40 CFR Parts 405 - 471;

   c. utilize results of field screening activities; and other appropriate information~~.~~;

   d. contain an industrial/commercial education/outreach component to inform businesses about the problem of illicit discharges/dumping and proper discharge/disposal practices;

   e. schedule storm drains in potential problem areas for inspection for illicit connections within ~~their~~ its jurisdiction~~.~~;

   f. maintain a standardized record keeping system to document illicit discharges/disposal in its jurisdiction~~.~~; and

   g. establish enforcement procedures to terminate illicit connections.

B. Illegal Discharges\Disposal

1. By _____, the EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, a consistent program, including investigative standard procedures, to eliminate illegal discharges/disposal practices to the storm drain system.

2. By _____, the EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, ~~a standard~~ model civil, administrative and judicial enforcement procedures ~~including~~ to ~~eliminate~~ control illegal discharges/disposal practices.

3. By _____, the EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, standard procedures for spill response, including a procedure to ensure that, in a spill response, sewage treated with disinfection agents will not be discharged into the storm drainage system, to the maximum extent practicable. The standard procedures will address investigation, containment, and cleanup activities as appropriate.

4. By ____, each Permittee shall implement a program, in accordance with the Baseline Stormwater Management Plan and Watershed Management Plan, to identify and eliminate illegal discharges/disposal practices to the maximum extent practicable. A detailed schedule for implementation shall be included in each Permittees Implementation Plan.

   The program shall, at a minimum:

   a. Identify and prioritize problem areas of illegal disposal where inspection, clean up, and enforcement are necessary to prevent the discharge of contaminants;

   b. Maintain a surveillance program to detect illegal discharges and disposal into the street system~~, including, but not be limited to, street use inspections and inspections of vacant facilities~~;

   c. Establish procedures to educate inspectors, maintenance workers, and other field staff in ~~their~~its jurisdiction to notice ~~illicit~~ illegal dischargers/disposal practices during the course of their daily activities, and report such occurrences;

   d. Maintain a standardized record keeping system to document ~~illicit~~ illegal discharges/disposal in ~~their~~its jurisdiction;

   e. Establish, per EAC guidelines, spill response procedures; and

   f. Establish, per EAC guidelines, enforcement procedures to eliminate illegal discharges/disposal practices.

C. Non-Storm Water Discharges

1. Exempted Discharges

In carrying out Discharge Prohibition A.1 of this Order, the following non-storm water discharges need not be prohibited unless they are identified by the Dischargers

Permittees or the Executive Officer as sources of pollutants to receiving waters:

a. flows from riparian habitats or wetlands;
b. diverted stream flows;
c. springs;
d. rising ground waters; ~~and~~
e. uncontaminated groundwater infiltration~~;~~ ~~and~~
f. discharges or flows from emergency fire fighting activities.

If ~~the~~ any of the above categories of discharges, or sources of such discharges, are identified as sources of pollutants to receiving waters, then such categories or sources shall be addressed as conditionally exempted discharges ~~in accordance with Provision C.5.b~~.

2. Conditionally Exempted Discharges

The following non-storm water discharges need not be prohibited. ~~I~~ if they are either identified by the Dischargers Permittees or the Executive Officer as ~~not~~ being sources of pollutants to receiving waters ~~or if~~ appropriate control measures to minimize the adverse impacts of such sources shall be ~~are~~ developed and implemented under the Baseline Storm Water Management Plan, a Watershed Management Plan, or a Permittees Implementation Plan ~~in accordance with Provision C.5.c.~~:

a. Water line flushing;
b. Landscape irrigation;
~~c. Diverted stream flows;~~
c. Foundation drains;
d. Air conditioning condensate;
e. Irrigation water;
f. Water from crawl space pumps;
g. Retaining wall drains;
h. Individual residential car washing;
i. Residential and ~~Commercial~~ commercial roof drains;
j. Residential swimming pool discharges;
k. Street washing*;
l. Sidewalk washing*;
m. Hydraulic graffiti abatement;
~~o. Other types of discharges identified and recommended in annual reports by the Permittees, as approved by the Executive Officer of the Regional Board.~~

*The Executive Officer is concerned that this discharge may contribute significantly to pollutant loads to receiving waters. Therefore, within 12 months of the adoption of this Order, the Permittees shall either (a) cease the activity; (b) provide evidence that the discharge is not a source of pollutants to receiving waters; or (c) provide appropriate mitigation measures.

3. Procedures for Exemption of Other Non-Storm Water Discharges

The Permittees may identify and describe additional categories of discharges that they wish to exempt from Discharge Prohibition A.1 in the Annual Report to the Executive Officer. The bases for exemption may include,

a. documentation that the discharges are not sources of pollutants to receiving waters
b. special circumstances in which the discharges have been found to be not sources of pollutants to receiving waters
c. prescription of specific control measures to reduce pollutants to the maximum extent practicable and minimize adverse impacts of such sources
d. established procedures to ensure control measures implementation, including performance standards, monitoring and record keeping.

D. Other Prohibited Activities

~~1.~~ The Permittees shall prohibit any person from:

a. causing or allowing illicit discharges to be made into the storm drain system;

b. establishing, using or maintaining an illicit connection to the storm drain system;

c. littering;

d. disposing of leaves, dirt or other landscape debris into a storm drain; ~~and~~

e. using any pesticide, fungicide, or herbicide which has ~~either~~ been ~~voluntarily discontinued or~~ prohibited by the USEPA;

f. washing ~~down~~ toxic materials from paved or unpaved areas which results in a discharge to the storm drain system; and

g. washing ~~down~~ impervious surfaces in industrial and/or commercial areas which results in a discharge to the storm drain system is prohibited unless specifically ~~required to~~ provided for under Health and Safety Codes.

Programs and/or activities to prohibit these activities shall be included in the Baseline, Watershed, and Implementation Plans.

THE FOLLOWING SECTION WAS MOVED TO THE INDUSTRIAL/COMMERCIAL CHAPTER AND THE PUBLIC AGENCY CHAPTER

~~2. Storage of Materials, Machinery and Equipment~~

~~The Permittees shall require:~~

~~a. that objects, such as motor vehicle parts, containing grease, oil, or other hazardous substances, and unsealed receptacles containing hazardous materials, be stored away from areas susceptible to so that they are not in contact with rainfall or runoff;~~

~~b. that machinery or equipment which is to be repaired or maintained in areas exposed to rainfall and/or susceptible to runoff, be placed on repaired in a pad of absorbent material, or an equivalent, to containmanner where leaks, spills or small dischargesand other maintenance related contaminants are managed such that stormwater runoff is not adversely impacted;~~

~~c. that owners of commercial/industrial motor vehicle parking lots and structures located in areas exposed to rainfall and/or susceptible to runoff to be swept to remove debris. Lots with more than tentwenty-five (1025) parking spaces and all public parking facilities shall also be vacuum swept, or by equivalent method, to remove chemical residue;~~

~~d. that all fuel and chemical residue, animal waste, garbage, batteries, or other types of potentially harmful materials which are located in areas exposed to rainfall and/or susceptible to runoff, be removed immediately and disposed of properly.; and~~

~~e. that hazardous waste be disposed of through the Permittee's hazardous waste program or at any other appropriate disposal site. and not be placed in a trash container for regular trash disposal.~~

E. Public Reporting

1. By _____, the EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, a standard program, ~~for Permittees to implement by _____~~ to promote, publicize, and facilitate public reporting of illicit discharges and illegal disposal practices that may adversely impact water quality. Permittees shall implement the program by _____.

2. By _____, EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, a standard program for the reporting of incidents of a hazardous substance entering the storm drain, where the responsible party is not known, to the Regional Board and State of California Office of Emergency Services (OES) at (800)___-____ and the Federal Hazardous Response Number at (800) ___-____. The Permittees shall implement this program by _____.

3. Standard reporting programs shall be included in the Baseline, Watershed, and Implementation Plans.

F. Reporting

1. A ~~quarterly~~ summary of illicit connections eliminated shall be submitted with the Annual Report to the Regional Board. ~~The summary shall include: a brief description of the investigation; what was being discharged; estimated length of time the practice was on-going; what remedial action was taken; and what happened to the discharger.~~ The summary shall be by watershed and include: categories of illicit connections, number discovered per category, number eliminated, number in process of being eliminated, and number subject to legal enforcement action.

2. A ~~quarterly~~ summary of illegal discharge/disposal practices reported through the standardized public reporting system shall be submitted with the Annual Report to the Regional Board. ~~The summary shall include: a brief description of the incident; what was spilled/dumped; quantity; what remedial action was taken; and what happened to the discharger/dumper.~~ The summary shall be by watershed and include: categories of illegal dumping, number discovered per category, and number subject to legal enforcement action.

G. Coordination With State Permits

1. The Principal Permittee will be provided an updated list of all NPDES Permits on a quarterly basis, through the Regional Board's electronic bulletin board, ~~to verify~~ for use by each Permittee in its illicit connection program to identify permitted sources of the existing non-storm water discharges in the storm water drainage system. All point source and general industrial and construction stormwater permits will be included.

2. The Permittees will, as they deem necessary, work with other regulatory agencies and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this ~~permit~~Order and the requirements of other regulatory agencies. These agencies, include but are not limited to:

   a. California Department of Fish and Game
   b. California Department of Toxic Substances Control
   c. California Coastal Commission
   d. United States Environmental Protection Agency
   e. California Department of Transportation
   f. California Air Resources Board

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III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES

A. Identification of Sources

Identification by means of scanning and sorting currently available databases shall be sufficient for the purposes of this section; accuracy will be dependent upon the accuracy of available electronic data.

1. By _____, the Permittees shall identify certain industrial and commercial facilities within their jurisdiction. Facilities should include the following:

   a. All industries regulated under Phase I of the Federal storm water program (40 CFR 122.26) (Phase I facilities).

   b. All industrial/commercial facilities in SIC codes selected by the USEPA for screening under Phase II of the Federal storm water program (Phase II facilities).

   c. Other ~~business sectors~~industrial/commercial facilities considered by both the EAC ~~or~~ and the Regional Board to conduct industrial/commercial activity with a high potential for storm water contamination. ~~(e.g, restaurants)~~ (Potential Problem facilities).

~~1~~2. By _____, the Permittees shall develop a database listing industrial/commercial facilities identified in section III.A.1 by four digit SIC codes ~~which shall be updated annually~~. The Regional Board will provide the basic information for (a) below. The database should be updated annually and shall include at a minimum:

   a. For those Phase I facilities which have obtained coverage under the GISP,

      i. Facility owner's name, address, and telephone number;

      ii. Site address, telephone number, and contact person;

      iii. ~~Closest receiving water and~~ Watershed; and

      iv. Applicable SIC code(s).

   b. For those Phase I facilities which have not obtained coverage under the GISP, Phase II facilities, and Potential Problem facilities,

i. Name and address of contact person (e.g. owner/president/site manager);

ii. Site address and telephone number; and

iii. Applicable SIC code(s).

c. By _____, the Permittees shall identify for each SIC industry group identified, primary activities and primary materials that might impact stormwater runoff discharges.

THE FOLLOWING TEXT WILL BE ADDRESSED IN THE MONITORING PROGRAM

~~23. By _____, the EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, a pollutant source identification program for the control of storm water pollutant discharges from industrial/commercial facilities. The objective of the source identification program is to gather data on specific and/or interrelated set of pollutant generating activities occurring on very small areas (< 5 acres) of industrial/commercial activity and to provide information for developing and implementing BMPs for specific activities.~~

B. Prioritization of Sources

1. By _____, Permittees shall pricritize the SIC industry groups evaluated in III.A.2.c. Priority shall be based on a groups relative potential for the contamination of storm water and urban runoff.

2. By _____, Permittees shall rank, based on necessity for oversight of implementation of storm water management measures, the industrial and commercial facilities within each of the highest priority SICs.

Facility ranking within each priority SIC should be based on factors such as land use, operation, and activities that could potentially contribute significant amounts of pollutants into storm water runoff. Factors such as facility size and site history shall also be considered. All facilities shall be ranked in one of three categories (high, medium and low). [NEED DEFINITION OF HIGH, MEDIUM AND LOW]

3. Detailed implementation schedules for the prioritizing and ranking activities shall be included in each Permittees individual Implementation Plan.

C. Source Control Measures

1. By _____, Permittees shall develop for each SIC group a checklist of specific storm water and urban runoff control measures for industrial and commercial facilities which have been ~~prioritized~~ ranked high in III.B.2. The control measures must

a. address multiple pollutant sources;

b. initially focus on source control measures such as source minimization, education, good housekeeping, and site design alternatives; and

c. target ~~industrial/commercial~~ source areas and activities with the highest potential to generate substantial pollutant loadings;

THE FOLLOWING SECTION IS ALREADY ADDRESSED IN THE INSPECTION SECTION

~~2. By _____, Permittees shall, as an immediate action item and for inclusion in their Implementation Plan, develop a process to ensure implementation of storm water and urban runoff control measures for industrial/commercial facilities identified in III.C.1 for industrial/commercial facilities ranked high in III.B.2. A detailed schedule for developing this process shall be included in each Permittees Implementation Plan.~~

THE FOLLOWING SECTION WILL BE ADDRESSED IN THE MONITORING PROGRAM

~~3. By _____, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for industrial and commercial facilities within III.A.1.a which have been prioritized ranked as having the highest potential to contribute significant amounts of pollutants into storm water runoff. A detailed description of the evaluation process should be included in each Permittees Implementation Plan. The structural control measures must be evaluated as to:~~

~~a. effectiveness in reducing toxic pollutants and pollutants of concern; and~~

~~b. ease of maintenance;~~

~~c. current frequency of use;~~

~~db. feasibility and cost-effectiveness.~~

~~e. possible methods to ensure implementation if necessary.~~

~~By, _____, the Permittees shall, in addition, describe any studies and pilot projects they intend to conduct to assess the feasibility and effectiveness of specific control measures. A description and schedule shall be included in each Permittees Implementation Plan.~~

THE FOLLOWING TEXT WAS MOVED FROM ILLICIT DISCHARGES/DISPOSAL CHAPTER

2. By _____, Permittees shall enact ordinances to require the following:

a. The proper disposal of food wastes by restaurants and food wholesalers;

b. Persons owning or operating a gas station, auto repair garage, or similar structure ~~must~~ to clean those facilities in a manner that does not result in discharge of pollutants to the storm drain system~~; and~~.

~~c. Machinery and equipment, including motor vehicles, which are visibly leaking oil, fluid or antifreeze must be repaired.~~

ac. That objects, such as motor vehicle parts, containing grease, oil, or other hazardous substances, and unsealed receptacles containing hazardous materials, be stored ~~away from areas susceptible to runoff~~ properly, so that they would not adversely impact discharges to the storm drain system;

~~b~~d. That machinery or equipment which is to be repaired or maintained in areas exposed to rainfall and/or susceptible to runoff, be ~~placed on~~repaired in a ~~pad of absorbent material, or an equivalent, to contain~~manner where leaks, spills ~~or small discharges~~and other maintenance related contaminants are not discharged to the storm drain system;

ee. That owners of commercial/industrial motor vehicle parking lots with more than twenty-five (25) parking spaces ~~and structures~~ located in areas exposed to rainfall and/or susceptible to runoff to be swept regularly to remove debris. ~~Lots with more than ten (10) parking spaces and all public parking facilities shall also be vacuum swept to remove chemical residue~~;

df. That all fuel and chemical residue, animal waste, garbage, batteries, or other types of potentially harmful materials which are located in areas exposed to rainfall and/or susceptible to runoff, be removed immediately and disposed of properly; ~~and~~

eg. That hazardous waste be disposed of ~~through the Permittee's hazardous waste program or~~ at ~~any other~~ an appropriate disposal site, and not be placed in a trash container for regular trash disposal.

Programs and/or activities to encourage these activities shall be included in the Baseline, Watershed, and Implementation Plans.

THIS TEXT TO BE DELETED, THE GISP IS TO REMAIN A SEPARATE PERMITTING PROCESS

~~5. The EAC may seek coverage under this Order, for industrial facilities listed in III.B.1.a.i which are owned and operated by Permittees if it;~~

~~a. establishes a procedure for notifying the Regional Board of industrial sites owned and operated by Permittees;~~

~~b. prepares a checklist of industrial BMPs using BAT/BCT criteria for implementation by Permittees at these industrial sites;~~

~~c. standardizes procedures to ensure implementation of industrial BMPs by Permittees;~~

~~d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee industrial facilities; and~~

~~e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each site, and certify compliance with this Order.~~

D. Source Inspection

~~2~~1. By _____, Permittees shall develop and implement an industrial/commercial facilities inspection program. A schedule for the development and implementation of the inspection program should be included in each Permittees Implementation Plan. The inspection program shall include, but is not limited to:

a. procedures for facility inspections;

b. procedures for industrial/commercial sectors outreach on pollution prevention, waste minimization, and storm water quality management;

c. procedures to ~~ensure~~ require corrective action ~~is~~ be undertaken by non-complying facilities;

d. procedures to follow-up on violations of municipal standards;

e. procedures for enforcement action against non-complying facilities; and,

~~f. an electronic recording system to document the status of facility inspections; and;~~

~~g~~f. appropriate training for program staff.

~~1~~2. By _____, each Permittees shall submit a schedule for inspection of Phase I industrial/commercial facilities which is based on the ranking ~~industrial/commercial facilities in III.B.1.a.i~~ in III.B.2, for adequacy of storm water pollution prevention measures. The schedule shall ~~include~~ cover, for

a five year period,

a. for municipalities with a population of less than 2,500,000, all of the facilities regulated under Phase I of the Federal storm water program (40 CFR 122.26).

b. For municipalities with a population of greater than 2,500,000, fifty percent (50%) of the Phase I facilities in categories i through ix and self-certification of Phase I facilities in category xi. Non respondent Phase I facilities in category xi shall be referred to the Regional Board.

3. During the inspections of Phase I facilities in categories i through ix, inspectors shall request to see a copy of ~~the~~ a SWPPP. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may deem it necessary to report problematic facilities to the Regional Board.

4. By _____, each Permittees shall submit a schedule for inspection of Phase II and Potential Problem industrial/commercial facilities in ~~III.B.1.a.i~~ which is based on the ranking in III.B.2, for adequacy of storm water pollution prevention measures. The schedule shall ~~include~~ cover, for a five year period,

   a. for municipalities with a population of less than ~~250,000~~ 2,500,000, ~~all~~ a subset of Phase II and Potential Problem facilities ~~identified in III.B.1.a.ii and III.B.1.a.iii,~~ but not less than fifty percent (50%) of the total number of all Phase II and Potential Problem facilities.

   b. for municipalities with a population of greater than ~~250,000~~ 2,500,000, a subset of Phase II and Potential Problem facilities ~~identified in III.B.1.a.ii and III.B.1.a.iii.~~, but not less than ~~ten times the number identified in III.B.1.a.i~~ ten percent (10%) of the total number of Phase II and Potential Problem facilities.

5. Industrial/commercial facilities ~~in III.B.1.a.ii and III.B.1.a.iii~~ that are not included in the inspection schedule, other than the self-certified Phase I (category xi) facilities, shall be ~~surveyed~~ contacted, at least once during the five year period, by phone, mail-out, or a similar method, ~~as~~ to attempt to determine their conformance with good stormwater quality management measures. A description and schedule for the development of such programs and/or activities shall be included in each Permittees Implementation Plan.

E. Reporting

Each year, the Permittees shall evaluate the results and progress of their storm water quality management program for industrial/commercial sources. The annual report submitted to the Regional Board shall recommend a strategy for the management of

storm water from industrial/commercial sources for the following year based upon:

a. ~~priority~~ industrial/commercial sources listing
b. ~~priority~~ on-site inspections
c. phone/mail-out survey inspections
d. ~~priority checklists~~ evaluation of stormwater urban runoff control measures implementation
e. evaluations of structural and treatment control measures
f. special studies and pilot projects needs
g. specific site and activity monitoring needs

The EAC shall make available to the Regional Board the industrial/commercial database developed in ~~III.B.a.1~~ III.A.2 in ~~the~~ an appropriate format when so requested.

F. Coordination

The Permittees shall develop a process for the exchange of information between the Permittees and the Regional Board. Appropriate formats for such reports shall be developed as required.

G. Conflicts with Other Mandates

~~1.~~ The Permittees, as they deem necessary, will work with other regulatory agencies and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this Order and the requirements of other regulatory agencies.

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IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND SIGNIFICANT REDEVELOPMENT

A. ~~Regional Policy~~ Countywide Guidelines

1. By _____, the EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, ~~and adopt a regional policy~~ countywide guidelines to ~~promote~~ encourage watershed protection considerations during planning, ~~project review,~~ and permitting of new development and significant redevelopment, to:

   a. preserve to the extent feasible, and where possible, create or restore areas that provide water quality benefits, such as riparian corridors and wetlands, and promote the design of new development so that it protects the ~~natural~~ biological integrity of drainage systems and water bodies;

   b. avoid conversions of areas particularly susceptible to erosion or sediment loss and/or establish development guidance that identifies these areas and protects them from erosion and sediment loss. Such areas include steep slopes, highly erodible soils, those subject to periods of intense rainfall, and those with the inability to revegetate once disturbed;

   c. ~~require~~ encourage the integration of storm water quality protection into construction and post-construction activities at all development sites ranked high in IV.D, including the minimization of toxic material use and their careful containment on site; and

   d. maintain peak runoff rates at pre-development levels, wherever practicable.

2. By _____, the EAC shall ~~establish~~ develop, for inclusion in the Baseline Stormwater Management Plan, minimum recommended requirements consistent with the ~~regional policy~~ countywide guidelines for new development and significant redevelopment ranked high in IV.D, for

   a. site planning practices

   b. construction best management practices

   c. post-construction best management practices

   d. ~~reporting~~ erosion and ~~storm water~~ sediment control ~~strategies~~

~~e. redevelopment and infill~~

B. Planning Process

In order to integrate storm water management considerations into new development projects at the time that they are first proposed to jurisdictions, and to support other provisions of this ~~permit~~Order:

1. By _____, the EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, ~~guidance~~ guidelines for ~~permittees~~Permittees to use in preparing/reviewing EIRs, and in linking EIR mitigation conditions to local permits approvals.

2. By _____, ~~permittees~~Permittees shall ~~adopt and~~ use the ~~guidance~~ guidelines in their internal procedures.

3. By _____, the EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, a model CEQA checklist form that explicitly addresses watershed, water quality, and nonpoint source pollution impacts.

4. By_____, the ~~permittees~~Permittees shall use the model CEQA checklist or incorporate its provisions into their existing procedures.

5 Whenever a ~~permittee~~ Permittee rewrites either of the following mandated general plan elements - the conservation element or the open space element - watershed and stormwater management/urban runoff considerations shall be incorporated.

6. By _____, ~~permittees~~Permittees shall implement a public education/ outreach program, consistent with the Baseline Stormwater Management Plan and Watershed Management Plan, to encourage developers to maximize pervious areas and storm water infiltration (in areas where the geology and topography allow), minimize directly connected impervious areas, and include ~~justifiable~~ cost effective treatment control measures. A description and schedule for the development of such a program shall be included in each Permittees Implementation Plan.

C. Identification of Sources

1. By _____, the EAC shall, for inclusion in the Baseline Stormwater Management Plan, establish a screening criteria for the selection of construction sites to be listed in a database.

2. By _____, the Permittees shall, in accordance with the Baseline Stormwater Management Plan and the Watershed Management Plan, ~~prioritize~~ identify sites of construction activity within their jurisdiction ~~on~~

~~their relative potential for the contamination of storm water and urban runoff.~~ The ~~categorical~~ list shall be based on the EAC criteria and may include:

a. All construction activity sites regulated under Phase I of the Federal storm water program (40 CFR 122.26).

b. All construction activity with sites greater than the size criteria established by the EAC, but less than five acres, in size.

c. Other construction activity sites considered by both the EAC ~~or~~ and the Regional Board to have a high potential for the contamination of storm water and urban runoff.

~~23.~~ By _____, the Permittees shall develop a database listing sites of construction activity identified in IV.C.2 ~~within each Permittees' jurisdiction.~~ Depending on resources and availability of information, the database ~~which shall~~ should be updated quarterly and ~~The database~~ shall include at a minimum:

a. ~~Facility owner's~~ Developer/Contractor/Site Superintendent name, address, and telephone number;

b. Site address and telephone number~~, and contact person~~;

~~c. Closest receiving water;~~

~~dc.~~ Type of construction activity;

~~e. Duration of project with start and end dates~~

~~fd.~~ Total size of project in acres, cubic yards (grading), or square feet; and

e. Percent impervious area, disturbed area and whether or not the project involves hillside development.

D. Prioritization of Sources

By _____, Permittees shall rank, based on their relative potential for the contamination of storm water and urban runoff, the construction activity sites, identified ~~as potential pollutant sources of storm water and urban runoff pollutants in IV.B.1.a,~~ in IV.C.3 in order of priority for oversight of implementation of storm water management measures. All construction sites shall be ranked in one of three categories (high, medium and low). [NEED DEFINITION OF HIGH, MEDIUM AND LOW] Factors such as the size of the project, site history, and whether or not the project involves hillside development should also be considered. A detailed description and schedule of implementation for ranking activities shall be included

in each Permittees Implementation Plan.

E. Planning Control Measures

By _____, Permittees shall submit a plan and schedule for adopting modifications to their planning processes. The plan should address the development of implementable design standards and the initiation of stormwater requirements for new development and significant redevelopment projects. These plans and schedules shall also be included in the Implementation Plans.

~~Permittees shall require that prior to the submittal of an application for the first planning or building approval for a new development project an applicant shall submit an Urban Runoff Mitigation Plan~~

1. As part of a public education/outreach program, all developers should be made to consider the following issues:

   a. ~~Be designed to reduce the~~ The reduction of runoff volume from the site and the pollutant load contributed by the site through incorporation of design elements and practices that address each of the goals set forth below in subsection (c). (Applicants should refer to the most recent edition of the Construction Best Management Practices Handbook, produced and published by the Storm Water Quality Task Force, for specific guidance on selecting best management practices for reducing pollutants in stormwater discharges from urbanized areas.)

   b. ~~Discuss compliance~~Compliance with the development requirements set forth by Permittee's legal authority; and

   ~~iii~~c. ~~Address the following goals~~Goals in connection with both construction and long term operation of the site are as follows:

      ~~a~~i. Maximize, to the extent practicable, the percentage of permeable surfaces in order to allow more percolation of runoff into the ground.

      ~~b~~ii. Minimize, to the extent practicable, the amount of runoff directed to impermeable areas ~~to the City's~~and to the stormwater system.

      ~~c~~iii. Maximize, to the extent practicable, stormwater filtration and storage for reuse through the use of sediment traps, cisterns or other means.

      ~~d~~iv. Minimize, to the extent practicable, parking lot pollution through the use of porous materials to allow percolation of

runoff, through the installation of appropriate treatment controls, or through other means.

A detailed process for the development of programs and/or activities to increase developer awareness shall be included in each Permittees Implementation Plan.

2. Developers of new projects or significant redevelopment projects that are expected to meet the established screening criteria for a construction site ranked high in IV.D, shall submit an Urban Runoff Mitigation Plan.

   a. The Urban Runoff Mitigation Plan should be submitted for approval prior to the receipt of any grading or building approval.

   b. The Urban Runoff Mitigation Plan should address all of the issues in IV.E.1.a, IV.E.1.b and IV.E.1.c.

~~iv. Compliance with an approval approved Urban Runoff Mitigation Plan shall be a condition of any required planning approval.~~

~~v. Failure to comply with an approval approved Urban Runoff Mitigation Plan after receiving any required planning approval shall be a misdemeanor.~~

3. Permittees shall require that the following planning control measures be incorporated into new development or significant redevelopment projects that are expected to meet the established screening criteria for a construction site ranked high in IV.D:

   a. Roof drainage shall be oriented towards permeable areas on site to the maximum extent practicable.

   b. Lot drainage shall be oriented towards permeable areas to the maximum extent practicable.

   ~~c. All parking lots shall be designed to contain one inch of precipitation in a 24 hour period.~~

   dc. Runoff from parking lots shall be directed to permeable areas to the ~~M~~maximum ~~E~~extent ~~P~~practicable.

A detailed process for the development of programs and/or activities to incorporate control measures into new development and significant re-development shall be included in each Permittees Implementation Plan.

F. Construction Site Control Measures

1. By _____, Permittees shall develop, as part of their Implementation Plan, a checklist of specific source control storm water and urban runoff control measures for construction activity ~~sites in IV. D.1.a.~~ The control measures must

a. address multiple pollutant sources;

b. initially focus on source control measures such as source minimization, education, good housekeeping, good waste management and good site planning; and

c. target ~~construction activity~~ source areas and activities with the ~~highest~~ potential to generate substantial pollutant loadings;

THE FOLLOWING SECTION WILL BE ADDRESSED IN THE MONITORING PROGRAM

~~2. By _____, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for construction sites in IV.B.1.a IV.D. A detailed description of the evaluation process should be included in each Permittees Implementation Plan. The structural control measures must be evaluated as to:~~

~~a. effectiveness in reducing sediment, toxic pollutants and pollutants of concern; and~~

~~b. ease of maintenance;~~

~~c. current frequency of use;~~

~~d. feasibility and cost-effectiveness; and~~

~~e. possible methods to ensure implementation.~~

~~By _____, Permittees shall describe any studies and pilot projects that may be conducted to assess the feasibility and effectiveness of specific control measures. A description and schedule shall be included in each Permittees Implementation Plan.~~

THE INTENT OF THE FOLLOWING SECTION IS INCLUDED IN SOURCE INSPECTION

~~2. By ____, Permittees shall have in place a process to ensure, to the maximum extent practicable, implementation and proper maintenance of storm water and urban runoff control measures identified in IV.F.b for sites associated with construction activity in IV.B.1.a high ranked construction sites in IV.D, including~~

~~a. use of qualified personnel to design, install, and maintain BMPs.;~~

~~ba. proper maintenance of BMPs incorporated into private developments (e.g., through deed restrictions, covenants, conditions and restrictions (CC&R);~~

~~cb. proper installation and maintenance of post-construction BMPs; and~~

42. By _____, Permittees shall require the following for ~~demolition/~~ construction ~~activity~~ sites ranked high in IV.D:

a. Sediment, construction waste and other pollutants from construction sites and parking areas shall be retained on the site to the maximum extent practicable.

b. Any sediments or other materials which are not retained on the site shall be removed within 24 hours from the time of notification, ~~or where determined necessary~~ by the Director of Department of Public Works, or a designated representative. In lieu of removal, a temporary sediment barrier ~~shall~~ may be installed if approved by the Director.

c. Excavated soil shall be located on the site in a manner that ~~eliminates~~ minimizes the amount of sediments running into the street or adjoining properties. Soil piles shall be covered until the soil is either used or removed.

d. Drainage controls shall be utilized as needed, depending on the extent of proposed grading and topography of the site, including but not limited to the following:

i. Detention ponds, sediment ponds, or infiltration pits.

ii. Dikes, filter ~~beams~~ berms or ditches.

iii. Downdrains, chutes or flumes.

iv. Silt fences.

e. ~~No washing of construction or other industrial vehicles shall be allowed adjacent to a construction site.~~ No water from washing construction equipment and/or vehicles ~~on a site~~ is allowed to run off into the ~~City's~~ storm drain system unless treated to remove sediments and pollutants.

~~d~~f. Grading shall be prohibited ~~prohibition on grading~~ during the wet season (Oct 15 -Apr 15) except for emergency action unless adequate erosion and sediment control measures are in place and maintained.

THE FOLLOWING TEXT WAS MOVED TO ANOTHER SUB-SECTION

~~f. Roof drainage shall be oriented towards permeable areas on site to maximum extent practicable.~~

~~g. Lot drainage shall be oriented towards permeable areas to the~~

~~maximum extent practicable.~~

~~h. All parking lots shall be designed to contain one inch of precipitation in a 24 hour period.~~

~~i. Runoff from parking lots shall be directed to permeable areas to the Maximum Extent Practicable.~~

~~5. Permittees shall require the following for construction activity:~~

g. ~~All c~~Construction ~~sites in hillside areas or~~ in areas adjacent to natural water-ways (soft bottom creeks), lakes or the ocean must ~~develop and implement sedimentation~~ include the development and implementation of and erosion control plans that incorporate the following elements: timing of construction, BMPs to reduce erosion of cleared hillsides (revegetation, jute netting, etc.), BMPs to reduce the velocity of runoff and sediment from the construction site, and BMPs to detain the flow of sediments from the site;.

h. ~~As a condition of granting a construction permit, set forth r~~Reasonable limits on the clearing of vegetation from construction sites, including, but not limited to, regulating the length of time during which soil may be bare, and, in certain sensitive cases, prohibiting bare soil.

A detailed process for the development of programs and/or activities to encourage these items shall be included in each Permittees Implementation Plan.

THE FOLLOWING TEXT IS TO BE DELETED, THE GCSP IS TO REMAIN A SEPARATE PERMITTING PROCESS

~~6. The EAC may seek coverage under this Order, for construction activity sites listed in III.B.1.a.1 which are owned and operated by Permittees if it:~~

~~a. establishes a procedure for notifying the Regional Board of construction activity on sites owned or operated by Permittees;~~

~~b. prepares a checklist of construction BMPs using BAT/BCT criteria for implementation by Permittees at these construction sites;~~

~~c. standardizes procedures to ensure implementation of construction BMPs by Permittees;~~

~~d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee construction sites; and~~

~~e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each construction~~

~~site, and certify compliance with this Order.~~

~~F~~G. Source Inspection

~~2~~1. By _____, Permittees shall develop and implement a construction activity inspection program. A schedule for the development and implementation of the inspection program shall be included in each Permittees Implementation Plan. The inspection program shall include, but is not limited to:

a. procedures for construction site inspections;

b. procedures for construction and building industry outreach on pollution prevention, waste minimization, and storm water quality management;

c. procedures to ~~ensure~~ require corrective action is be undertaken by contractors at non-complying sites;

d. procedures to follow-up on violations of municipal codes;

e. procedures for enforcement action against non-complying construction activity; and,

~~f. an electronic recording system to document the status of construction activity inspections; and;~~

~~g~~f. appropriate training for program staff.

~~1~~2. By _____, each Permittees shall submit a schedule for inspection of all construction activity sites in ~~IV.B.1.a.~~ IV.C.2.a, for adequacy of storm water pollution prevention measures and erosion control measures. The schedule shall ~~include;~~ be for a five year period.

3. By _____, each Permittees shall submit a schedule for inspection of construction activity sites ranked high in ~~IV.B.1.a.~~ IV.C.2.b and IV.C.2.c, for adequacy of storm water pollution prevention measures and erosion control measures. The schedule shall ~~include;~~ be for a five year period.

~~a. all construction activity identified in IV.B.1.a.1, and all construction activity identified in III.B.1.a and III. B.1.a~~

~~3~~4. During inspection of group ~~IV.B.1.a.1~~ IV.C.2.a sites, inspectors shall request to see a copy of ~~the~~ a SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may deem it necessary to report problematic construction sites to the Regional Board.

~~G~~H. Reporting

1. Each year, the Permittees shall evaluate the results and progress of their storm water quality management program for construction activity sites. The annual report submitted to the Regional Board shall recommend a strategy for the management of storm water from construction activity sites for the following year based on

   a. ~~priority~~ ranked construction site sources listing
   b. ~~priority~~ site inspections
   c. priority checklists of stormwater urban runoff control measures
   d. evaluations of structural and treatment control measures
   e. special studies and pilot projects needs
   f. specific site and activity monitoring needs

2. The EAC shall make available to the Regional Board the construction activity database developed in ~~IV.B.1.a.1~~ IV.C.3 in ~~the~~ an appropriate format when so requested.

~~H~~I. Conflicts with Other Mandates

~~1.~~ The Permittees, as they deem necessary, shall work with other regulatory agencies and report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this ~~permit~~Order and the requirements of other regulatory agencies.

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V. PUBLIC AGENCY REQUIREMENTS

A. Examination of Existing Activities

By _____, the Permittees shall develop and begin implementation of a program to examine their existing activities and measures described below to reduce the impact on stormwater quality from their operations. A schedule for the development and implementation of the program shall be included in each Permittees Implementation Plan.

B. Sewage Systems

1. All reasonable efforts shall be undertaken to keep sewage spills or leaks from entering the storm drain system. The EAC shall develop, for inclusion in the Baseline Stormwater Management Plan, procedures for sewage spill response by _____.

2. All reasonable operational control procedures for identifying, repairing, and remediating sewer blockages, exfiltration, overflow, and wet weather overflows from the sewers to the storm drain system shall be implemented to protect stormwater quality by _____ (by whom? EAC or Permittees?). These procedures shall include, but are not limited to, quick field response to overflows, follow-up testing, and complaint investigation.

3. By _____, the Permittees shall ~~insure that field personnel who operate and/or maintain sewer systems have procedural training for screening, sampling, smoke/dye testing, and TV inspection, if appropriate, to~~ be able to properly investigate any suspect connections or cross connections from the sewer system to the storm drain system using procedures such as field screening, sampling, smoke/dye testing, and TV inspection, if appropriate. A detailed description of the procedures shall be included in each Permittees Implementation Plan.

C. Construction Activities

By _____, Stormwater management requirements for private development shall be incorporated into the design and construction of all public facilities.

~~C~~D. Vehicle Maintenance/Material Storage Facilities

1. By _____, EAC will develop, for inclusion in the Baseline Stormwater Management Plan, a baseline pollution prevention plans for ~~each~~ all public vehicle maintenance/material storage ~~facility~~ facilities which discharge or have the potential to discharge pollutants into the storm drain system ~~category~~. Public vehicle maintenance/material storage facilities shall be

defined as any "Permittee owned" facility, or portion thereof, that:

a. Conducts activities, operates equipment, handles materials, and provides services equivalent to industries regulated under Phase I of the Federal storm water program (40 CFR 122.26), or

b. Performs fleet vehicle/equipment washing, fueling and maintenance, or

c. Performs maintenance and/or repair of heavy industrial machinery/equipment, or

d. Provides for storage of types of raw and waste materials in significant quantities to require implementation of a hazardous materials business plan or spill prevention, control and countermeasures plan.

Fleet maintenance shall be defined as washing of ten (10) or more vehicles per month, maintaining of ten (10) or more vehicles per month, or fueling of vehicles/equipment in excess of one thousand (1,000) gallons per month.

~~include any Permittee-owned and/or operated facility in which any of the following occur: vehicle or equipment maintenance; repair; washing; fueling; and/or any facility at which there is storage of reportable quantities of toxic chemicals or hazardous materials. (or "at which a hazardous materials business plan is required")~~

2. Best Management Practices (BMPs)

a. By _____, each Permittees will ~~have~~ develop, per EAC guidelines, a schedule for implementing site specific pollutant control measures together with ~~an~~ the baseline on- site pollution prevention plan ~~implemented~~ at ~~all~~ vehicle maintenance/material storage facilities identified in V.D.1. Permittees shall first identify the potential pollution sources and who is responsible for implementing the stormwater management measures. A schedule of implementation shall be developed based on the facility type, management practices, size of facility and site history. A detailed description of the program shall be included in each Permittees Implementation Plan.

~~b. Any BMPs to be implemented must be part of a comprehensive plan designed to address the various pollutant sources at each public vehicle maintenance/material storage facility. To achieve this goal, the~~

eb. BMPs that can be used to improve the quality of runoff include, but are not limited to:

i. Housekeeping practices;

ii. Material storage control;

iii. Vehicle leak and spill control; and

iv. Illegal dumping control.

~~dc.~~ Loading/Unloading of Materials

~~i.~~Employees or contractors of the Permittees who handle potentially harmful materials shall be trained in good housekeeping practices to prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

~~ii. Applicable BMPs shall be selected based on the following three factors:~~

~~1. Eliminating exposure of material to rainfall;~~

~~2. Checking equipment regularly for leaks; and~~

~~3. Containing spills.~~

ed. Material Storage Control

A program shall be developed to prevent or reduce the discharge of pollutants to stormwater from outdoor container storage areas using measures such as:

i. Installing safeguards against accidental releases;

ii. Secondary containment;

iii. Conducting regular inspections; and

iv. Training employees in standard operating procedures and spill cleanup techniques.

~~fe.~~ Vehicle and Equipment Washing and Maintenance

i. Washing of vehicles or equipment on-site shall be performed in a ~~designated area equipped with an oil/water separator~~manner that minimizes stormwater pollution or results in no discharge to the storm drain system.

ii. ~~The~~Sumps and separators, where used, shall be maintained/cleaned on a regularly scheduled basis appropriate to the facility.

iii. BMPs to be implemented as appropriate for vehicle and equipment maintenance shall include but not be limited to:

a. Waste reduction;

b. Use of alternate products;

c. Pollution prevention;

d. Recycling; and

e. Spill prevention and clean up.

THE FOLLOWING TEXT WAS MOVED FROM THE ILLICIT DISCHARGE/DISPOSAL CHAPTER

f. Storage of Materials, Machinery and Equipment

Permittees shall require:

~~a~~i. That objects, such as motor vehicle parts, containing grease, oil, or other hazardous substances, and unsealed receptacles containing hazardous materials, be stored ~~away from areas susceptible to~~so that they are not in contact with rainfall or runoff;

~~b~~ii. That machinery or equipment which is to be repaired or maintained in areas exposed to rainfall and/or susceptible to runoff, be ~~placed on~~repaired in a ~~pad of absorbent material, or an equivalent, to contain~~manner where leaks, spills ~~or small discharges~~and other maintenance related contaminants are not discharged to the storm drain system;

~~d~~iii. That all fuel and chemical residue, animal waste, garbage, batteries, or other types of potentially harmful materials which are located in areas exposed to rainfall and/or susceptible to runoff, be removed immediately and disposed of properly~~.~~ and;

~~e~~iv. That hazardous waste be disposed of ~~through the Permittee's hazardous waste program or at any other~~ an appropriate disposal site, and not be placed in a trash container for regular trash disposal.

Programs and/or activities to implement these activities shall be included in the Baseline, Watershed, and Implementation Plans.

6g. Waste Handling and Disposal

Wastes shall be managed to prevent stormwater pollution.

~~D~~E. Parks and Recreation

1. Fertilizers/Pesticides

a. Permittees shall develop, as part of their Implementation Plans, procedures on the proper application of pesticides, herbicides, and fertilizers by _____. Procedures shall include:

i. List of approved pesticides and selected use;

ii. Product and application information;

iii. Equipment use and maintenance procedures; and

iv. Record keeping.

b. Landscape waste shall not be ~~discharged~~ disposed of into the storm drain system.

c. Storage areas for fertilizers and pesticides shall be designed and maintained to reduce exposure to stormwater. The following BMPs shall be utilized where appropriate:

i. Store materials inside or under cover on paved surfaces;

ii. Use secondary containment;

iii. Minimize storage and handling of hazardous materials; and

iv. Inspect storage areas regularly.

2. Facility Management

a. Wash waters that would cause adverse impact cannot be discharged into the storm drain system without appropriate treatment.

b. Landscape maintenance involving the use of pesticides and fertilizers shall ensure the proper use of these materials to minimize ~~loss to storm water~~pollution of stormwater.

c. Retention and planting of native vegetation to reduce water, fertilizer, and pesticide needs shall be encouraged.

d. Use of Integrated Pest Management (IPM) shall be encouraged.

e. ~~A schedule~~ Practices for irrigation and fertilization shall be regularly reviewed ~~developed by, _____ (by whom? EAC or Permittees?)~~, to minimize:

i. Chemical application during wet season and no chemical application during storms; and,

ii. Over watering that may lead to runoff that contains nutrients and pesticides.

f. The drainage of commercial/municipal swimming pool water shall only be discharged into the sanitary sewer under separate Waste Discharge Requirements.

g. As part of its Implementation Plan, each Permittee shall develop BMPs to minimize trash, debris, and other pollutants from entering Permittee owned recreational water bodies by _____. These measures shall include:

i. Routine trash collection along, on, and/or in, water bodies, where feasible; and

ii. Public outreach to educate the public about impacts of illegal dumping.

~~EF.~~ Storm Drain System Operation and Management

1. Inlet Maintenance

BMPs to be implemented by each Permittee for effective catch basin cleaning shall include, but not be limited to the following:

a. All reasonable efforts shall be made to inspect and/or clean catch basins ~~shall be inspected and cleaned~~ between May 1 and October 15 of each year;

b. Between October 15 and April 15, catch basins shall be maintained as necessary~~:~~;

c. Records shall be kept of the number of catch basins cleaned; and

d. Track the amount of waste collected.

These BMPs shall also be incorporated into each Permittees Implementation Plan.

2. Storm Drain Maintenance

a. ~~Material removed from storm drains and catch basins shall be disposed of properly.~~

~~b.~~ Trash and debris from open channel storm drains shall be removed at least annually between May 1 and October 15 of each year.

~~e~~b. Open channels shall also be monitored during the rainy season for any debris buildup and cleaned where needed.

3. Waste Management

a. Under their Implementation Plans, the Permittees shall implement a program by _____, to identify problem areas of illegal dumping so regular inspection and clean up can maintain the channel's optimum capacity and prevent the discharge of contaminants.

b. Material removed from storm drains and catch basins shall be disposed of properly.

4. Dry Wweather Sstorm Ddrain Ddiversion

The Permittees shall investigate the feasibility of diverting dry-weather flows from the storm drain system to POTWs where appropriate. The initial investigation shall be completed by _____. A detailed description of the feasibility investigation shall be included in each Permittees Implementation Plan.

~~F~~G. Streets and Roads

In their Implementation Plans, Permittees shall describe programs and/or activities to address pollution from public agency activities associated with streets and roads.

1. Sweeping of curbed streets:

a. ~~Sweeping of~~ Curbed streets shall ~~occur at least~~ be targeted for monthly sweeping.

b. Where feasible, areas generating excessive refuse shall be swept more frequently.

2. Maintenance

a. Existing saw-cut management and paving practices conducted by the Permittees shall be evaluated and appropriate, feasible and cost

effective control measures developed.

b. Paving control measures to be considered that would help reduce the impacts to stormwater include, but are not limited to:

i. Avoid paving during wet weather; and

ii. Store materials away from drainage courses to prevent pollution of stormwater runoff.

c. Refuse collected shall be transported to appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations.

d. Good housekeeping practices shall be implemented to insure proper management of any waste products that may be generated during maintenance activities.

e. To reduce stormwater pollution from concrete materials and wastes:

i. Washout of concrete trucks should be conducted off- or on-site in designated areas. Do not wash out concrete trucks into storm drains, open ditches, streets, or streams;

ii. Store materials under cover, and away from drainage areas when feasible; and

iii. Avoid mixing excess amounts of concrete or cement on-site.

f. Employees shall be trained in the implementation of good housekeeping measures. Training shall:

i. Promote a clear understanding of the potential for maintenance activities to pollute storm water; and

ii. Identify solutions (BMPs selection);.

~~G~~H. Flood Control

1. By, _____, the Permittees shall develop and implement procedures to assess the impact(s) of new flood management projects on the quality of receiving water bodies. A schedule for the development and implementation of assessment procedures shall be included in each Permittees Implementation Plan.

2. The Permittees shall undertake pilot projects/studies to determine the applicability of altered structural flood control system elements to provide

pollutant removal in stormwater. (Group effort? WMC?)

3. During construction, appropriate BMPs shall be utilized to control pollutants.

4. Current maintenance activities with regards to desilting/sediment removal, vegetation management, and waste management shall be reviewed to assure that appropriate management measures are developed to comply with the stormwater regulations.

~~H~~I. Parking Facilities

~~That owners of~~ Permittee owned motor vehicle parking lots with more than twenty-five (25) parking spaces ~~and structures~~ located in areas exposed to rainfall and/or susceptible to runoff shall be swept regularly to remove debris. ~~Lots with more than ten (10) parking spaces and all public parking facilities shall also be vacuum swept to remove chemical residue~~ A schedule for the development and implementation of cleaning activities at parking facilities shall be included in each Permittees Implementation Plan.

~~September 15, 1995~~ September 27, 1995

VI. PUBLIC INFORMATION AND PARTICIPATION

CHAPTER TO BE RE-WRITTEN

To reach as many Los Angeles County residents as possible, a comprehensive educational outreach approach shall be undertaken under this Order. Each Permittee shall choose an appropriate combination of outreach tools and activities to raise public awareness of storm water issues and improve water quality.

Outreach Materials

Outreach programs shall consist of written, audio, and visual materials and, when necessary, translated into appropriate languages or structured for appropriate ages. Permittees shall incorporate interactive methods of distributing outreach materials and provide for public participation in activities developed under this section.

A. Written Material

~~1.~~ Each Permittee shall produce a variety of written materials to convey information regarding storm water management within County watersheds.

~~2.~~ Written materials shall include, but are not limited to: flyers, brochures, door-hangers, newspaper articles, mail-inserts, and newsletters.

B. Audio Material

~~1.~~ Each Permittee shall singularly or collectively utilize radio broadcast public service announcements to convey information regarding storm water management except in areas where public access radio stations are not available.

~~2.~~ Examples of audio materials include radio advertisements, public service announcements, and informational recordings.

C. Visual Material

~~1.~~ Each Permittee shall implement a catch basin labeling program as well as other strategies such as banners, displays and posters to educate the public on the ultimate destination of storm drain system flows.

~~2.~~ Each Watershed Management Committee shall produce or acquire at least one informational video regarding stormwater management. The video shall be shown on a regular basis on televised public service stations and cable access programs ~~except in areas where cable access programs are not available.~~ Further methods of distribution may include workshops, libraries, etc.

D. Distribution of Materials

Outreach materials shall be made available to the public at appropriate public counters and distributed at public events. Examples include fairs, festivals, public meetings, community events, school assemblies, etc.

General Education Strategy

A. The EAC shall develop and the Permittees shall implement a 5-year urban runoff education strategy. The intent of the strategy shall be to enhance public awareness of the impact of storm water pollution on receiving waters and to discourage improper waste disposal practices. Outreach efforts shall be conducted throughout the watershed. The public shall be made aware of their responsibility for both the problems and solutions to storm water pollution. A watershed-wide program shall be implemented by _____.

Development and implementation of the education strategy shall be based on the four objectives listed below:

1. Promoting clear identification and understanding of the problem, including activities with the potential to pollute storm water;

2. Identifying solutions or applicable measures (Best Management Practices) that can be taken to prevent storm water pollution;

3. Raising public awareness of the problems and solutions; and

4. Incorporating solutions back into programs, training and BMP implementation.

B. Efforts shall be made to identify land uses and activities that have a higher potential for storm water/urban runoff pollution by focusing on specific pollutants, disposal practices, materials used, etc. To prevent storm water/urban runoff pollution, outreach materials shall be provided on the appropriate selection and implementation of BMPs accordingly. A watershed-wide program shall be developed by _____.

1. Pollutant Specific: The reduction of specific pollutants of concern in a particular watershed shall be addressed in a focused public education and outreach program.

2. Activity-specific: Activity-specific outreach programs shall be developed and implemented throughout the watershed. Written, audio, or visual outreach tools should address three primary topics:

   a. Identification of activities potentially causing storm water pollution;

   b. Implementation of Best Management Practices to prevent storm water pollution.

c. Recognizing and reporting occurrences of storm water polluting activities.

The Permittees shall continue to develop activity-specific outreach programs that inform residents about the problem of illicit discharges and dumping and that promote, publicize, and facilitate public reporting of these activities. The program shall also include continuing operation, maintenance, and promotion of the county-wide reporting hotline.

C. The Permittees shall make an effort to list pertinent City phone numbers under the City government directory located in the front section of local area phone books. This shall be updated annually as necessary and shall, at a minimum, include numbers for reporting on clogged catch basin inlets reporting illegal discharges/dumping and a general informational number for storm water. These phone numbers may be city-specific or area-wide.

D. All reasonable efforts to coordinate public outreach efforts shall be undertaken. This may include coordinating with environmental groups and public agencies such as the California Coastal Commission, the Department of Beaches and Harbors, Resource Agencies, etc.

Outreach to Target Audiences

Permittees shall develop and implement an educational program that stresses pollution prevention for a variety of audiences, including local residents, school-aged children, businesses and public employees whose job functions and daily lives may impact storm water quality. The program may be developed locally or regionally ~~and shall include at a minimum~~:

~~• Education on the proper use and disposal of pesticides, herbicides and fertilizers;~~

~~• Education on the definition of, identification of, and impacts associated with illicit discharges and procedures for reporting~~

~~• Promotion of proper management of and disposal practices for used oil and hazardous substances.~~

A. ~~Local~~ Residents

1. Permittees shall develop a program to educate local residents on types of household hazardous wastes along with proper management and disposal methods. The program shall at a minimum include:

a. Information on the availability of collection services, such as location and schedule;

b. Production of public outreach materials that educate residents on

source reduction and proper disposal methods for household hazardous wastes; and

c. Continue to encourage residents to recycle of oil, antifreeze, glass, plastics, batteries, etc. and to prevent the improper disposal of such materials to the storm drainage system.

d. Where applicable for fire and erosion prevention, mowing shall be encouraged as opposed to disking. An investigation of effectiveness shall be undertaken.

Educational efforts throughout the watershed should also provide residents with detailed information regarding the Los Angeles County-wide Household Hazardous Waste Management Program. Other local programs shall be advertised as appropriate.

2. Permittees shall develop and encourage watershed residents to participate in specific storm water outreach programs. Residents shall be informed of and provided with the opportunity to share ideas and comments about the programs. Permittees shall demonstrate that a good faith effort has been made to outreach to different communities within the watershed. The watershed-wide outreach program shall be implemented by _____. ~~This shall at a minimum include:~~

~~a. Where applicable for fire and erosion prevention, mowing shall be encouraged as opposed to disking. An investigation of effectiveness shall be undertaken.~~

3. Cooperative Public Outreach

In order to promote public participation, cooperative outreach programs with local residents shall be developed. These cooperative programs should foster awareness and identification of storm water pollution issues among residents in the watershed. Catch basin ~~labelling~~labeling and other established sign programs are excellent examples of this type of cooperative effort, as are events like the "Storm water Pollution Awareness Week." One possibility for cooperative outreach is an "Adopt-A- " program. Residents can "adopt" highways, storm drains, catch basins, streams, etc. to monitor, restore and protect. The purpose of all cooperative outreach programs created is to inform and involve the public in storm water management.

4. Complaint Procedures

Public comments/complaints shall be requested by the Permittees in order to help gauge the success and effectiveness of storm water programs.

5. "Do-it-Yourself"ers

B. K-12 School Children

School children can play an important role in public information and participation programs, as they are generally more easily motivated and any behavior changes they make tend to stay with them through adulthood. School children can also convey storm water pollution prevention messages to other family members.

School programs shall include information on storm drain systems, the difference between sewers and storm drains, the importance of preventing storm water pollution, and may also address, illegal discharges/dumping and reporting procedures, source minimization, and general pollution prevention. Written materials (workbooks and coloring books), videos, assemblies, and field trips are examples of effective components of a K-12 educational program.

C. Businesses

A ~~detailed~~ public education and outreach program shall be developed for business operations with greater potential of discharging pollutants into the storm drain system. The program shall ~~include~~encourage employee training on and the effectiveness of implementing BMPs to reduce nonpoint source pollution. In addition to written, audio, and visual materials, other possible means of focused outreach may include: conducting workshops, mass mailings, submitting informational articles to trade/industry magazines, etc.

A watershed-wide, general outreach program shall be set up by the WMC for all industrial and commercial facilities potentially discharging to the storm drain system. Furthermore, the WMC shall provide specific guidance objectives to these facilities regarding storm water program compliance by _____, and inform and remind all potential commercial and industrial dischargers of their obligations under the storm water program. The Permittees shall also encourage the proper disposal of all materials from industrial and commercial sites.

Prior to the WMC providing specific guidance objectives, subcommittees shall be established, as needed, to develop specific outreach materials for industrial/ commercial categories and specific "high priority" activities. This shall include at a minimum: metal platers, restaurants, vehicle related facilities, etc...

D. Public Agencies and Employees

Public agency employees shall be trained on storm water management and pollution prevention practices and involve employees on many different levels - from program managers to field personnel. Training programs shall include, but are not limited to, articles in City newsletters, training classes, checklists for field personnel, and interdepartmental forums or committees. Materials developed for other audiences may also be used in these public agency employee training programs. Appropriate

public agency employees shall be trained in:

1. Emergency spill cleanup procedures.

2. Environmentally sensitive alternative products.

3. Good housekeeping practices.

Permittees shall provide outreach materials to the general public through business license renewal counters and/or make efforts to outreach through professional and business associations. Additionally, Permittees should consider producing educational materials for professionals and technicians not employed by public agencies.

~~Outreach Based on Activity Type~~

~~A.~~ ~~Industrial/Commercial~~

~~A watershed wide, general outreach program shall be set up by the WMC for all industrial and commercial facilities potentially discharging to the storm drain system. Furthermore, the WMC shall provide specific guidance objectives to these facilities regarding storm water program compliance by _____, and inform and remind all potential commercial and industrial dischargers of their obligations under the storm water program. The Permittees shall also encourage the proper disposal of all materials from industrial and commercial sites.~~

~~Prior to the WMC providing specific guidance objectives, subcommittees shall be established, as needed, to develop specific outreach materials for industrial/commercial categories and specific "high priority" activities. This shall include at a minimum: metal platers, restaurants, vehicle related facilities, etc...~~

~~B.~~A. Construction

The Permittees shall ensure that contractors properly install all necessary post - construction, permanent BMPs during initial construction and that any necessary maintenance needed during construction is performed. There shall be specific programs outlining correct practices.

In an effort to prevent concrete waste from entering the storm drain system, contractors shall observe the following guidelines:

1. Washout of concrete trucks should be conducted off-site or on-site in designated area;

2. Excess concrete should not be dumped on site; and

3. Employees and subcontractors should be trained in proper concrete waste

management.

Evaluation

The EAC shall develop a process to evaluate the effectiveness of all public outreach programs implemented under this ~~permit~~Order. Surveys and focus groups are examples of methods that can be used to gauge a program's effectiveness. They can also be used to provide insight into the program's direction and to help formulate attainable goals. Results of any evaluation method used shall indicate the community's level of awareness of storm water pollution. A watershed-wide program shall be implemented by _____.

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~~August 25, 1995~~ September 27, 1995

VIII. PROGRAM EVALUATION AND REPORTING

The program may be modified subject to comments received under the Annual Review.

A procedure shall be developed and utilized for program evaluation and reporting by the Principal Permittee during the course of this ~~permit~~Order. Under this procedure as outlined below, the EAC shall develop action-specific performance indicators and criteria, perform evaluation of compliance and effectiveness based on the performance criteria, establish schedules and mechanism for internal record keeping and reporting, and submit ~~semi-annual and~~ annual reports to the Regional Board using a standardized format.

The EAC, WMC, and/or each Permittee are responsible for collecting data needed for program evaluation, conducting self-evaluation, and reporting the results of evaluation to the Regional Board. The results reported to the Regional Board shall include both the collected data and analysis of the data. The annual reports shall include detailed explanation on how the evaluations are conducted, how and why certain provisions of the permits are met or not met, how the effectiveness of certain BMPs is determined or is not, and should a problem arise, how it shall be corrected. The Regional Board will make a compliance determination based on information submitted under this procedure.

A. Demonstration of Compliance

1. Each Permittee is responsible for demonstrating that the required BMPs as prescribed under this ~~permit~~Order, as well as other BMPs included in the Watershed Management Plans, are implemented to the "maximum extent practicable." Each Permittee shall implement the required BMPs to the maximum extent practicable.

2. The Watershed Management Committees are responsible for demonstrating the effectiveness of other BMPs through conducting and reporting the results of pilot/demonstration projects for evaluating the effectiveness of BMPs in the watershed.

3. The degree and the effectiveness of BMP implementation shall be evaluated and reported by the Permittees using environmental and/or administrative indicators whenever possible. When environmental indicators are not readily and/or easily available, administrative indicators shall be used. These shall include indicators prescribed under relevant provisions of this ~~permit~~Order, and/or other indicators deemed appropriate by the Watershed Management Committee, the Executive Advisory Committee, and/or ultimately the Regional Board. Examples of the quantitative indicators include the number of inspections conducted, number of staff increase, number of audience reached through public education, waste recycled, water conserved, hazardous waste collected, oil recycled, ~~catchbasin~~catch basin waste removed, etc. Quantitative indicators of environmental conditions should also be reported if they can be linked to the effects of the BMP

implementation.

4. In order to yield comparable results for year to year evaluation on the success, the progress, and/or the failure in BMP implementation, and comparable results from area to area, a uniform data collection methodology shall be established for each of the required BMPs. The uniform data collection methodology shall be developed by the Executive Advisory Committee. Subsequently, each report on BMP implementation shall provide comparison with the implementation status during the previous reporting period and the scheduled implementation timeline for the current and future reporting periods, based on data collected using the uniform collection methodology.

B. Internal Reporting and Record Keeping

1. In order to facilitate the preparation of ~~semi-annual and~~ annual reports, the EAC shall develop standard forms for internal reporting to be used by all Permittees within the watershed. The forms shall collect all the information essential to the preparation of the annual and semi-annual reports and to the needs of other management actions by the Watershed Management Committees, EAC, and/or the Permittees. Reported information shall be quantifiable and specific for each program area and/or BMP. The dates for submitting the internal reports shall allow sufficient time for compilation and analysis by the Watershed Management Committees and/or the EAC for the preparation of ~~semi-annual and~~ annual reports to the Regional Board.

2. All records shall be retained by the Permittees for a period of 5 years or longer as required by the Regional Board or USEPA.

C. ~~Semi-annual and~~ Annual Reports

The requirements under VIII.A shall be met by the submittal of ~~semi-annual and~~ annual reports. ~~Semi-annual reports shall succinctly summarize compliance efforts and may consist of simple compliance checklists. Annual reports shall be comprehensive.~~

~~1. Semi-annual Report~~

~~a. The EAC shall submit a semi-annual progress report to the Regional Board by _____ of each year. Semi-annual reports must be submitted to the Regional Board within 30 days after the end of the six month period. These six month periods are Jan. - June, and July - Dec. (TO BE DETERMINED).~~

~~b. The semi-annual report shall serve as a status report on the progress of the implementation of the Stormwater Management Plan and other permit provisions of this Order. The Watershed Management~~

~~Committee is responsible for collecting and compiling information from each Permittee prior to preparation of the semi-annual report, and include the compiled information along with the information analysis into the report.~~

~~c. The semi-annual report shall consist of a summary table illustrating the levels of implementation for all requirements by each Permittee. Tables shall be developed for each program element listing the Permittees, describing the status of implementation by each Permittee of the element, and documenting any modifications of the element from the standard program.~~

~~2. Annual Report~~

a. The Executive Committee shall submit an annual report to the Regional Board not more than 60 days after the end of each permit year (_____). The annual report shall include both a summary of the progress and status of Stormwater Management Plan implementation, a summary on status of compliance with all ~~permit provisions~~provisions of this Order, a report on the evaluation of program effectiveness, and a summary of recommendations for ~~permit provision~~ revisions to the provisions of this Order. The Permittees as a whole (within watershed management areas) shall describe any problems encountered during implementation and discuss the modifications to the program in order to solve these problems.

b. The Principal Permittee shall collect, compile, and analyze information from each Permittee within the watershed prior to preparation of the annual report. The Watershed Management Committee shall include the compiled information and its analysis (instead of raw data or copy of internal reports) in the annual reports.

c. The annual report shall include a summary table illustrating the levels of implementation for all Permittees. Tables shall be developed for each program element listing all the participating Permittees and describing the status of implementation by each Permittee of the element. A table shall also be included to summarize the status of the program elements for which the Watershed Management Committee bears the primary implementation responsibility. Besides summary tables, the report should provide detailed explanation on any modifications made of the program elements (delays, changes, etc.) from the standard provisions and provide an analysis of any problems encountered during the implementation and the proposed solutions.

d. The annual report shall include an assessment of the effectiveness of each program elements using the performance evaluation indicators

and criteria developed under Section A of this Chapter, and the results of the pilot/demonstration projects conducted within and/or outside the watershed. The findings should be presented graphically for ease of comparison with the established levels of effort.

e. A fiscal analysis and budget as described under I.I (Fiscal Resources) of this Order shall be submitted annually within 30 days of the Budget adoption date for each Permittee.

D. Baseline Stormwater Management Plan and Watershed Management Plan Revisions

1. Revisions to provisions of this ~~permit~~ Order can be made through the order of the Regional Board. The EAC can recommend and request revisions to the Stormwater Management Plan through documentation in the annual reports.

2. Recommended revisions shall be supported by the results of a program evaluation. Recommended revisions to the Stormwater Management Plans may be made if it can be demonstrated that 1) the changes will lead to improvement of the effectiveness of this program, 2) the changes will result in positive impacts of environmental conditions, and 3) that the current measures have been implemented to the "Maximum extent practicable" as defined in Section VIII.A. Any recommended revisions shall not take effect unless approved by the Executive Officer.

3. Revisions may be made to the Storm Water Management Plans by the Executive Officer or the Regional Board based upon public input and/or testimony.

IX. MONITORING PROGRAM OUTLINE 01 September 1995
TO BE RE-WRITTEN BASED ON COUNTY'S SETTLEMENT WITH NRDC

I. GENERAL

1. Revisions of the monitoring and reporting program may be necessary to ensure that the discharger is in compliance with requirements and provisions contained in this Order. Revisions may be made by the Executive Officer at any time during the term of this Order, and may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, the location of monitoring sites, the number and/or size of samples collected, and/or any other measures necessary to improve the effectiveness of the program.

2. All sample collection, handling, storage, and analyses shall be in accordance with 40 CFR 136.

3. The Permittees may complement their monitoring data with data from other areas provided the characteristics are similar to characteristics in the Los Angeles County Watershed Management Areas.

4. The Permittees shall implement the monitoring programs submitted under NPDES Permit No. CA0061654 between 1992 and 1995 until acceptable watershed monitoring programs are developed and implemented.

II. OBJECTIVES

The overall goal of this monitoring program is to develop and support effective watershed specific storm water quality management programs.

The following are major objectives:

1. To track water quality status, pollutant trends, pollutant loads, and pollutants of concern.

2. To monitor and assess pollutant loads from specific land uses and watershed areas.

3. To identify, monitor, and assess significant water quality problems related to storm water discharges within the watershed.

4. To identify sources of pollutants in storm water runoff to the maximum extent possible (e.g., atmospheric deposition, contaminated sediments, other nonpoint or point sources, etc.).

5. To identify and eliminate illicit discharges.

6. To evaluate the effectiveness of existing management programs, including

scientific estimation of pollutant reductions achieved by structural and nonstructural BMPs.

7. To assess the impacts of storm water runoff on receiving waters. (This may be a coordinated effort among point source dischargers, SCCWRP, etc...)

III. MONITORING PROGRAM REQUIREMENTS

The Permittees shall develop and submit for the approval of the Executive Officer an integrated watershed monitoring program to achieve the above stated objectives. The Executive Officer or his/her designated representative(s) shall facilitate the coordination meetings or subcommittees formed to achieve this goal. The development and implementation of the monitoring program shall be in accordance with the time schedule prescribed by the Executive Officer. At a minimum, the program shall include the following:

1. A mechanism for the collection, analysis and interpretation of existing data from monitoring programs within Los Angeles County. These and other data from local, regional or national sources should be utilized to characterize different storm water sources; to determine pollutant generation, transport and fate; to develop a relationship between land use, development size, storm size and the event mean concentration of pollutants; to determine spatial and temporal variances in storm water quality and seasonal and other bias in the collected data; and to identify any unique features of the watershed management areas in the County of Los Angeles. The Permittees are encouraged to use data from similar studies, if available.

2. Rationale for selection of monitoring locations, parameters, number and frequency, and analytical methods.

3. A description of the monitoring program shall include at a minimum:

   a. The number and location of monitoring stations;

   b. Targeted monitoring indicators (e. g., ecosystem, biological diversity, in stream toxicity, habitat, chemical, sediment, stream health, etc.) chosen for monitoring;

   c. Parameters selected for field screening and for laboratory work and their detection limits;

   d. Total number of samples for statistical significance to be collected from each station, receiving water and major outfall monitoring, frequency of sampling during dry weather and short or long duration storm events, type of samples (grab, 24-hour composite, etc.), and the type of sampling equipment;

   e. Uniform guidelines for quality control, quality assurance, data

collection and data analyses; and

f. Data storage and transfer format, accessibility, etc...

4. A method for analyzing the collected data and interpreting the results including an evaluation of the effectiveness of the management practices, and need for any refinement of the management practices.

5. A description of the responsibilities of all the participants in this program including cost sharing.

6. A description of computer software and ~~modelling~~modeling programs that will be utilized to assess data, interpret information, etc...

7. A description of how data will be utilized for feedback into the storm water management program.

The ~~Discharger~~Permittees shall comply with the attached Monitoring and Reporting Program, which is part of this Order, and any revisions or modifications thereto, as ordered by the Executive Officer.

It is anticipated that the initial storm water management program, as delineated in the Plan and/or implementation agreement, may need to be modified, revised, or amended from time-to-time to respond to changed conditions and to incorporate more effective approaches to pollutant control. Minor changes may be made at the direction of the Executive Officer. Minor changes requested by the ~~Discharger~~Permittees shall become effective upon written approval of the Executive Officer. If proposed changes imply a major revision in the overall scope of effort of the program, such changes must be approved by the Regional Board as permit amendments.

This Order may be modified, revoked, or reissued, prior to the expiration date as follows:

a. To address changed conditions identified in the required technical reports or other sources deemed significant by the Regional Board;

b. To incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

c. To comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirements of the CWA then applicable; or

d. Any other Federal or State Laws or Regulations become effective which necessitate changes.

The issuance of this permit is not intended to, and does not, absolve the ~~Discharger~~Permittees of liability for conduct which may have constituted a violation of the previous Board Order 90-079 (CA0061654, CI 6948) adopted by this Regional Board on June 18, 1990.

This Order expires on _____. The ~~Discharger~~Permittees must submit a complete Report of Waste Discharge including a revised Storm Water Management Plan in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Robert P. Ghirelli, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December __, 1995.

ROBERT P. GHIRELLI, D.Env.

Executive Officer

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ATTACHMENT A

NPDES STORM WATER PERMIT
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural

Agoura Hills
Calabasas
Caltrans
Los Angeles County
Malibu
Westlake Village
Ventura County

Ballona Creek and Other Urban

Beverly Hills
Caltrans
Culver City
El Segundo
Hermosa Beach
Los Angeles
Los Angeles County
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates
Santa Monica
West Hollywood

Dominguez Channel/
Los Angeles Harbor Drainage

Caltrans
Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles
Los Angeles County
Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Caltrans
Commerce
Compton
Cudahy
El Monte
Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Long Beach
Los Angeles
Los Angeles County
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount
Pasadena
Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park
Bellflower
Bradbury
Caltrans
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
Long Beach
Los Angeles County
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

Caltrans
Los Angeles County
Santa Clarita

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CITY HALL 1400 HIGHLAND AVENUE MANHATTAN BEACH, CALIFORNIA 90266-4795
TELEPHONE (310) 545-5621 FAX (310) 545-5234 TDD (310) 546-3501

VIA TELECOPIER TO: (213) 266-7626
October 20, 1995

Ms. Catherine Tyrrell
Asst. Executive Officer
California Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754

Re: Comments on Draft NPDES Permit (NPDES No. CAS0051654)
Draft of (September 15, 1995)

Dear Ms. Tyrrell:

The City of Manhattan Beach is concerned that the September 15, 1995 RWQCB draft NPDES Permit has numerous provisions not required by the federal Clean Water Act or any other law. In addition, it appears that some provisions required by the EPA for stormwater permits are missing. For these reasons, we ask that another draft be circulated for comment. The new draft should clearly identify the specific section of the Clean Water Act, or implementing regulations, which provides the basis for each requirement proposed to be included in this permit. Only then can an informed judgment be made as to the appropriateness of inclusion of permit provisions.

The City has reviewed a proposed *"Substitute Draft" Permit, which provides revisions to be made to the draft.* We adopt the comments in the "Substitute Draft" as our own.

In view of the length and complexity of the draft NPDES permit, we ask that written responses be prepared to these comments and that the comment period be extended for an additional 30 days following the release of your responses.

Thank you for your anticipated cooperation.

Sincerely,

Neil Miller
Director of Public Works

NM:TCW:mh
ent
olan, City Manager
. Young, BWS

IRE DEPARTMENT ADDRESS 400 15TH STREET, MANHATTAN BEACH, CA 90266 FAX (310) 545-8925
OLICE DEPARTMENT ADDRESS 420 15TH STREET, MANHATTAN BEACH, CA 90266 FAX (310) 545-7707
JC WORKS DEPARTMENT ADDRESS 3621 BELL AVENUE, MANHATTAN BEACH, CA 90266 FAX (310) 546-1752

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Sincerely,

Neil Miller
Director of Public Works

NM:TCW:mh
Attachment
cc: Geoff Dolan, City Manager
Rufus C. Young, BWS

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This redlined draft shows the differences between L:\RCYOUNG\PUBL\137989.1 and I:\RCYOUNG\PUBL\137989.2. Deletions appear as struck-through text and Additions appear as double underlined text.

INTRODUCTORY NOTE TO "SUBSTITUTE DRAFT" VERSION OF DRAFT ORDER

The September 15, 1995, RWQCB draft is replete with provisions not required by the federal Clean Water Act or any other law. In addition, it appears that some provisions required by the EPA for stormwater permits are missing. For these reasons, the next "official draft" circulated for comment should clearly identify the specific section of the Clean Water Act, or other law, which provides the basis for a requirement proposed to be included in this permit. Only then can an informed judgement be made as to the appropriateness of inclusion of permit provisions.

This Substitute Draft provides revisions which should be made to the draft, in order to link the draft to the underlying legal authority, the Clean Water Act, which itself is under consideration for major revisions. For this reason, the term "to the extent required by the Clean Water Act" has been inserted at numerous places throughout this Substitute Draft. Other cleanup provisions are also included.

Italicized text is intended as commentary on the draft, it is not intended to be included in the text.

September 15, 1995

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

ORDER NO. 95-XXX

WASTE DISCHARGE REQUIREMENTS
FOR
STORMWATER MANAGEMENT/URBAN RUNOFF DISCHARGES
WITHIN THE COUNTY OF LOS ANGELES

(NPDES NO. CAS0051654)

The California Regional Water Quality Control Board, Los Angeles Region, finds:

(The findings are currently being developed.)

VOL 24

0401

This redlined draft shows the differences between I:\RCYOUNG\PUBL\137989.1 and I:\RCYOUNG\PUBL\137989.2. Deletions appear as struck-through text and Additions appear as double underlined text.

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September 15, 1995

A. Discharge Prohibitions

(Currently under discussion with the negotiation team.)

[NOTE: Should conform to, but not exceed, prohibitions required by the Clean Water Act.]

B. Receiving Water Limitations

(Currently under discussion with the negotiation team.)

[NOTE: Should conform to, but not exceed, prohibitions required by the Clean Water Act.]

C. Provisions

i. The Dischargers shall comply with Discharge Prohibitions (above), and Receiving Water Limitations (above), through the timely implementation of control measures ~~and other actions~~ as required by the Clean Water Act, to reduce ~~pollutants in the~~ pollutant discharge as proposed in this Order.

I. PROGRAM MANAGEMENT

A. Principal Permits

1. The County of Los Angeles is designated as the Principal Permittee.

2. The Principal Permittee shall, to the extent required by the Clean Water Act:

a. Coordinate permit activities and, by _____, convene and chair the area-wide Executive Advisory Committee and the Watershed Management Committees;

b. Provide personnel and fiscal resources and by _____, develop a Baseline Stormwater Management Plan (Plan) for use in developing a watershed management plan (WMP) for each watershed;

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[NOTE: It is essential that the findings be drafted in a manner which does not needlessly implicate the County and the Cities with respect to liability asserted against them by the alleged industrial polluters in the case of United States and State of California v. Montrose Chemical Corporation of California, et al., now pending in the U.S. District Court for the Central District of California. This case is a Natural Resources Damages Claim case filed under the federal Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" or "Superfund") 42 U.S.C. §§ 9601 et seq. The alleged industrial polluter defendants have filed third party against the County, the Cities and the State. Damages could reach into the hundreds of millions of dollars.]

This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the federal Clean Water Act, ~~or~~ and amendments thereto, and shall take effect at the end of ten (10) days from the date of its adoption provided the Regional Administrator, USEPA, has no objections.

IT IS HEREBY ORDERED that the County of Los Angeles and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardens, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the California Water Code, and regulations ~~and guidelines~~ adopted thereunder, and the provisions of the Federal Clean Water Act, and regulations ~~and guidelines~~ adopted thereunder, shall comply with the following for the areas under their respective jurisdictions within the drainage area of the County of Los Angeles:

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c. Provide personnel and fiscal resources for the development of the WMPs;

d. Provide personnel and fiscal resources for the updating and modification of the Plan and the WMPS;

e. Provide technical and administrative support for both the Executive Advisory and Watershed Management Committees;

f. Implement watershed water quality monitoring programs;

g. Provide the personnel and fiscal resources to complete by _____, the annual reports including evaluations of monitoring program data and BMP effectiveness;

h. Coordinate the implementation of stormwater quality management activities of regional significance (this shall mean that the Principal Permittee shall identify BMPs which are ~~applicable for implementation~~ suitable for adoption by Permittees watershed-wide and area-wide), such as public outreach and education, pollution prevention, waste minimization, and other similar actions;

i. Act as liaison between all Permittees and the Regional Board on Permit issues; and

j. Meet all the responsibilities outlined below for a Permittee.

B. Permittees

1. The ~~other~~ cities and agencies *[Note: What Agencies? If Caltrans, specify.]* are designated as Permittees.

2. Each Permittee shall, to the extent required by the Clean Water Act:

a. Participate in the development and amendment of the Baseline Stormwater Management Plan ~~(Plan)~~("Plan") by advising the Principal Permittee with respect to the Plan and by _____, ~~jointly~~ prepare the portion of the watershed specific management ~~plans (WMPS)~~ plan (WMP) applicable to its jurisdiction via their WMC;

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b. Provide an Implementation Plan describing specific stormwater programs, projects and/or activities which are to be conducted within ~~their~~ its jurisdictional ~~boundaries~~ boundary, including the storm drainage system ~~they own and operate, and which demonstrate compliance with the WMP(S) requirements~~ it owns and operates, in compliance with those portions of the WMP which are required by the Clean Water Act, by _____; and

c. Provide in a timely manner all information needed by the Principal Permittee for completing ~~the~~ annual reports which comply with the requirements of the Clean Water Act.

3. The City ~~Administrator/Public Director~~ Council of each Permittee shall appoint a ~~representative(s)~~ City representative and alternate(s) to the WMC.

~~C.~~ 4. Agency Coordination. Each Permittee shall coordinate implementation of permit requirements and pollution prevention activities among each Permittee's internal departments and agencies (i.e. public works, planning, utilities, water supply, etc...)~~.~~, to the extent required by the Clean Water Act.

~~D~~ C. Executive Advisory Committee ("EAC")

1. The EAC shall consist of ~~a~~ one representative ~~of~~ from the County of Los Angeles, one representative from the City of Los Angeles, ~~a~~ and one representative each from the Malibu Creek, Santa Clara~~,~~ and Dominguez Channel Watershed Management Areas, and two representatives each from ~~each of~~ the San Gabriel River, Los Angeles River~~,~~ and the Ballona Creek Watershed Management Areas.

a. ~~One representative from~~ A member of the EAC shall chair the Watershed Management Committee for that Permittee's main watershed management area.

2. The City Administrator/Public Works Director for the County of Los Angeles and for the City of Los Angeles shall each appoint a representative to the EAC. Other members will be appointed by the WMCs.

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3. The EAC shall, to the extent required by the Clean Water Act, be responsible for:

   a. Making recommendations on area-wide issues to each of the Watershed Management Committees;

   b. Assisting the Principal Permittee in the development of the Baseline Storm Water Management Plan; and

   c. Reviewing the Watershed Management Plans as developed by each Watershed Management Committee and provide direction and guidance on the plans for consideration by the Watershed Management Committees;

   d. Preparing and forwarding unified submittals to the Regional Board upon receipt of information and materials submitted by the Watershed Management Committee in compliance with Permit requirements;

   e. Mediating conflict among the ~~Permittee~~ Permittees; and

   f. Coordinating the implementation of pilot projects to target pollutant sources, evaluate BMT appropriateness, and assess effectiveness.

~~E~~ D. Watershed Management Committee

1. A Watershed Management ~~Committees~~ Committee (WMC) shall consist of a representative of each ~~of the Permittees for that~~ Permittee within a particular watershed management area. ~~Regular~~ All WMC meetings shall be open to attendance by the public.

~~The WMC may hold closed sessions, at its discretion, to discuss permit related issues.~~

2. The Malibu Creek, Santa Clara, and Dominguez Channel WMCs shall each appoint one representative to serve on the EAC and to chair the WMC. The San Gabriel River, Los Angeles River, and the Ballona Creek WMCs shall each appoint two representative to serve on the EAC, one of whom will chair the WMC.

3. The WMC shall, to the extent required by the Clean Water Act, be responsible for:

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a. Establishing goals and objectives for the watershed;

b. Prioritizing pollution control efforts;

c. Participating in the development of a specific watershed management plan (WMP), based on the Baseline Stormwater Management Plan (Plan);

d. Assessing the effectiveness of, preparing revisions for and making appropriate changes to the Plan and the WMP;

e. Coordinating and facilitating the preparation of the annual reports on Permit activities within the watershed for submittal to the Regional Board -- a draft of the annual report shall be circulated to each Permittee and the Executive Advisory Committee for ~~their review and comments~~ review and comment, and the WMC shall respond to each comment, in writing, prior to submittal to the Regional Board; and

f. Facilitating the implementation of this Order among the Permittees in the watershed.

~~START SPELL CHECK~~

~~F~~ E. Watershed Management Subcommittees

1. Subcommittees ~~will~~ may be established ~~where needed~~, to the extent required by the Clean Water Act, as determined by the WMC and/or the EAC.

2. The Subcommittees will be focused on specific program areas and ~~can~~ to provide more specific ~~oversight~~ advice on the development, implementation, and evaluation of selected program areas.

~~G~~ F. Fiscal Resources

Each Permittee shall submit *[NOTE: TO WHOM?]* an annual budget for its Implementation Plan within 30 days after the budget adoption. The budget shall be summarized and put into a format which identifies the necessary capital and operation and maintenance expenditures necessary to implement the storm water management program. The budget shall provide information such as funding

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sources, staff resources, equipment, support capabilities, contract services, and cost sharing arrangements for the storm water management programs. Also included shall be a description of any funding shortfalls.

1. Area-Wide Resources - In implementing this Order and the Plan, to the extent required by the Clean Water Act, Permittees may elect to jointly fund a single program for certain BMPS, such as Public Education, that are area-wide in nature. Funding agreements, including budgets and cost per agency, shall be developed.

2. City-Specific Resources - As stated above, each Permittee shall develop an annual budget detailing the cost of implementing Permit-related activities within its jurisdiction.

~~H~~ G. Legal Authority

1. The legal authority that was required of each Permittee under Order No. 90-079, to the extent consistent with the Clean Water Act, shall continue in effect.

2. ~~The Co-Permittees shall exercise their~~ Each Co-Permittee *[NOTE: The terminology should be consistent, make it Permittee or Co-Permittee]* shall exercise its legal authority and require compliance with this Order and tile Plan within its jurisdiction, to the extent consistent with the Clean Water Act.

3. Each Permittee shall certify that it has legal authority to control discharges to and from those portions of the drainage system over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements between permittees with adequate existing legal authority and shall, ~~at a minimum,~~ in an effort to accomplish Items a-f below, within its jurisdiction:

   a. Control the contribution of pollutants to the storm drainage system by storm water discharges ~~associate~~ associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

   b. Prohibit illicit discharges and illicit connections to the storm drainage system and require removal of illicit connections;

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c. Control the intentional discharge of spills and the dumping or disposal of materials other ~~that~~ than storm water (e.g. industrial and commercial wastes, trash, debris, motor vehicle fluids, green waste, animal wastes, leaves, dirt, or other landscape debris etc.) to the storm drainage system;

d. Control, through interagency or inter-jurisdictional agreements among permittees, the contribution of pollutants from one portion *[NOTE: needs definition. What is meant by "one portion?"]* of the storm drainage system to another;

e. Require compliance with conditions in ordinances, permits, contracts or orders; and

f. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the storm drainage system.

4. Each ~~Permittee's~~ Permittee shall direct its legal counsel ~~shall complete a~~ to review of its existing legal authority to ensure that its existing legal authority complies with the requirements in this Order.

5. Upon its completion of the legal authority review, or within 60 days of permit adoption, (whichever is sooner) each Permittee shall demonstrate that it has adequate legal authority or provide a schedule for obtaining the adequate legal authority. Note: Guidance for demonstrating adequate legal authority is included within the EPA document entitled Guidance Manual For The Preparation Of Part 2 Of The NPDES Permit Applications For Discharges from Municipal Separate Storm Sewer Systems, (EPA 833-B-92-002, November 1992), Section 3-3, page 3-4.

~~I~~ H. Administrative Review

The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the RWQCB under this Permit. In addition, it provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement actions. The RWQCB recognizes that the goal of reducing the level of pollutants in stormwater/urban runoff is best accomplished by cooperation and communication between the RWQCB, the permittee, the co-permittees and the

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public. The Board further appreciates that cooperation and communication is reduced by enforcement actions and legal suits, which force parties to become defensive and react slowly while wasting scarce local government resources. Los Angeles County is undergoing a severe recession which limits the resources of local governments; to achieve the goal of clean water it is essential to reduce wasteful litigation actions to the greatest extent possible and allow resources to be spent to achieve the goals of this permit. The RWQCB recognizes the following facts: (1) that stormwater programs will vary from jurisdiction to jurisdiction; and (2) that such variation may make it difficult for a permittee to determine whether or not it is in complete conformance with the terms and conditions of this permit; and (3) that the goal of this permit is clean water not lawsuits. Accordingly, for the purposes of this permit, a permittee or co-permittee shall not be in violation of any term or condition of this permit until the following administrative process has been completed:

1. If the Executive Officer ~~finds~~ has reason to believe that a Permittee's stormwater program ~~is~~ may be insufficient to meet the provision of the Permit, the Executive Officer shall send a "Notice of Intent to Meet and Confer (NIMC)" to the Permittee. The NIMC shall include a date by which the Permittee must meet with RWQCB staff. (Failure of the RWQCB to issue a NIMC to any jurisdiction shall constitute evidence that the RWQCB has determined that the jurisdiction in question is in compliance with the terms and conditions of this permit.)

2. Upon receipt of a NIMC, the Permittee shall meet and confer with RWQCB staff to clarify whether the Permittee is in compliance with the permit, and if not, the steps to be taken to ~~completely~~ meet the provisions of this permit. The effect and confer sessions shall be for the purpose of developing additions and enhancements to the jurisdiction's stormwater program, if needed to comply with the legal requirements of the Clean Water Act. The meet and confer period shall conclude with the submittal to and acceptance by the Executive Officer of a written "Stormwater Program Compliance Amendment (SPCA)" which shall include implementation deadlines. The Executive Officer may terminate the meet and confer period after a reasonable period due to a lack of progress on issues and may order submittal of the ~~SPEP~~ SPCA by a specified date. Failure to submit an acceptable SPCA by the specified date shall constitute a violation of the Permit.

3. The Executive Officer will approve or reject the submitted SPCA within a reasonable amount of time. Rejection of a submitted ~~SPEP~~ SPCA by

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the Executive Officer shall state the reasons for the failure to approve the SPCA. A Permittee that receives a rejection of an SPCA shall have thirty (30) days to remedy the specified deficiency in the SPCA and receive administrative approval from the Executive Officer of the amended SPCA. Approval of the SPCA by the RWQCB shall be evidence that the RWQCB has determined that the jurisdiction in question is in full compliance with the permit and that there has been no violation of the permit. Rejection of a submitted SPCA by the RWQCB shall state in writing the reasons for the failure to approve the SPCA. A jurisdiction that receives a rejection of a SPCA shall have fifteen (15) days to cure the specified defects in the SPCA and receive administrative approval from the RWQCB of the amended SPCA. Failure to have a SPCA approved by the RWQCB within thirty (30) days from the conclusion of the meet and confer period shall be a violation of the permit.

4. The Permittee shall comply with the terms of the SPCA. The Permittee shall submit reports to the Executive Officer of progress made under the SPCA. The frequency of progress report submittal shall be as prescribed by the Executive Officer. Failure ~~1,0~~ to comply with the terms and conditions of the SPCA shall constitute a violation of the Permit and shall be cause for immediate Administrative Civil Liability as prescribed by the Executive Officer.

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II. ILLICIT DISCHARGES\DISPOSAL

A. Illicit Connections

By _____, the EAC shall develop a consistent program including investigative standard procedures to eliminate illicit connections to the storm drain system.

By _____, each Permittee shall implement a program to identify and eliminate illicit connections to the maximum extent practicable and to the extent required by the Clean Water Act.

1. The program shall, ~~at a minimum~~ to the extent required by the Clean Water Act:

   a. standardize, per EAC guidelines, storm drain inspection procedures, and illicit connection ~~and~~ identification and elimination procedures;

   b. prioritize major problem areas, to include but not be limited to older business areas, and areas with heavy industry such as those listed under subchapter N of 40 CFR Parts 405 - 471

   c. utilize results of field screening activities, and other appropriate information.

   d. contain an industrial/commercial education/outreach component to inform businesses about the problem of illicit discharges/dumping and proper discharge/disposal practices,

   e. schedule inspections of storm drains ~~for inspection~~ for illicit connections within its jurisdiction.

   f. maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

   g. establish enforcement procedures to terminate illicit connections.

B. Illegal Discharges\Disposal

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1. By _____, the EAC shall develop a consistent program including investigative standard procedure, to eliminate illegal discharges/disposal practices to the storm drain system.

2. By _____, the EAC shall develop a standard enforcement procedures, including administrative and judicial, to eliminate illegal discharges/disposal practices.

3. By _____, the EAC shall develop standard procedures for spill response, including a procedure to ensure hat, in a spill response, sewage treated with disinfection agents will not be discharged into the storm drainage system, to the maximum extent practicable. The standard procedures will address investigation, containment, and cleanup activities as appropriate.

4. By _____, each Permittee shall implement a program to identify and eliminate illegal discharges/disposal practices to the ~~maximum extent practicable~~ extent required by the Clean Water Act.

The program shall, ~~at a minimum~~ to the extent required by the Clean Water Act:

a. Identify and prioritize problem areas of illegal disposal where inspection, clean up, and enforcement are necessary to prevent the discharge of contaminants;

b. Maintain a surveillance program to detect illegal discharges and disposal into the street system, including, but not be limited to, street use inspections and inspections of vacant facilities;

c. Establish procedures to educate inspectors, maintenance workers, and other field staff in their jurisdiction to notice illicit dischargers/disposal practices during the course of their daily activities, and report such occurrences;

d. Maintain a standardized record keeping system to document illicit discharges/disposal in their jurisdiction;

e. Establish per EAC guidelines spill response procedures; and

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f. Establish, per EAC guidelines enforcement procedures to eliminate illegal discharges/disposal practices.

C. Non-Storm Water Discharges

1. Exempted Discharges

(Currently under discussion with the negotiation team.)

2. Conditionally Exempted Discharges

(Currently under discussion with the negotiation team.)

D. Other Prohibited Activities

1. The Permittees shall prohibit any person from:

a. causing or allowing illicit discharges to be made into the storm drain system;

b. establishing, using or maintaining an illicit connection to the storm drain system;

c. littering.

d. disposing of leaves, dirt or other landscape debris into a storm drain; and

e. using any pesticide, fungicide, or herbicide which has either been voluntarily discontinued or prohibited by the USEPA.

f. washing down toxic materials from paved or unpaved areas.

g. washing down impervious surfaces in industrial and/or commercial areas ~~is prohibited~~ unless ~~significantly~~ required ~~to~~ under the Health and Safety ~~Codes~~ Code or other laws.

2. Storage of Materials, Machinery and Equipment

The Permittees shall require:

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a. that objects, such as motor vehicle parts, containing grease, oil, or other hazardous substances, and unsealed receptacles containing hazardous materials, be stored away *[NOTE: WHAT DOES "AWAY" MEAN]* from areas susceptible to runoff;

b. that machinery or equipment which is to be repaired or maintained in areas susceptible to runoff~~,~~ be placed on a pad of absorbent material, or an equivalent, to contain leaks, spills or small discharges;

c. that owners of commercial/industrial motor vehicle parking lots and structures located in areas susceptible to runoff to be swept to remove debris. *[NOTE: This says that permittees shall require "that owners ... be swept." Illustrates sloppy drafting. Change to:*

> that commercial/industrial motor vehicle parking lots *[NOTE: minimum size?]* and structures located in areas susceptible to runoff be swept to remove debris.

Lots with more than ten (10) parking spaces and all public parking facilities ~~:~~ shall ~~also~~ be vacuum swept, or by equivalent method, to remove chemical ~~residue~~ residues;

d. that all fuel and chemical residue, animal waste, garbage, batteries, or other ~~types of~~ potentially harmful materials which are located in areas susceptible to runoff, be removed immediately *[NOTE: why "immediate" here and not elsewhere? Suggest that "immediate" be deleted.]* and disposed of properly.

e. that hazardous waste be disposed of through the Permittee's hazardous waste program or at any other appropriate disposal site, and not be placed in a trash container for regular trash disposal. *[NOTE: THIS SHOULD BE DELETED AS IT IS REDUNDANT WITH NUMEROUS OTHER LAWS.]*

E. Public Reporting

1. By _____, the EAC shall develop a standard program, for Permittees to implement by _____, to promote, publicize, and facilitate public reporting

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of illicit discharges and illegal disposal practices that may adversely impact water quality.

2. By _____, EAC shall develop a standard program for the reporting of incidents of a hazardous substance entering the storm drain, where the responsible party is not known, to the Regional Board and State of California Office of Emergency Services (OES) at (800) ___-___ and the Federal Hazardous Response Number at (800) ___-___. *[NOTE: IS THIS INTENDED TO REFER TO THE NATIONAL RESPONSE CENTER? IF SO, THE CORRECT TERM, "National Response Center" SHOULD BE USED.]* The Permittees shall implement this program by _____. *[NOTE: THE CONCEPT OF "REPORTABLE QUANTITY" IS MISSING HERE, BUT IS REQUIRED BY NEARLY ALL OTHER LAWS IMPOSING REPORTING REQUIREMENTS. IT IS SUGGESTED THAT THE OTHER LAWS BE INCORPORATED BY REFERENCE.] [NOTE: what is the purpose of this requirement? Why report incidents where the "responsible party" is not known, but not incidents where the "responsible party" is known?]*

F. Reporting

1. A quarterly summary of illicit connections eliminated shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the investigation; what was being discharged; estimated length of time the practice was on-going; ~~what~~ remedial action ~~was~~ taken; and what happened to the discharger.

2. A quarterly summary of illegal discharge/disposal practices reported through the standardized public reporting system shall be submitted with the Annual Report to the Regional Board. The summary shall include: a brief description of the incident; what was spilled/dumped; quantity; ~~what~~ remedial action was taken; and what happened to the discharger/dumper.

G. Coordination With State Permits

1. The Principal Permittee will be provided an updated list of NPDES Permits on a quarterly basis, through the Regional Board's electronic bulletin board, to verify permitted sources of the existing non-storm water discharges in the storm water drainage system.

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2. The Permittees ~~will work~~ may cooperate with other regulatory agencies ~~and~~ may report to the Regional Board on recommendations to resolve any conflicts which are identified between the provisions of this permit and the requirements of other regulatory agencies. These agencies, include but are not limited to:

a. California Department of Fish and Game
b. California Department of Toxic Substances Control
c. California Coastal Commission
d. United States Environmental Protection Agency
e. California Department of Transportation
f. California Air Resources Board

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III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES

A. Identification of Sources

1. By _____, ~~the Permittees~~ and to the extent required by the Clean Water Act, each Permittee shall develop a database listing industrial/commercial facilities by four digit SIC codes within the Permittee's jurisdiction, which shall be updated annually. The database shall include at a minimum:

   a. Facility owner's name, address, and telephone number;

   b. Site address, telephone number, and contact person;

   c. Closest receiving water and watershed;

   d. Applicable SIC code(s);

      i. For each four digit SIC sector, the Permittees shall identify primary activities that might impact runoff discharges;

      ii. For each four digit SIC sector, the Permittees shall identify primary materials at might impact runoff discharges; and

2. By _____, the EAC shall develop a pollutant source identification program for the control of storm water pollutant discharges from industrial/ commercial facilities. The objective of the source identification program is to gather data on specific and/or interrelated set of pollutant generating activities occurring on very small areas (< 5 acres) of industrial/commercial activity and to provide information for developing and implementing BMPs for specific activities.

B. Prioritization of Sources

1. By _____, ~~the Permittees~~ and to the extent required by the Clean Water Act, each Permittee shall prioritize industrial and commercial facilities, if any, within ~~their~~ its jurisdiction ~~on~~ by their relative potential for ~~the~~ contamination of storm water and urban runoff. The prioritized list shall include

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a. Categorical List

i. All industries regulated under Phase I of the Federal storm water program (4 CFR 122.26).

ii. All industrial/commercial SIC codes selected by the USEPA for screening under Phase II of the Federal storm water program.

iii. Other business sectors considered by the EAC or the Regional Board conduct industrial/commercial activity with a high potential for storm water contamination (e.g, restaurants).

The categorical list shall be grouped by ~~Permittees and~~ the Permittee. The list shall provide an ~~organized~~ overview of the ~~target~~ facilities based on land use, operation, and activities, ~~could potentially~~ and whether the facilities are likely to contribute significant amounts of pollutants into storm water runoff.

2. By _____, and to the extent required by the Clean Water Act, Permittees shall rank the industrial and commercial facilities, identified as potential pollutant sources of storm water and urban runoff pollutants in ~~III. B.1.a~~ III.B.1.a, in order of priority for oversight of implementation of storm water management measures. *[NOTE: what is meant by the term: "oversight of implementation of storm water management measures?"]*

C. Source Control Measures

1. By, _____, and to the extent required by the Clean Water Act, Permittees shall develop a checklist of specific storm water and urban runoff control measures for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutant; into storm water runoff. The control measures must

a. address multiple pollutant sources

b. initially focus on source control measures such as source minimization, education, good housekeeping, and site design alternatives.

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c. target industrial/source areas and activities with the potential to generate pollutant loadings

2. By _____, and to the extent required by the Clean Water Act, Permittees shall develop a process to ensure implementation of storm water and urban runoff control measures for industrial/commercial facilities identified in III.C.1.

3. By _____, and to the extent required by the Clean Water Act, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for industrial and commercial facilities which have been prioritized as having the potential to contribute significant amounts of pollutants into storm water runoff. The structural control measures must be evaluated as to

a. effectiveness in reducing toxic pollutants and pollutants of concern

b. ease of maintenance

c. current frequency of use

d. feasibility and cost-effectiveness

e. possible methods to ensure implementation if necessary

By _____, the Permittees shall, in addition, describe any studies and pilot projects they intend to conduct to assess the feasibility and effectiveness of specific control measures.

4. By _____, and to the extent required by the Clean Water Act, Permittees shall require the following:

a. The proper disposal of food wastes by restaurants and food wholesalers.

b. Persons owning or operating a gas station, auto repair garage, or similar structure must clean those facilities in a manner that does not result in discharge of pollutants to the storm drain system; and

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c. Machinery and equipment, including motor vehicles, which are visibly leaking oil, fluid or antifreeze must be repaired.

5. The EAC may seek coverage under this Order, for industrial facilities listed in III.B.I.a.1 which are owned and operated by Permittees if it,

a. establishes a procedure for notifying the Regional Board of industrial sites owned and operated by Permittees

b. prepares a checklist of industrial BMPs using BAT/BCT criteria for implementation by Permittees at these industrial sites

c. standardizes procedures to ensure implementation of industrial BMPs by Permittees,

d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee industrial facilities

e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each site, and certify compliance with this Order.

~~START SPELL CHECK~~

D. Source Inspection

1. By _____, and to the extent required by the Clean Water Act, Permittees shall submit a schedule for inspection of industrial/commercial facilities in III.B.I.a. for adequacy of storm water pollution prevention measures. The schedule shall include, for a five year period,

a. for municipalities with a population of less than 250,000, all facilities identified in III,B.I.a.1, and all facilities identified in III.B.I.a.2 and III. B.I.a.3,

b. for municipalities with a population of greater than 250,000, all facilities identified in III.E.I.a.1, and, a subset of facilities identified in III.B. I.a.2 and III.B. I.a.3 but not less than ten times the number identified in III.B.I.a.1

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Industrial/commercial facilities in III.B.I.a.2 and III.B.I.a.3 that are not included in the inspection schedule shall be surveyed by phone, mail-out, or a similar method, as to their conformance with good stormwater quality management measures.

2. By _____, and to the extent required by the Clean Water Act, Permittees shall develop and implement a industrial/commercial facilities inspection program. The inspection program shall include, but is not limited to:

   a. procedures for facility inspections

   b. procedures for industrial/commercial sectors outreach on pollution prevention, waste minimization, and storm water quality management

   c. procedures to ensure corrective action is undertaken by non complying facilities

   d. procedures to follow-up on violations of municipal standards

   e. procedures for enforcement action against non-complying facilities;

   f. an electronic recording system to document the status of facility inspections; and,

   g. appropriate training for program staff.

3. During inspection of group III.B.1.a.1, inspectors shall request to see a copy of the SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may ~~deem it neeessary to~~ report problematic facilities to the Regional Board.

E. Reporting

Each year, ~~the Permittees~~ and to the extent required by the Clean Water Act, each Permittee shall evaluate the results and progress of ~~their~~ its storm water quality management program for industrial/commercial sources, if any. The annual report submitted to the Regional Board ~~shall recommend a strategy~~ may include recommended strategies for the management of storm water from

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industrial/commercial sources for the following year based upon any or all of the following:

a. priority industrial/commercial sources listing
b. priority on-site inspection
c. phone/mail-out survey inspections
d. priority checklists of stormwater urban runoff control measures
e. evaluations of structural arid treatment control measures
f. special studies and pilot projects needs
g. specific site and activity monitoring needs

The EAC shall make available to the Regional Board the industrial/commercial database developed in III.B.I.a.1 in the appropriate format when so requested.

F. Coordination

The Permittees, to the extent required by the Clean Water Act, shall develop a process for the exchange of information between ~~the~~ Permittees and the Regional Board. Appropriate formats for such reports shall be developed as required.

G. Conflicts with Other Mandates

1. The Permittees ~~will~~ may work with ~~other~~ other regulatory agencies and report to the Regional Board on recommendations to resolve ~~any~~ conflicts ~~which are identified~~, if any, between the provisions of this permit and the requirements of other regulatory agencies.

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IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT

A. Regional Policy

1. By _____, the EAC shall develop and adopt a regional policy to promote watershed protection considerations during planning, project review, and permitting of new development and redevelopment, to:

   a. preserve to the extent feasible, and where possible, create or restore areas that provide water quality benefits, such as riparian corridors and wetlands, and promote the design of new development so that it protects the natural integrity of drainage systems and water bodies.

   b. avoid conversions of areas particularly susceptible to erosion or sediment loss and/or establish development guidance that identifies these areas and protects them from erosion and sediment loss. Such areas include steep slopes, highly erodible soils, periods of intense rainfall, and inability to revegetate once disturbed.

   c. require the integration ~~em~~ of storm water quality protection into construction and post-construction activities at all development sites, including the minimization of toxic material use and their careful containment on site.

   d. maintain peak runoff rates at pre-development levels, wherever practicable.

2. By _____, the EAC shall establish minimum requirements consistent with the regional policy for new development and redevelopment, for

   a. site planning practices

   b. construction best management practices

   c. post-construction best management practices

   d. reporting erosion and storm water control strategies

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e. redevelopment and infill

B. Planning Process

In order to integrate storm water management considerations into new development projects at the time that ~~th(y~~ they are first proposed to jurisdictions, and to support other provisions of this permit:

1. By _____, the EAC shall develop guidance for permittees to use in preparing/reviewing EIRS, and in linking EIR mitigation conditions to local permits approvals.

2. By _____, ~~permittees~~ and to the extent required by the Clean Water Act, Permittees shall adopt and use the guidance in their internal procedures.

3. By _____, the EAC shall develop a model CEQA checklist form that explicitly addresses watershed, water quality, and nonpoint source pollution impacts.

4. By _____, the permittees ~~shall~~ may use the model CEQA checklist for the review of projects within the matters addressed by this Permit. *[NOTE: Cities, not the RWQCB or other author of the "model CEQA Checklist" are responsible for CEQA compliance, and the adequacy of their checklists.]*

5. Whenever a permittee ~~rewrites either of the following mandated general plan elements the~~ amends its general plan's conservation element or ~~the~~ open space element, watershed and stormwater management/urban runoff considerations shall be incorporated, to the extent required by the Clean Water Act.

6. By _____, to the extent required by the Clean Water Act, permittees shall implement a program to encourage developers to maximize pervious areas and storm water infiltration (in areas where the geology and topography allow), minimize directly connected imperious areas, and include justifiable treatment control measures.

7. Permittees, to the extent required by the Clean Water Act, shall require that prior to the submittal of an application for the first planning or

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building approval for a new development project, an applicant shall submit an Urban Runoff Mitigation Plan.

a. The Urban Runoff Mitigation Plan, to the extent required by the Clean Water Act, shall:

i. Be designed to reduce the runoff volume from the site and the pollutant load contributed by the site through incorporation of design elements and practices that address each of the goals set forth below in subsection (c). (Applicants should refer to the most recent edition of the Construction Best Management Practices Handbook, produced and published by the Storm Water Quality Task Force, for specific guidance on selecting best management practices for reducing pollutants in stormwater discharges from urbanized arias.)

ii. Discuss compliance with the development requirements set forth by Permittee's legal authority; and

iii. Address the following goals in connection with both construction and long term operation of the site:

(a) Maximize, to the extent practicable, the percentage of permeable surfaces in order to allow more percolation of runoff into the ground.

(b) Minimize, to the extent practicable, the amount of runoff directed to impermeable areas to the City's stormwater system.

(c) Maximize, to the extent practicable, stormwater filtration and storage for reuse through the use of sediment traps, cisterns or other means.

(d) Minimize, to the extent practicable, parking lot pollution through the use of porous materials to allow percolation of runoff, through the installation of appropriate treatment controls, or through other means.

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iv. Compliance with an approved Urban Runoff Mitigation Plan shall be a condition of any required planning approval.

v. Failure to comply with an approved Urban Runoff Mitigation Plan after receiving any required planning approval shall be a misdemeanor.

C. Identification of Sources

1. By _____, the EAC shall establish a screening criteria for construction sites to be listed in a database.

2. By _____, to the extent required by the Clean Water Act, the Permittees shall develop a database listing sites of construction activity within each Permittees' jurisdiction which shall be updated quarterly. The database shall include at a minimum:

a. Facility owner's name, address, and telephone number;

b. Site address, telephone number, and contact person;

c. Closest receiving water;

d. Type of construction activity

e. Duration of project with start and end dates

f. Total size of project in acres or square feet.

D. Prioritization of Sources

1. By _____, to the extent required by the Clean Water Act, the Permittees shall prioritize sites of construction activity within their jurisdiction on their relative potential for the contamination of storm water and urban runoff. The categorical list shall include:

a. All construction activity sites regulated under Phase I of the Federal storm water program (40 CFR 122.26).

b. All construction activity with sites greater than the size criteria established by the EAC rut less than five acres in size.

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c. Other construction activity sites considered by the EAC or the Regional Board to have high potential for the contamination of storm water and urban off.

2. By _____, to the extent required by the Clean Water Act, Permittees shall rank the construction activity sites, identified as potential pollutant sources of storm water and urban runoff pollutants in IV.B.1.a, in order of priority for oversight of implementation of storm water management measures.

E. Control Measures

1. By _____, to the extent required by the Clean Water Act, Permittees shall develop a checklist of specific storm water and urban runoff control measures for construction activity sites in IV. B.I.a. The control measures must

a. address multiple pollutant sources

b. initially focus on source control measures such as source minimization, education, good housekeeping, good waste management and good planning.

c. target construction activity source areas and activities with the potential to generate substantial pollutant loadings

2. By_____, to the extent, if any, then required by the Clean Water Act, Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures such as, oil/water separators, infiltration, detention, biofilters, etc., for construction sites in IV.B.I.a. The structural control measures must be evaluated as to:

a. effectiveness in reducing sediment, toxic pollutants and pollutants of concern;

b. ease of maintenance;

c. current frequency of use;

d. feasibility and cost-effectiveness; and

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e. possible methods to ensure implementation.

By _____, Permittees shall describe any studies and pilot projects that may be conducted to assess e feasibility and effectiveness of specific control measures.

3. By _____, to the extent required by the Clean Water Act, Permittees shall have in place a process to ensure implementation and proper maintenance of storm water and urban runoff control measures for sites associated with construction activity in IV.B.I.a., including

a. use of qualified personnel to design, install, and maintain BMPS.

b. proper maintenance of BMPs incorporated into private developments (e.g., through deed restrictions, covenants, conditions and restrictions (CCR).

c. proper installation and maintenance of post-construction BMPS..

d. prohibition on grading daring the wet season (Oct 15 -Apr 15) except for emergency action unless adequate erosion and sediment control measures are in place and maintained.

4. Permittees, to the extent required by the Clean Water Act, shall require the following for demolition/construction activity:

a. Sediment, construction waste and other pollutants from construction sites and parking areas shall be retained on the site to the maximum extent practicable.

b. Any sediments or other materials which are not retained on the site shall be removed within 24 hours or where determined necessary by the Director of Department of Public Works, or a designated representative, a temporary sediment barrier shall be installed.

c. Excavated soil shall be located on the site in a manner that eliminates the amount of sediments running into the street or adjoining properties. Soil piles shall be covered until the soil is either used or removed.

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d. Drainage controls shall be utilized as needed, depending on the extent of proposed grading and topography of the site, including but not limited to the following:

i. Detention ponds, sediment ponds, or infiltration pits.

ii. Dikes, filter beams or ditches.

iii. Downdrains, chutes or flumes.

iv. Silt fences.

e. No washing of construction or other industrial vehicles shall be allowed adjacent to a construction site. No water from washing vehicles on a site is allowed to run off into the City's storm drain system.

f. Roof drainage shall be oriented towards permeable areas on site to maximum extent practicable.

g. Lot drainage shall be oriented towards permeable areas to the maximum extent practicable.

h. All parking lots shall be designed to contain one inch of precipitation in a 24 hour period.

i. Runoff from parking lots shall be directed to permeable areas to the Maximum Extent Practicable.

5. Permittees, to the extent required by the Clean Water Act, shall require the following for construction activity:

a. All construction sites in hillside areas or in areas adjacent to natural water-ways (soft bottom creeks), lakes or the ocean must develop and implement sedimentation and erosion control plans that incorporate the following elements: timing of construction, BMPs to reduce erosion of cleared hillsides (revegetation, jute netting, etc.), BMPs to reduce the velocity of runoff and sediment from the construction site, and BMPs to detain the flow of sediments from the site;

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b. As a condition of granting a construction permit, set forth reasonable limits on the clearing of vegetation from construction sites, including, but not limited to, regulating the length of time during which soil may be bare, and, in certain sensitive cases, prohibiting bare soil.

6. The EAC may seek coverage under this Order, for construction activity sites listed in III.B.I.(a) 1 which are owned and operated by Permittees if it:

a. establishes a procedure for notifying the Regional Board of construction activity on sites owned or operated by Permittees;

b. prepares a checklist of construction BMPs using BAT/BCT criteria for implementation by Permittees at these construction sites;

c. standardizes procedures to ensure implementation of construction BMPs by Permittees;

d. requires Permittees to prepare and retain site specific Storm Water Pollution Prevention Plans at Permittee construction sites; and

e. establishes a procedure for Permittees to report annually on the effectiveness of Storm Water Pollution Plans at each construction site, and certify compliance with this Order.

F. Source Inspection

1. By _____, to the extent required by the Clean Water Act, Permittees shall submit a schedule for inspection of construction activity sites in IV.B.1.a. for adequacy of storm water pollution prevention measures and erosion control measures. The schedule shall include, for a five year period,

a. all construction activity identified in IV.B.I.a.1, and all construction activity identified in III.B.I.a.2 and III. B.I.a.3,

2. By _____, to the extent required by the Clean Water Act, Permittees shall develop and implement a construction activity inspection program. The inspection program shall include, but is not limited to:

a. procedures for construction site inspections

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b. procedures for construction and building industry outreach on pollution prevention, waste minimization, and storm water quality management

c. procedures to ensure corrective action is undertaken by non complying sites

d. procedures to follow-up on violations of municipal codes

e. procedures for enforcement action against non-complying construction activity;

f. an electronic recording system to document the status of construction activity inspections; and,

g. appropriate training for program staff.

3. During inspection of group IV.B.I.a.1 sites, inspectors shall request to see a copy of the SWPPP during an inspection. If no SWPPP is available, the Regional Board shall be notified. In addition, the Permittee may deem it necessary to report problematic construction sites to the Regional Board.

G. Reporting

1. Each year, to the extent required by the Clean Water Act, the Permittees shall evaluate the results and progress of their storm water quality management program for construction activity sites. The annual report submitted to the Regional Board shall recommend a strategy for the management of storm water from construction activity sites for the following year based on

a. priority construction site sources listing

b. priority site inspections

c. priority checklists of stormwater urban runoff control measures

d. evaluations of structural and treatment control measures

e. special studies and pilot projects needs

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f. specific site and activity monitoring needs

2. The EAC shall make available to the Regional Board the construction activity database developed in IV.B.1.a.1 in the appropriate format when so requested.

H. Conflicts with Other Mandates

1. The Permittees ~~shall work~~ may cooperate with ~~other~~ regulatory agencies ~~and report~~ may make recommendations to the Regional Board ~~on recommendations~~ to resolve ~~any~~ conflicts ~~which are identified~~ between the provisions of this permit and the requirements of other regulatory agencies.

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V. PUBLIC AGENCY REQUIREMENTS

A. Examination of Existing Activities

By _____, to the extent required by the Clean Water Act, the Permittees shall develop and begin implementation of a program to examine their existing activities and measures described below to reduce the impact on stormwater quality from their operations.

B. Sewage Systems

1. All reasonable efforts shall be undertaken to keep sewage spills or leaks from entering the storm drain system. The EAC shall develop procedures for spill response by _____.

2. Control procedures for identifying, repairing, and remediating sewer blockages, exfiltration, overflow, and wet weather overflows from the sewers to the storm drain system shall be implemented to protect stormwater quality by _____. These procedures shall include, but are not limited to, quick field response to overflows, follow-up testing, and complaint investigation.

3. By _____, ~~the Permittees~~ to the extent required by the Clean Water Act, each Permittee shall insure that its field personnel who operate and/or maintain sewer systems have procedural training for field screening, sampling, smoke/dye testing, and TV inspection, if appropriate, to be able to ~~properly~~ investigate properly any suspect connections or cross connections to the storm drain system.

C. Vehicle Maintenance/Material Storage Facilities.

1. By _____, EAC will develop pollution prevention plans for each public vehicle maintenance/material storage facility category. Public vehicle maintenance/material storage facilities include any Permittee-owned and/or operated facility in which any of the following occur: vehicle or equipment maintenance; repair; washing; fueling; and/or any facility at which there is storage of toxic chemicals or hazardous materials.

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2. Best Management Practices (BMPS)

a. By _____, to the extent required by the Clean Water Act, Permittees will have site specific pollutant control measures implemented at all vehicle ~~maintenance/material~~ maintenance/material storage facilities per EAC guidelines, together with an on-site pollution prevention plan.

b. Any BMPs to be implemented must be part of a comprehensive plan designed to address the various pollutant sources at each public vehicle maintenance/material storage facility. To achieve this goal, the Permittees shall first identify the potential pollution sources and who is responsible for implementing the stormwater management measures.

c. Based on ~~the~~ facility type, management practices and schedule of implementation shall be developed by the EAC. BMPs that ~~can~~ could be used to improve the quality of runoff include, but are not limited to:

i. Housekeeping practices;

ii. Material storage control;

iii. Vehicle leak and spill control; and

iv. Illegal dumping control.

d. Loading/Unloading of Materials

i. Employees or contractors of the Permittees who handle potentially harmful materials shall be trained in good housekeeping practices to prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

ii. Applicable BMPs shall be selected based on the following three factors:

(a) Eliminating exposure of material to rainfall;

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(b) Checking equipment regularly for leaks; and

(c) Containing spills.

e. Material Storage Control

A program shall be developed to prevent or reduce the discharge of pollutants to stormwater from outdoor container storage areas using measures such as:

i. Installing safeguards against accidental releases;

ii. Secondary containment;

iii. Conducting regular inspections; and

iv. Training employees in standard operating procedures and spill cleanup techniques.

f. Vehicle and Equipment Washing and Maintenance

i. Washing of vehicles or equipment on-site shall be performed in a designated area equipped with an oil/water separator.

ii. The sumps and separators shall be maintained/cleaned on a regularly scheduled basis appropriate to the facility.

iii. BMPs to be implemented as appropriate for vehicle and equipment maintenance shall include but not be limited to:

(a) Waste reduction;

(b) Use of alternate product

(c) Pollution prevention;

(d) Recycling; and

(e) Spill prevention and clean up.

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3. Waste Handling and Disposal

Wastes shall be managed to prevent stormwater pollution.

D. Parks and Recreation

1. Fertilizers/Pesticides

a. Permittees, to the extent required by the Clean Water Act, shall develop procedures on the proper application of pesticides, herbicides, and fertilizers by Procedures shall include:

i. List of approved pesticides and selected use;

ii. Product and application information;

iii. Equipment use an(i maintenance procedures; and

iv. Record keeping.

b. Landscape waste shall not be discharged into the storm drain system.

c. Storage areas for fertilizers and pesticides shall be designed and maintained to reduce exposure to stormwater. The following BMPs shall be utilized where appropriate:

i. Store materials inside or under cover on paved surfaces;

ii. Use secondary containment;

iii. Minimize storage and handling of hazardous materials;

iv. Inspect storage areas regularly.

2. Facility Management

a. Wash waters ~~cannot~~ shall not be discharged into the storm drain system without appropriate treatment.

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b. Landscape maintenance involving the use of pesticides and fertilizers shall ensure the proper use of these materials to minimize loss to storm water.

c. Retention and planting of native vegetation to reduce water, fertilizer, and pesticide needs shall be encouraged.

d. Use of Integrated Pest Management (IPM) shall be encouraged.

e. A schedule for irrigation and fertilization shall be developed by _____, to minimize

i. Chemical application during wet season and no chemical application during storms; and,

ii. Over watering that may lead to runoff that contains nutrients and pesticides.

f. The drainage of commercial/municipal swimming pool water shall ~~only~~ be discharged only under separate Waste Discharge Requirements.

g. Each Permittee shall develop BMPs to minimize trash, debris, and other pollutants from entering Permittee owned recreational water bodies by _____. These measures shall include:

i. Routine trash collection along, on, and/or in, water bodies, where feasible; and

ii. Public outreach to educate the public about impacts of illegal dumping.

E. Storm Drain System Operation and Management

1. Inlet Maintenance

BMPs to be implemented by each Permittee, to the extent required by the Clean Water Act, for effective catch basin cleaning shall include, but not be limited to the following:

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a. Basins shall be inspected and cleaned between May 1 and October 15 of each year;

b. Between October 15 and April 15, catch basins shall be maintained as necessary.

c. Records shall be kept of the number of catch basins cleaned; and

d. Track the amount of waste collected.

2. Storm Drain Maintenance

a. Material removed from storm drains and catch basins shall be disposed of properly.

b. Trash and debris from open channel storm drains shall be removed at least annually between May 1 and October 15 of each year.

c. Open channels shall also be monitored during the rainy season for any debris buildup and cleaned where needed.

3. Waste Management

The Permittees ~~shall implement a program by _____~~, to the extent required by the Clean Water Act, shall, by _____, implement a to identify problem areas of illegal dumping so regular inspection and clean up can maintain the channel's optimum capacity and prevent the discharge of contaminants.

4. Dry Weather Storm Drain Diversion

The Permittees, to the extent required by the Clean Water Act, shall investigate the feasibility of diverting dry-weather flows from the storm drain system to POTWs where appropriate. The investigation, to the extent required by the Clean Water Act, shall be completed by _____.

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F. Streets and Roads

1. Sweeping of curbed streets:

   a. Sweeping of curbed streets shall occur at least monthly.

   b. Where feasible, areas generating excessive refuse shall be swept more frequently.

2. Maintenance

   a. Existing saw-cut management and paving practices conducted by the Permittees shall be evaluated and appropriate control measures developed.

   b. Paving control measures to be considered that would help reduce the impacts to stormwater include, but are not limited to:

      i. Avoid paving during wet weather; and

      ii. Store materials away from drainage courses to prevent pollution of stormwater runoff.

   c. Refuse collected shall be transported to appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations.

   d. Good housekeeping practices shall be implemented to insure proper management of any waste products that may be generated during maintenance activities.

   e. To reduce stormwater pollution from concrete materials and wastes:

      i. Washout of concrete trucks should be conducted off- or on-site in designated areas. ~~Do not wash out~~ Rinseate from concrete trucks shall not be permitted to flow into storm drains, open ditches, streets, or streams;

      ii. Store materials *[NOTE: Please BE SPECIFIC, what materials?]* under cover, away from drainage areas; and

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iii. Avoid mixing excess amounts of concrete or cement on-site.

f. Employees shall be trained in the implementation of good housekeeping measures. Training shall:

i. Promote a clear understanding of the potential for maintenance activities to pollute storm water;

ii. Identify solutions (BMPs selection);

G. Flood Control

1. By _____, the Permittees, to the extent required by the Clean Water Act, shall develop and implement procedures to assess the impact(s) of new flood management projects on the quality of receiving water bodies.

2. The Permittees, to the extent required by the Clean Water Act, shall undertake pilot projects/studies to determine the applicability of altered structural flood control system elements to provide pollutant removal in stormwater.

3. ~~During construction~~ To the extent required by the Clean Water Act, appropriate BMPs shall be utilized to control pollutants during construction .

4. Current maintenance activities with regards to desilting/sediment removal, vegetation management, and waste management shall be reviewed, to the extent required by the Clean Water Act, to assure that appropriate management measures are developed to comply with the stormwater regulations.

H. Parking Facilities

By _____, to the extent required by the Clean Water Act, each Permittee shall develop a program to implement periodic hardscape and catch basin cleaning, in order to reduce concentrations of oil, grease, suspended particulates, and metals, as well as the petroleum byproducts.

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September 15, 1995 (To be negotiated)

VI. PUBLIC INFORMATION AND PARTICIPATION

To reach as many Los Angeles County residents as possible, a comprehensive educational outreach approach shall be undertaken under this permit. ~~Each~~ to the extent required by the Clean Water Act. To the extent required by the Clean Water Act, each Permittee shall choose an appropriate combination of outreach tools and activities to raise public awareness of storm water issues and improve water quality.

Outreach Materials

Outreach programs shall consist of written, audio, and visual materials and, when necessary, translated into appropriate languages or structured for appropriate ages. Permittees, to the extent required by the Clean Water Act, shall incorporate interactive methods of distributing outreach materials and provide for public participation in activities developed under this section.

A. Written Material

1. The Permittees, to the extent required by the Clean Water Act, shall produce a variety of written materials to convey information regarding storm waste management within County watersheds.

2. Written materials shall include, but are not limited to: flyers, brochures, door-hangers, newspaper articles, mail-inserts, and newsletters.

B. Audio Material

1. All Permittees ~~shall singularly or collectively~~, to the extent required by the Clean Water Act, shall individually or jointly utilize radio broadcast public service announcements to convey information regarding storm water management except in areas where public access radio stations are not available.

2. Examples of audio materials include radio advertisements, public service announcements, and informational recordings.

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C. Visual Material

1. All Permittees, to the extent required by the Clean Water Act, shall implement a catch basin labelling program as well as other strategies such as banners, displays and posters to educate the public on the ultimate destination of storm drain system flows.

2. Each Watershed Management Committee shall produce at least one informational video. The video shall be shown on televised public service stations and cable access programs except in areas where cable access programs are not available. Further methods of distribution may include workshops, libraries, etc.

D. Distribution of Materials

Outreach materials shall be made available to the public at appropriate public counters and distributed at public events. Examples include fairs, festivals, public meetings, community events, school assemblies, etc.

General Education Strategy

A. The EAC shall develop and the Permittees shall implement a 5-year urban runoff education strategy. The intent of the strategy shall be to enhance public awareness of the impact of storm water pollution on receiving waters and to discourage improper waste disposal practices. Outreach efforts shall be conducted throughout the watershed. The public shall be made aware of their responsibility for both the problems and solutions to storm water pollution. A watershed-wide program shall be implemented by _____.

Development and implementation of the education strategy shall be based on the four objectives listed below:

1. Promoting clear identification and understanding of the problem, including activities with the potential to pollute storm water;

2. Identifying solutions or applicable measures (Best Management Practices) that can be taken to prevent storm water pollution;

3. Raising public awareness of the problems and solutions; and

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4. Incorporating solutions back into programs, training and BMP implementation.

B. Efforts shall be made to identify land uses and activities that have a higher potential for storm water/urban runoff pollution by focusing on specific pollutants, disposal practices, materials used, etc, To prevent storm water/urban runoff pollution, outreach materials shall be provided on the appropriate selection and implementation of BMPs accordingly A watershed-wide program shall be developed by _____.

1. Pollutant Specific: The reduction of specific pollutants of concern in a particular watershed shall be addressed in a focused public education and outreach program.

2. Activity-specific: Activity-specific outreach programs shall be developed and implemented throughout watershed. Written, audio, or visual outreach tools should address primary topics:

   a. Identification of activities potentially causing storm water pollution;

   b. Implementation of Best Management Practices to prevent storm water pollution.

   c. Recognizing and reporting occurrences of storm water polluting activities.

   The Permittees shall continue to develop activity-specific outreach programs that inform residents about the problem of illicit discharges and dumping and that promote, publicize, and facilitate public reporting of these activities. The program shall also include continuing operation, maintenance, and promotion of the county-wide reporting hotline.

C. The Permittees shall ~~list pertinent~~ submit to telephone directory publishers, City phone numbers to be listed under the City government directory located in the front section of local area phone books. This shall ~~be updated annually as necessary and shall, at a minimum,~~ include numbers for reporting on clogged catch basin inlets, reporting illegal discharges/dumping and a general informational number for storm water. These phone numbers may be city-specific or area-wide.

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D. All efforts deemed to be reasonable ~~efforts~~ by a permittee to coordinate public outreach efforts shall be undertaken. This may include coordinating with environmental groups and public agencies such as the California Coastal Commission, the Department of Beaches and Harbors, Resource Agencies, etc.

Outreach to Target Audiences

Permittees, to the extent required by the Clean Water Act, shall develop and implement an educational program that stresses pollution prevention for a variety of audiences, including local residents, school-aged children, businesses and public employees whose job functions and dally lives may impact storm water quality. The program may be developed locally or regionally and shall include ~~at a minimum~~, to the extent required by the Clean Water Act:

- Education on the proper use and disposal of pesticides, herbicides and fertilizers;
- Education on the definition of, identification of, and impacts associated with illicit discharges and procedures for reporting.
- Promotion of proper management of ad disposal practices for used oil and hazardous substances.

A. Local Residents

1. Permittees, to the extent required by the Clean Water Act, shall develop a program to educate local residents on types of household hazardous wastes along with proper management and disposal methods. The program shall at a minimum include:

   a. Information on the availability of collection services, such as location and schedule;

   b. Production of public outreach materials that educate residents on source reduction and proper disposal methods for household hazardous wastes; and

   c. Continue to encourage residents to recycle oil, antifreeze, glass, plastics, batteries, etc. and to prevent the improper disposal of such materials to the storm drainage system.

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Educational efforts throughout the watershed should also provide residents with detailed information regarding the Los Angeles County-wide Household Hazardous Waste Management Program. Other local programs shall be advertised as appropriate.

2. Permittees, to the extent required by the Clean Water Act, shall develop and encourage watershed residents to participate in specific storm water outreach programs. Residents shall be informed of and provided with the opportunity to share ideas and comments about the programs. Permittees shall demonstrate that a good faith effort has been made to outreach to different communities within the watershed. The watershed-wide outreach program shall be implemented by _____. This shall at a minimum include:

   a. Where applicable for fire and erosion prevention, mowing shall be encouraged as opposed to disking. An investigation of effectiveness shall be undertaken.

3. Cooperative Public Outreach

   In order to promote public participation, cooperative outreach programs with local residents shall be developed. These cooperative programs should foster awareness and identification of storm water pollution issues among residents in the watershed. Catch basin labelling and other established sign programs are excellent examples of this type of cooperative effort, as are events like the "Storm water Pollution Awareness Week." One possibility for cooperative outreach is an "Adopt-A" program. Residents can "adopt" highways, storm drains, catch basins, streams, etc. to monitor, restore and protect. The purpose of all cooperative outreach programs created is to inform and involve the public in storm water management.

4. Complaint Procedures

   Public comments/complaints shall be requested by the Permittees in order to help gauge the success and effectiveness of storm water programs.

B. K-12 School Children

School children can play an important role in public information and participation programs, as they are generally more easily motivated and any behavior changes

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they make tend to stay with them through adulthood. School children can also convey storm water pollution prevention messages to other family members. School programs shall include information on storm drain systems, the difference between sewers and storm drains, the importance of preventing storm water pollution, and may also address, illegal discharges/dumping and reporting procedures, source minimization, and general pollution prevention. Written materials (workbooks and coloring books), videos, assemblies, and field trips are examples of effective components of a K-12 educational program.

C. Businesses

A detailed public education and outreach program shall be developed for business operations with greater potential of discharging pollutants into the storm drain system. The program shall include employee training on and the effectiveness of implementing BMPs to reduce nonpoint source pollution. In addition to written, audio, and visual materials, other possible means of focused outreach may include: conducting workshops, mass mailing trade/industry magazines, etc.

D. Public Agencies and Employees

~~Public~~ Appropriate public agency employees shall be trained on storm water management and pollution prevention practices and involve employees on many different levels from program managers to field personnel. Training programs shall include, but are not limited to, articles in City newsletters, training classes, checklists for field personnel, and interdepartmental forums or committees. Materials developed for other audiences may also be used in these public agency employee training programs. Appropriate public agency employees shall be trained in:

1. Emergency spill cleanup procedures.

2. Environmentally sensitive alternative products.

3. Good housekeeping practices.

Permittees shall provide outreach materials to the general public through business license renewal counter,; and/or make efforts to outreach through professional and business associations. Additionally, Permittees should consider producing educational materials for professionals and technicians not employed by public agencies.

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Outreach Based on Activity-Type

A. Industrial/Commercial

A watershed-wide, general outreach program shall be set up by the WMC for all industrial and commercial facilities potentially discharging to the storm drain system. Furthermore, the WMC shall provide specific guidance objectives to these facilities regarding storm water program, compliance by _____, and inform and remind all potential commercial and industrial dischargers of their obligations under the storm water program. The Permittees shall also encourage the proper disposal of all materials from industrial and commercial sites.

Prior to the WMC providing specific guidance objectives, subcommittees shall be established, as needed, to develop specific outreach materials for industrial/commercial categories and specific "high priority" activities. This shall include at a minimum: metal ~~platers~~ platters, restaurants, vehicle related facilities, etc...

B. Construction

The Permittees, to the extent required by the Clean Water Act, shall ensure that contractors properly install all necessary post construction, permanent BMPs during initial construction and that any necessary maintenance needed during construction is performed. There shall be specific programs outlining correct practices.

In an effort to prevent concrete waste from entering the storm drain system, contractors shall observe the following guidelines:

1. Washout of concrete trucks should be conducted off-site or on-site in a designated area;

2. Excess concrete should not be dumped on site; and

3. Employees and subcontractors should be trained in proper concrete waste management.

Evaluation

The EAC shall develop a process to evaluate the effectiveness of all public outreach programs implemented under this permit. Surveys and focus groups are examples of

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methods that can be used to gauge a program's effectiveness. They can also be used to provide insight into the program's direction and to help formulate attainable goals. Results of any evaluation method used shall indicate the community's level of awareness of storm water pollution. A watershed-wide program shall be implemented by _____.

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double underlined text.

August 25, 1995 (To be negotiated)

VIII. PROGRAM EVALUATION AND REPORTING

The program may be modified subject to comments received under the Annual Review.

A procedure shall be developed and utilized for program evaluation and reporting by the Principal Permittee during the course of this permit. Under this procedure as outlined below, the EAC shall develop action-specific performance indicators and criteria, perform evaluation of compliance and effectiveness based on the performance criteria, establish schedules and mechanism for initial record keeping and reporting, and submit semi-annual and annual reports to the Regional Board using a standardized format.

The EAC, WMC, and/or each Permittee, to the extent required by the Clean Water Act, are responsible for collecting data needed for program evaluation, conducting self-evaluation, and reporting the results of evaluation to the Regional Board. The results reported to the Regional Board shall include both the collected data and analysis of the data. The reports shall include detailed explanation on how the evaluations are conducted, how and why certain provisions of the permits are met or not met, how the effectiveness of certain BMPs is determined or is not, and should a problem arise, how it shall be corrected. The Regional Board will make a compliance determination based on information submitted under this procedure.

A. Demonstration of Compliance

1. Each Permittee, to the extent required by the Clean Water Act, is responsible for demonstrating that the required BMPs as prescribed under this permit, as well as other BMPs included in the Watershed Management Plans, are implemented to the "maximum extent practicable." Each Permittee shall implement the required BMPs to the maximum extent practicable.

2. The Watershed Management Committees are responsible for demonstrating the effectiveness of other BMPs through conducting and reporting the results of pilot/demonstration projects for evaluating the effectiveness of BMPs in the watershed.

3. The degree and the effectiveness of BMP implementation shall be evaluated and reported by the Permittees, to the extent required by the Clean Water Act, using environmental and/or administrative indicators whenever possible. When environmental indicators are not readily and/or

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easily available, administrative indicators shall be used. These shall include indicators prescribed under relevant provisions of this permit, and/or other indicators deemed appropriate by the Watershed Management Committee, the Executive Advisory Committee, and/or ultimately the Regional Board. Examples of the quantitative indicators include the number of inspections conducted, number of staff increase, number of audience reached through public education, waste recycled, water conserved, hazardous waste collected, oil recycled, catchbasin waste removed, etc. Quantitative indicators of environmental conditions should also be reported if they can be linked to the effects of the BMP implementation.

4. In order to yield comparable results for year to year evaluation on the success, the progress, and/or the failure in BMP implementation, and comparable results from area to area, a uniform data collection methodology shall be established for each of the required BMPS. The uniform data collection methodology shall be developed by the Executive Advisory Committee. Subsequently, each report on BMP implementation shall provide comparison with the implementation status during the previous reporting period and the scheduled implementation timeline for the current and future reporting periods, based on data collected using the uniform collection methodology.

B. Internal Reporting and Record Keeping

1. In order to facilitate the preparation of semi-annual and annual reports, the EAC shall develop standard forms for internal reporting to be used by all Permittees within the watershed. The forms shall collect all the information essential to the preparation of the annual and semi-annual reports and to the needs of other management actions by the Watershed Management Committees, EAC, and/or the Permittees. Reported information shall be quantifiable, and specific for each program area and/or BMP. The dates for submitting the internal reports shall allow sufficient time for compilation and analysis by the Watershed Management Committees and/or the EAC for the preparation of semi-annual and annual reports to the Regional Board.

2. All records shall be retained by the Permittees for a period of 5 years or longer as required by the Regional Board or USEPA.

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C. Semi-annual and Annual Reports

1. Semi-annual Report

The requirements under VIII.A shall be met by the submittal of semi annual and annual reports. Semi-annual reports shall succinctly summarize compliance efforts and may consist of simple compliance checklists. Annual reports shall be comprehensive.

a. The EAC shall submit a semi-annual progress report to the Regional Board by _____ of each year. Semi-annual reports must be submitted to the Regional Board within 30 days after the end of the six-month period. These six month periods are Jan - June, and July - Dec. (TO BE DETERMINED).

b. The semi-annual report shall serve as a status report on the progress of the implementation of the Stormwater Management Plan and other permit provisions. The Watershed Management Committee is responsible for collecting and compiling information from each Permittee prior to preparation of the semi-annual report, information along with the information analysis into the report.

c. The semi-annual report shall consist of a summary table illustrating the levels of implementation for all requirements by each Permittee. Tables shall be developed for each program element listing the Permittees, describing the status of implementation by each Permittee of the element, and documenting any modifications of the element from the standard program.

2. Annual Report

a. The Executive Committee shall submit an annual report to the Regional Board not more than 60 days after the end of each permit year (_____). The annual report shall include both a summary of the progress and status of Stormwater Management Plan implementation, a summary on status of compliance with all permit provisions, a report on the evaluation of program effectiveness, and a summary of recommendations for permit provision revisions. The Permittees as a whole (within watershed management areas) shall describe any problems encountered during

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implementation and discuss the modifications to the program in order to solve these problems.

b. The Principal Permittee shall collect, compile, and analyze information from each Permittee within the watershed prior to preparation of the annual report. The Watershed Management Committee shall include the compiled information and its analysis (instead of raw data or copy of internal reports) in the annual reports.

c. The semi-annual report shall include a summary table illustrating the levels of implementation for all Permittees. Tables shall be developed for each program element listing all the participating Permittees and describing the status of implementation by each Permittee of the element. A table shall also be included to summarize the status of the program elements for which the Watershed Management Committee bears the primary implementation responsibility. Besides summary tables, the report should provide detailed explanation on any modifications made of the program elements (delays, changes, etc.) from the standard provisions and provide an analysis of any problems encountered during the implementation and the proposed solutions.

d. The annual report shall include an assessment of the effectiveness of each program elements using the performance evaluation indicators and criteria developed under Section A of this Chapter, and the results of the pilot/demonstration projects conducted within and/or outside the watershed. The findings should be presented graphically for ease of comparison with the established levels of effort.

e. A fiscal analysis and budget as described under I.1 (Fiscal Resources) of this Order shall be submitted annually within 30 days of the Budget adoption date for each Permittee.

D. Storm Water Management Plan Revisions

1. Revisions to provisions of this permit ~~can~~ may be made through the order of the Regional Board. The EAC ~~can~~ may recommend and request revisions to the Stormwater Management Plan through documentation in the annual reports.

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2. Recommended revisions shall be supported by the results of a program evaluation. Recommended revisions to the Stormwater Management Plans may be made if it can be demonstrated that 1) the changes will lead to improvement of the effectiveness of this program, 2) the changes will result in positive impacts of environmental conditions, and 3) that the current measures have been implemented to the "Maximum extent practicable" as defined in Section VIII.A. Any recommended revisions shall not take effect unless approved by the Executive Officer.

3. Revisions may be made to the Storm Water Management Plans by the Executive Officer or the Regional Board based upon public input and/or testimony.

The Discharger shall comply with the attached Monitoring and Reporting Program, which is part of this Order, and any revisions or modifications thereto, as ordered by the Executive Officer.

This Order may be modified, revoked, or reissued, prior to the expiration date as follows:

a. To address changed conditions identified in the required technical reports or other sources deemed significant by the Regional Board;

b. To incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

c. To comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain Icy other requirements of the CWA then applicable; or

d. Any other Federal or State Laws or Regulations become effective which necessitate changes.

The issuance of this permit is not intended to, and does not, absolve the Discharger of liability for conduct which may have constituted a violation of the previous Board Order 90-079 (AN, Cl 6948) adopted by this Regional Board on June 18, 1990.

This Order expires on _____. The Discharger must submit a complete Report of Waste Discharge including a revised Storm Water Management Plan in accordance with Title

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23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Robert P. Ghirelli, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December __, 1995.

ROBERT P. GHIRELLI, D.Env.
Executive Officer

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ATTACHMENT A

NPDES STORM WATER PERMIT
WATERSHED MANAGEMENT AREAS

Santa Monica Bay	Los Angeles River	San Gabriel River
Malibu Creek and Other Rural	Alhambra	Artesia
Agoura Hills	Arcadia	Azusa
Calabasas	Bell	Baldwin Park
Caltrans	Burbank	Bradbury
Los Angeles County	*Caltrans*	*Caltrans*
Malibu	Commerce	Cerritos
Westlake Village	Compton	Claremont
Ventura County	Cudahy	Covina
	El Monte	
Ballona Creek and Other Urban	Glendale	Diamond Bar
Beverly Hills	Hidden Hills	Downey
Caltrans	Huntington Park	Duarte
Culver City	*La Canada Flintridge*	Glendora
El Segundo	*Long Beach*	Hawaiian Gardens
Hermosa Beach	*Los Angeles*	Industry
Los Angeles	*Los Angeles County*	La Mirada
Los Angeles County	Lynwood	La Puente
Manhattan Beach	Maywood	La Verne
Palos Verdes Estates	Monrovia	Lakewood
Rancho Palos Verdes	Montebello	*Long Beach*
Redondo Beach	Monterey Park	*Los Angeles County*
Rolling Hills	Paramount	Norwalk

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Rolling Hills Estates
Santa Monica
West Hollywood

Dominguez Channel/
Los Angeles Harbor Drainage
Caltrans
Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles
Los Angeles County
Torrance

Pasadena
Rosemead
San Fernando
San Gabriel
San Marino

Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

Pico Rivera
San Dimas
Santa Fe Springs

Walnut

West Covina
Whittier

Santa Clara River
Caltrans
Los Angeles County
Santa Clarita

Italicized agencies are present in more than one watershed.

City of MONROVIA

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VOL 24

October 12, 1995

Harry W. Stone, Director of Pubiic Works
Attn: Gary Hildebrand
County of Los Angeles
Department of Public Works
Waste Management Division
P.O. Box 1460
Alhambra, CA 91803

RE: Draft NPDES Permit/Comments to EAC

Dear Mr. Stone:

This is in reference to the Los Angeles River Watershed Co-Permittee meeting of September 27, 1995. It was very clear to the City of Monrovia Representative and others at the meeting Catherine Tyrell, Assistant Executive Officer Surface Water Program indicated Permit comments on the September 15, 1995 Draft Permit could be submitted up to October 18, 1995. In the meeting of October 12, 1995, we were presented with a letter from Catherine Tyrrell dated October 12, 1995 indicating that the comments deadline is October 11, 1995. We are therefore submitting the following comments and requesting that they be considered in the next Draft Permit that is scheduled for mail out on October 23, 1995.

It is also our understanding that our comment submittal should be to the EAC. We hereby submit our initial comments on the most recent drafts as follows:

- Dated September 15, 1995 - mailed by the California Regional Water Quality Control Board (RWQCB/Board).
- Dated September 26, 1995 - Mailed by the County Public Works Department on Part III rewrite based on Executive Advisory Committee (EAC) comments of September 25, 1995.
- Dated September 27, 1995 - EAC comments on Draft NPDES Permit mailed September 15, 1995 by RWQCB.

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415 South Ivy Avenue Monrovia, California 91016-2888 (818) 359-3231

A. General Comments on Process

1. We understood that the process to be used for writing the new five (5) year Permit for years 1995-2000 was that the RWQCB, the Co-Permittees (through their EAC), and the environmental community were to meet on a regular basis and develop the new Permit at those meetings. Drafts of those versions were then to be circulated to all the individual Co-Permittees and other effected parties for comment.

   The initial draft for the first four (4) sections, dated July 5, 1995, apparently followed that process. Comments were then submitted in writing by individual Co-Permittee and Co-Permittee groups and orally at the July 24, 1995 meeting held at the County Public Works Department's Alhambra Facility.

   We received the next draft dated September 15, 1995 with a transmittal letter from Catherine Tyrrell of the RWQCB indicating that the EAC had approved the draft. Because of the tight schedule we immediately started a review of the September 15, 1995 draft. We subsequently received information that the EAC had not approved that draft. Subsequently we received your memo of September 27, 1995 with the EAC's comments on the September 15, 1995 draft. Without the benefit of EAC input, our time spent on reviewing the earlier September 15, 1995 draft was generally wasted time.

   As a Co-Permittee, we are committed to the process, but we are disturbed by the RWQCB sending out a draft stating that it had been reviewed by the EAC when it had not been so reviewed. We think the process needs to be followed even if the time schedule has to be extended into 1996. Our major concern is that, with the EAC becoming a major player in carrying out the terms of the new Permit for the next five (5) years, will the RWQCB "jump the gun" and go on its own way without involving the EAC in all steps of the process whenever the RWQCB decides to do so? We recommend that the previously agreed upon process be followed hereafter.

2. Ms. Tyrrell announced at the beginning of the September 27, 1995 meeting that extension of the time schedule was under consideration. At the end of the meeting, a three (3) week time period was allowed for comments on the several drafts dated September 15, 1995, September

26, 1995, and September 27, 1995. The City of Monrovia supports an orderly process with sufficient time allowed for all affected parties to respond and resolve their differences. It is better to have the details of a five (5) year Permit worked out before it becomes adopted rather than to force through an incomplete document to meet an apparently unrealistic time schedule, and then have to spend the next five (5) years struggling with the Permit.

We recommend that the original schedule that calls for adoption of the Permit by the RWQCB at their December, 1995 meeting be extended into 1996 to allow adequate time to develop a workable Permit that all parties can agree upon.

3. Because virtually all of the time lines are blanks in the current drafts of the new Permit, a Co-Permittee cannot at this time get an understanding of the amount of time and effort that will have to be put forth to comply. Therefore, at this time it is near to impossible for a Co-Permittee to decide whether or not compliance can be accomplished within their known available resources or whether they will have to find additional resources to comply. While we recognize that inserting specific calendar dates cannot be done as the process deadline may change, there needs to be time periods inserted in the draft tied to the Permit adoption date; i.e. "a certain activity is to be done within six (6) months after adoption of the Permit by the RWQCB". A Co-Permittee can then evaluate and plan now for what will have to been done, rather then find out that a number of actions have to be accomplished in a short period of time following Permit adoption by the Board.

B. Comments on Budgeting/Fiscal Resources

We do not see the reason for a Municipal Co-Permittee to develop a separate budget for its NPDES program to submit to the RWQCB. As long as the City carries out the terms of its Permit, the budget amount is not important. The only result of every Co-Permittee submitting a budget is that other parties will be comparing one Co-Permittee's budget to that of another. If one Co-Permittee is able to spend less money to be in compliance than another Co-Permittee spends, is the current test and goal of every municipality in today's world of "doing more for less". A budget becomes meaningful only if the RWQCB or the Federal Government is going to reimburse the Co-Permittee for its cost.

Since the City of Monrovia budget has already been adopted for Fiscal Years 1995-97 (2 years), the available funding levels have essentially already been established for the next two years. Because of the present economy, with its tight budget times, we do not see much chance of increasing funding levels over the next two years.

In that it appears that neither the Board or the Federal Government will be providing financial assistance in the foreseeable future, we recommend deletion of the section on budgetary and fiscal matters.

C. Comments on Procedural Guidance Manual

It appears from information supplied to date to the Co-Permittees regarding the Procedural Guidance Manual that the Procedural Manual should be a part of the new Permit and the new Permit should not be adopted until the Manual has gone through the same review process as the new Permit. As now planned, the Co-Permittees will not know of the final form of the Manual for some months after the new Permit is in effect. Yet the Procedural Manual is to provide definitions for terms in the Permit (some of which do not currently exist in the new Permit) and to explain in detail what is to be done by a Co-Permittee to be in compliance with the Permit.

We therefore recommend completion and approval of the Manual before the new Permit goes into effect.

D. Administrative Review

To make the Administrative Review process complete a provision needs to be added that states that all determinations made by the RWQCB Executive Officer relative to a Co-Permittee's actions being insufficient be taken to the Regional Board for review if the Co-Permittee so requests. The process to be used by the Board in allowing the Co-Permittee an opportunity to make a presentation and seek redress needs to be defined. As the process is currently outlined, the Executive Officer is the investigator, prosecutor, judge and jury all in one body.

We therefore recommend revision of this section to allow Board review.

E. Board's Electronic Bulletin Board

The RWQCB apparently has the capability to dispense/make available data and to receive data through its electronic board. However, many Co-Permittees may not. Wherever the electronic bulletin board feature is referenced in the new Permit there needs to be a provision added that such written information shall be dispensed to all Co-Permittees by the Board and to the Board from the Co-Permittees by current means available to Co-Permittees such as U.S. Mail or Facsimile equipment.

F. Coordinating with State and Other Agency Permits

The present draft Permit states that the parties will work to resolve conflicts between this new Permit and the regulations/requirements of other local, State, and Federal agencies. This is fine. However, what needs to be inserted in the new Permit is that where regulations/requirements of other entities were established before this new Permit goes into effect, the prior regulations/ requirements take precedent until resolution occurs. This will avoid the situation of the Co-Permittee having to respond to two different sets of rules and regulations.

G. Permit Watershed Splitting

While the present plan for the new Permit appears to split the original Permit into six (6) sub-Permits based along the watershed concept rather than the regional area concept of the present Permit, we believe that there definitely needs to be a set of standard conditions of the watershed sub-Permits and plans that are applicable to all six (6) watersheds and cannot be changed without the concurrence of all watersheds. This is because of the underlying organization of the L.A. County Flood Control District (LACFCD) which covers all six (6) watersheds. Because the LACFCD generates a majority of the revenues used to pay its expenses for NDPES as the principal Co-Permittee and for other purposes by the use of a standard Countrywide uniform benefit schedule of assessments, the Permit requirements imposed on the LACFCD need to be somewhat uniform across all watersheds. To do otherwise may create problems in using the LACFCD's uniform assessment schedule to carry the major cost load of the Permit.

H. Reporting

We are concerned that the reporting requirements of the new Permit appear to be of a punitive and burdensome nature. There needs to be a rather simple

check off type compliance list devised for use in reporting. Any complicated narrative type text reporting process will just create a paper monster which will consume a large share of Co-Permittees' resources and reduce the amount of monies available to actually carry out the NPDES Program.

I. Program Evaluation and Reporting - Page 40

The term "maximum extent practicable" as applicable to BMP's being implemented is not defined. The gauging of the results of doing the BMP's should be the criteria, and not that which is "practicable". A Co-Permittee of reasonable economical resource means may believe that following the common standard of street sweeping once a week is practicable and economically reasonable for the results obtained, whereas a Co-Permittee with significant financial resources may say sweeping twice a week, or every weekday is okay. The results of daily versus weekly sweeping in most residential neighborhoods are very comparable, and more frequent sweeping than once a week generally does not make a material change in street debris removal.

It is our recommendation that most reports should be of the compliance check list type rather than quantative numbers. In some cities, because of the species and size of street trees and the trimming frequency schedule, the leaf removal quantities may be considerable. Whereas in other cities the leaf pickup may be rather nominal. The report should simply be "yes or no, streets swept for leaf and debris removal once a week" rather than "xxx tons of leaves and debris removed by once a week sweeping".

The above are our general comments. Depending on time available we may submit additional specific wordage comments. Once all comments have been received from Co-Permittees and other affected parties and acted upon by the EAC, we request that an updated draft new Permit, including all more recent EAC/Board negotiated terminology and wordage, be distributed for review by all Co-Permittees for a reasonable period of time before it goes to the Board for action.

Sincerely,

Robert C. Bammes
Director of Public Works

RCB;cr

cc: Ken Putnam, City Engineer
File

KP 180

VOL 24

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VOL 24

MEMORANDUM

TO: Catherine Tyrell, RWQCB, L.A. Region
Gary Hildebrand, L.A. County

FROM: Gail Ruderman Feuer, Maribel Marin, NRDC

DATE: December 7, 1995

RE: **Thresholds for Triggering the Urban Runoff Mitigation Plan Requirement**

We urge that the threshold for requiring an URMP should be based on parcel size rather than floor area. We propose that the cut-off for requiring an URMP or, more generally, the cut-off for a priority site, be set at 10,000 square feet.

Our rational for going with parcel size as opposed to floor area is basically that in commercial/industrial and multi-family residential, the majority of the parcel is developed with impervious surface so it makes sense to target the lot sizes which have the potential to contribute the highest pollutant loads. Since a 10,000 square foot is probably close to the smallest lot size that could be developed as a mini-mall or fast-food type of use, it seemed like a reasonable place to draw the line. Additionally, we felt that at 10,000 square feet, most mom-and-pop style businesses would fall below the threshold. We feel comfortable with this line based on conversations with city planners.

We absolutely cannot accept the 100,000 square foot or the 40,000 square foot alternatives being proposed. Projects of that size are considered major projects that trigger site plan reviews, environmental review, and traffic studies. They also represent a very small percentage of the projects that get permitted. Too many projects that need storm water controls would be exempted.

As discussed at our meeting, we still feel that the following should be categorically exempt from a written plan requirement and/or subject only to "limited" requirements:

- single-family dwellings;
- duplexes; and
- lot sizes greater than 10,000 square feet if they can demonstrate that impervious area on the parcel is less than 10,000 square feet.

cc: Mark Gold, Heal the Bay

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October 17, 1995

CALIF. REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

VIA FACSIMILE AND U.S. MAIL

Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Los Angeles County Department of Public Works
900 S. Fremont Avenue
Alhambra, CA 91803-1331

Re: Response to the EAC's Comments on the September 15, 1995, Draft Permit

In this letter the Natural Resources Defense Council and the Santa Monica BayKeeper set forth our general response to the EAC's comments on the draft Permit, dated September 15, 1995 (hereinafter the "Draft Permit" or the "Permit") which was distributed at the September 27, 1995 public hearing. In that draft, the EAC proposed changes to numerous provisions and deletion of several other provisions. This letter provides our view on some of the EAC recommendations and thereby supplements our general comments dated September 27, 1995 and our specific comments dated October 13, 1995.

I. PROGRAM MANAGEMENT

In section I.H.5., the EAC recommends that the timeframe for demonstrating adequate legal authority be extended from 60 days to 120 days. We believe that a timeframe of 120 days is unnecessarily long considering that the Permittees are being asked either to demonstrate adequate legal authority or submit a "schedule for obtaining the adequate legal authority." We are opposed to this modification because at the end of 120 days a Permittee could presumably provide a one page schedule that extends the time for demonstrating adequate legal authority indefinitely. We feel strongly that if Permittees are given a choice between a demonstration of adequacy or a schedule for demonstrating adequate legal authority that the timeframe be limited at most to 60 days. We would however, support a timeframe of 120 days if the option was narrowed to requiring a demonstration of adequate legal authority.

IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT

With respect to the Urban Runoff Mitigation Plan provisions, the EAC comments that they "can only support this concept (URMPs) for very large projects i.e. 100+ dwelling units or 100,000+ square feet of commercial." NRDC opposes the EAC's proposed size limit because it is too exclusive and diminishes the effectiveness of this provision by limiting the

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projects covered to a very small percentage of those proposed in any jurisdiction. For example, in the City of Los Angeles last year, projects of the recommended size limit numbered less than 20 out of hundreds of projects proposed. We believe that this provision is workable as proposed in the September 15, 1995 draft. In fact, the measures dictated in the URMP provisions are already being put into practice by the Cities of Hermosa Beach, El Segundo, and Beverly Hills with no project size limits.

The EAC proposes to modify section IV.E.4.c. to require only the "minimization" of sediment running into the street from construction sites instead of the "elimination" initially required. Similarly, the EAC proposes to modify section IV.E.4.e. to allow vehicle wash water to run off of construction sites if "treated to remove sediments and pollutants." These provisions imply some allowances which conflict with section A.'s Discharge Prohibitions prohibiting the discharge of non-storm water and section II.C.2.'s Conditionally Exempted Discharges (since they are not on the list of exempted discharges). It is inconsistent to allow "some sediment" and "some wash water" to flow into storm drains because it then becomes difficult to draw a clear line against prohibited materials.

VI. PUBLIC INFORMATION AND PARTICIPATION

Under the **Outreach to Target Audiences** component, the EAC recommends eliminating the minimum tasks identified. These include: education on the proper use/disposal of pesticides, herbicides, and fertilizers; education on illicit discharges and reporting procedures; and promotion of proper management and disposal of used oil and other hazardous substances. We believe that these items are critical and necessary components to any storm water education program and oppose their elimination from this provision.

Under **Outreach Based on Activity-Type**, the EAC proposes deleting section B., Construction, requiring Permittees to "ensure that contractors properly install [and maintain] all necessary post-construction, permanent BMPs during initial construction." This provision further mandated activities to prevent concrete waste from entering the storm drain system by requiring contractors to observe several guidelines. These guidelines required that contractors conduct the washing of concrete trucks off-site or on-site in designated areas, that they abide by the prohibition against excess concrete being dumped on site, and that they train employees and subcontractors on proper concrete waste management. We recommend that this section be placed in section IV., Program Requirements for New Development and Redevelopment under a separate Construction heading (as we recommended earlier in our 10/13/95 comments). However, we also suggest that for purposes of outreach, a "construction sites" brochure be developed listing all guidelines for construction BMPs and describing all of the pertinent construction site inspection and enforcement provisions of the Permittee's program.

Thank you for the opportunity to provide our response to the EAC's comments on the September 15, 1995 draft. If you have any question regarding our comments, please call us.

Sincerely,

Maribel Marin
Gail Ruderman Feuer, Esq.
Natural Resources Defense Council

Terry Tamminen
Santa Monica Baykeeper

Natural Resources
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October 13, 1995

VIA FACSIMILE AND U.S. MAIL

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Los Angeles County Department of Public Works
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Re: Comments on the September 15, 1995, Draft Permit

In this letter the Natural Resources Defense Council and the Santa Monica BayKeeper set forth our specific comments on the draft Permit, dated September 15, 1995 (hereinafter the "Draft Permit" or the "Permit"). As we stated in that letter, we appreciate the effort the Permit negotiating committee and the Regional Board have put into this draft of the Permit. This letter supplements our more general comments dated September 27, 1995.

I. PROGRAM MANAGEMENT

Sections A and B -- Principal Permittee; Permittees

This draft requires the Principal Permittee to develop a "Baseline Storm Water Management Plan." The Permit, however, does not specify what this plan should contain. Neither is any definition given to what "Watershed Specific Management Plans" ("WMPs") should contain.

We propose that the Permit contain an outline of the elements that should be included in the Baseline Storm Water Management Plan, the WMPs, and other plans and programs containing BMPs. The Permit also needs to make clear that an evaluation of the technical feasibility and cost/benefit of each potential BMP should be performed under the Maximum Extent Practicable ("MEP") standard. This standard should be defined in clear terms. NRDC recommends that the Permit incorporate the following language that was included in the Federal Court's final order in the NRDC v. CalTrans case (as adapted for this permit):

> Implementation to the "maximum extent practicable" means that BMPs that are effective at reducing stormwater pollution shall be required to be included in the Baseline Plan, the WMPs, and all other plans and programs containing BMPs, except that BMPs identified through this process do not have to be implemented if it is found that: (1) other effective BMPs will achieve greater or substantially the same pollution control benefits; (2) the BMP would not be technically feasible; or (3) the cost of implementation would greatly outweigh the pollution control benefits. The entity responsible for developing each plan shall have the burden of showing that it

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has met the "maximum extent practicable" standard in proposing or rejecting BMPs for implementation.

Section E -- Watershed Management Committee

We strongly object to the elimination of the public representative from the Watershed Management Committees ("WMCs") in section I.E. of the Draft Permit. The WMCs will play a major role in development of the WMPs which will be the centerpiece of future storm water activities by the Permittees in each watershed. For example, the "Implementation Plans" that the Permittees are required to develop for their specific storm water control activities are supposed to be developed in compliance with the WMPs.

The goal of the Permit and the Permit process is for the Permittees, environmental groups, and the public generally to work cooperatively in the development of improved basin-wide storm water controls. We believe that the participation by environmental groups in the committee that has helped to draft the Permit has added an important voice in this process. This inclusion of environmental groups and the public should continue. Participation "up front" by the public in development of plans by the WMCs will help create subsequent support for those plans and the Permittees' storm water programs, as well as more successful implementation.

For these reasons, the public should not be shut out of this essential process in development of the WMPs. It is not sufficient that WMC meetings will "generally" be open to the public. All WMC meetings must be open under this State's open meeting laws and good public policy.

Section G -- Fiscal Resources

Sub-section I.G., "Fiscal Resources," no longer contains the essential Permit provision requiring that municipal budgets ensure that there is adequate staff and training to carry out the Permittees' planned storm water management activities. The prior draft provided: "The budgets shall ensure that there is adequate staff/training for storm water management programs."

Absent adequate staffing and training, the Implementation Plans will have no value, and the storm water pollution management goal of the Permit never will be realized.

Section H -- Legal Authority

We urge the Regional Board to include strong legal authority requirements because they are central to adequate storm water control. Our experience has been that the present combination of statutes and ordinances enacted in most municipalities has not been sufficient

to cover all of the necessary elements of storm water regulation. Thus, the general legal authority language in the existing Permit must be strengthened.

We are pleased to note that the Permit has been strengthened by the addition of a number of minimum legal authority requirements that have been added to various sections. However, we continue to have concerns that the new draft Permit does not require either (i) a unifying storm water ordinance or (ii) a single guidance document on legal authority that draws together all legal authority provisions on storm water in one place. As a reference, the cities of Beverly Hills, Hermosa Beach, and El Segundo, in settlement agreements with NRDC, have developed comprehensive stormwater ordinances that provide the requisite legal authority.

A guidance document on legal authority would be simple to develop -- as it would simply recite the various code provisions -- and would serve several important functions. First, it will educate the public and the municipality's staff as to storm water requirements in their jurisdiction. Second, it will make it easier for the Permittees' legal counsel and the Regional Board to evaluate the adequacy of various storm water provisions spread through various government codes.

We are also concerned over the elimination of the provision in the prior draft Permit requiring the use of a checklist for legal authority. This Regional Board-developed checklist was a useful tool both for a Permittee's legal counsel to confirm that a municipality has sufficient legal authority and for the Regional Board to ensure compliance. The checklist should be restored in subsequent drafts, and it should be modified to provide additional detail and to include the legal authority requirements that have been added to this Draft Permit.

Section I.H.3. does not require the adoption of legal authority for the control of storm water discharges from construction sites, an essential element of a municipality's legal authority. Further, this section should require that a Permittee's legal authority include adequate enforcement provisions, including authority for inspections and authorization for imposition of penalties for code violations.

Section I -- Administrative Review

The Administrative Review section is a sound addition to the Permit, particularly in light of the removal of the yearly audit provision. Our understanding of these provisions is that they are intended to provide a process for administrative review by the Regional Board and not to limit the rights of public citizens under the Clean Water Act. Accordingly, the first paragraph of this section should make clear that the proposed administrative process is not intended to modify the citizen review provisions under the Clean Water Act.

In addition, the last sentence of Section I.4. should be revised to read: "Failure to comply with the terms and conditions of the SPCA or to submit an adequate or timely SPCA shall constitute a violation of the Permit and shall be cause for immediate Administrative Civil Liability or a Clean Water Act enforcement action as prescribed by the Executive Officer." (proposed additions underlined).

II. ILLICIT DISCHARGES/DISPOSAL

Sections A and B -- Illicit Connections, Illegal Discharges/Disposal

These sections capably combine flexibility in the development of a program and mandatory minimum requirements. It is essential, however, here -- as in each instance in which a dealine is proposed in the Permit -- that a tight time deadline be placed on the development of the Illicit Connections and Illegal Discharges/Disposal programs by the EAC. In addition, the Permit needs to provide for review and approval by the Regional Board of EAC actions as well as for meaningful public participation. Indeed, public participation is essential here -- and elsewhere where the EAC is given the task of developing the baseline program -- to ensure that adequate programs are developed.

Further, the Permit must require that the baseline programs developed by the EAC, once approved by the Regional Board, establish minimum (and not maximum) requirements for the Permittees. The Permit should make clear that the Permittees are not limited to the minimum program developed by the EAC but, rather, should supplement this program with program elements appropriate for their own jurisdictions.

Section C -- Non-Storm Water Discharges

The exempted or conditionally exempted discharges in section C should specify narrow, if any, exemptions from the discharge requirements.

Section F -- Reporting

This section should also require submittal of a report of the status of inspections and other "investigations" performed pursuant to the Illicit Connections and Illegal Discharges/Disposal programs. By contrast, the Draft Permit's current reporting requirements will provide only a small snapshot of the activities implemented to address illegal connections and illegal disposal (i.e., showing only illicit connections found and illegal discharges or disposal reported).

III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES

Section III.A.1. from the last draft of the Permit has been removed. This section provided:

> "The Permittees shall develop and implement a program that focuses on the identification and control of storm water pollutant discharges from industrial/commercial facilities within their jurisdiction. This program shall, at a minimum, provide for the inspection of facilities and generally gauge compliance with storm water regulations."

This section provided a useful overview for the sections that followed and required the Permittees to develop an integrated program for dealing with pollution from industrial and commercial sources. We recommend that it be retained. However, it should be moved above the section entitled "Identification of Sources," and inserted in a section that requires development of an overall integrated program for controlling pollution from these sources.

Section A -- Identification of Sources

This section should require the Permittees to perform inspections or to use a questionnaire process to determine actual facility SIC codes and to determine whether the facility is covered under the State Industrial Storm Water Permit. Accordingly, Section III.A.1. should add the following: (e) Whether the facility is covered by the Industrial Activities Storm Water Permit; and (f) Whether the facility has filed a Notice of Intent to comply with the Industrial Activities Storm Water Permit.

Section C -- Source Control Measures

The prior version of section III.C.1. provided for certain minimum source control programs. The September Draft Permit instead calls for the development of a "checklist." This section should be revised to require development of specific source control measures that industries and commercial facilities must follow. These measures should "include but not be limited to" the measures listed in section III.C.1.b. Once these measures are developed, they should be used in a checklist for inspectors and distributed to the relevant industries and commercial facilities so they can incorporate those practices.

The language of section III.C.2. is too vague and unclear. For example, what does it mean to develop "a process to ensure implementation"? Potentially, this language may allow a permittee to argue that any submittal is a "process" since no standard for an adequate "process" is provided. At a minimum, this provision should specify that the "process" require that the checklist be used to check and verify compliance during field inspections and that enforcement action be taken where necessary to ensure compliance.

This section should also be modified to provide that the process should be designed "to ensure implementation of storm water and urban runoff control measures for industrial/commercial facilities identified in III.C.1. and adequate additional measures where necessary to prevent pollutants from flowing from the facility into storm water runoff (proposed additions are underlined). This addition is necessary because, by necessity, source control measures mandated under section C.1.b. will need to be generally applicable to a category of facilities. Each facility should be required, in addition, to implement any necessary control measures appropriate for its unique operations.

Section C.3. of the the prior draft Permit provided that the Permittee's treatment control programs "shall consider" the enumerated control measures in that section. This mandatory language should be maintained in order to provide sufficient enforceability of this section. Accordingly, we recommend that the language read: "...Permittees shall submit an evaluation of specific structural storm water and urban runoff control measures including but not limited to oil/water separators, infiltration, detention, biofilters, and media filtration for industrial and commercial facilities which have been prioritized ..." (proposed additions underlined). Please note that media filtration was specifically listed in the prior draft.

Section D -- Source Inspections

This section does not provide any guidance as to required frequency of inspections, which guidance had been provided to some degree in the prior draft. We are concerned that requiring only a "schedule for a five year period" is insufficient because this could be interpreted to mean that facilities only have to be inspected every five years regardless of need or priority. We assume this was not the intent of this section. Thus, inspection frequencies should, at minimum, be tied to the prioritization process called for in section III.B.1. (as it was in the May draft Permit).

Recent studies of restaurants and automotive-related facilities (gas stations, auto repair shops, etc.) show that these facilities are consistently potentially high sources of pollutant contributions to the storm drain systems. (For example, this was the conclusion of the survey recently performed by Hermosa Beach.) Accordingly, these facilities should be frequently inspected. Similarly, facilities that are already being inspected by a municipality (such as facilities in an industrial waste inspection program) should be inspected frequently -- the current inspection should just be expanded to include a storm water component. Further, the current draft in section III.D.1.b. provides that municipalities with a population of greater than 250,000 must inspect only a "subset" of facilities identified in sections III.B.1.a.2. and III.B.1.a.3. NRDC does not agree that a City's population size should limit the range of facilities that it should have to inspect.

Instead, we propose that the Permit set the following minimum inspection requirements:

(1) The Permittees must create a list of all facilities in their jurisdictions subject to the State Industrial Activities Storm Water Permit and determine whether each applicable facility has submitted a Notice of Intent (NOI) as required by the State Permit, which database will be created by a review of SIC codes and other available data, questionnaires, phone surveys and, as necessary, performing site visits and other appropriate follow-up;

(2) If the industrial facility is already being inspected by the Permittee through an existing program, a stormwater component must be added to that inspection;

(3) The Permittees shall conduct annual storm water inspections of all restaurants, gas stations, and automotive-related facilities (auto repair shops, auto body shops, etc.);[1]

(4) The Permittees shall inspect the remaining Phase I facilities according to the following minimum schedule: 30% of the remaining facilities annually; 30% of the facilities biannually; and the remaining 40% of the facilities triannually. The Permittees shall divide the facilities for purposes of annual, biannual, and triannual inspections according to the relative likely contribution of stormwater pollution posed by each facility (i.e., the highest priority facilities must be inspected annually);

(5) The Permittees shall annually inspect malls, amusement parks, commercial and industrial business parks, and commercial nurseries.

(6) The Watershed Management Committees shall develop a schedule on a watershed-specific basis for inspections by Permittees of Phase II facilities, which schedules will be based on the relative likely contribution of stormwater pollution posed by each type of Phase II facility.

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[1]We hope that the County Department of Health will be able to help the Permittees fulfill this restaurant inspection requirement by offering to add a stormwater component to its restaurant inspections at a nominal charge to cover this additional cost. We urge the Permittees immediately to commence discussions with the County to determine if this is feasible. We should note that the County Department of Public Works has agreed to use its best efforts to try to obtain an agreement by the County Department of Health to add a stormwater component to County restaurant inspections.

We note also that the County of Los Angeles has committed, as part of its settlement with NRDC and the BayKeeper to implement the inspection program outlined in paragraphs (1), (2), (3) and (5) above. The cities of Beverly Hills and El Segundo have implemented comparable or more stringent programs to that of the County (to the extent applicable in their jurisdictions).

The County, NRDC and the BayKeeper did not reach agreement as to paragraph (4), instead leaving open the level of these industrial inspections for determination by the Regional Board in the new Permit (paragraph 6 was not discussed).

Sections III.E.6. and 7. have been removed from the prior draft of the Permit. These sections should be reinstated as follows. First, section III.E.6. required the development of a uniform checklist to be used for guidance by the public and during inspections. The checklist serves an important function, both in ensuring adequate inspections and in providing the public with information regarding the requirements necessary to comply with storm water regulations.

Section III.E.7. from the prior draft specifically required reinspection until a facility complies with the storm water regulations. This was a critical component of the May draft Permit and should be reinstated in future drafts.

Section E -- Reporting

The reporting requirements should specifically require an evaluation of the effectiveness of this component of the program as part of the annual report. In addition, the new reporting section provides that the Permittees should "recommend a strategy" for storm water management for the following year. This section should be more concrete and require submittal of proposed changes to the Permittee's program based on this evaluation (instead of just "recommendations").

Other Deleted Sections

Other elements left out of the Draft Permit that weaken the Permit include the elimination of the requirement to report industrial Permit non-compliance to the Board and the elimination of the public viewing via electronic bulletin board system of the NOI listings.

IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT

On a general note, this section continues to combine long-term requirements for new and redevelopment with construction requirements. This is often confusing. We recommend

separating out the construction requirements. As we discuss below, the new development and redevelopment requirements are generally quite comprehensive and provide a reasonable level of specificity. Most of our concerns lie with the establishment of minimum requirements for construction BMPs.

Section A. -- Regional Policy

The term "regional" is used in sub-section IV.A.1. without any reference as to what that encompasses. Does this mean area-wide or does it apply only to specific watersheds? Please define this term or use a term that is already defined.

This section provides for the development of a "policy" and "minimum requirements" for new development and redevelopment. As noted above with respect to development of the Illicit Connections and Illegal Discharges/Disposal programs by the EAC, it is essential that the proposed policy and minimum requirements be subject to public review and comment and then approval by the Regional Board. Similarly, sections IV.B.1. through 3. should be subject to public review and comment provisions. Subsection 6 should provide for Permittees to "propose and implement a program to encourage developers to maximize pervious areas and storm water infiltration ...."

In subsection IV.A.2.b., the Permit provides that the EAC establish minimum requirements for "construction best management practices." We urge the Regional Board to include certain minimum requirements, which we will discuss below.

We support the requirement of submission of an Urban Runoff Mitigation Plan ("URMP") as the best vehicle for providing review of development plans with respect to storm water runoff and guidance for inspectors. Unfortunately, there is no comparable provision for the submittal of a written plan for the control of erosion and storm water pollution generally from construction sites. Our experts consistently have found that requiring submittal of a written plan for storm water control has a beneficial impact on erosion and storm water pollution control because it forces the developer/contractor to consider erosion and other storm water pollution controls *prior* to construction during the rainy season and allows for review of those controls by the municipality.

We propose minimum requirements for construction activities (which requirements have been agreed to by Los Angeles County). These requirements, as set out in full below on page 13 in our discussion of construction activities.

Section C -- Identification of Sources

The term "screening criteria" is not defined in the Permit. It appears that in this section the Regional Board intends to allow the EAC to determine the criteria for when

construction sites should be subject to various regulations. We believe that this is proper role for the regulating body, the Regional Board, and not the regulated community. Accordingly, we propose that the permit specifically include a definition of "small" construction sites. All construction sites should be subject to some form of regulation, but the requirements for those smaller sites would be somehwat less restrictive. We recommend that the Permit incorporate the definitions that have been agreed upon by the County, after consultation among the parties' storm water experts, as discussed below in our comments on construction practices.

Section D -- Prioritization of Sources

As noted above, we urge the Regional Board to determine appropriate levels of regulation. Accordingly, the prioritization provided by this section would not serve that purpose, except to the extent certain types of construction sites are singled out for separate more stringent treatment because of a higher pollution potential.

Section E -- Control Measures

This section of the Permit requires the most revision: it improperly only focuses upon construction sites of greater than five acres. Erosion, sediment, and storm water pollution controls should be required at all sites regardless of size. The Permittees should therefore be required to perform all the activities set forth in this section (i.e., development of checklists, evaluation of BMPs, etc.) for all construction sites. There is no reasoned basis for separate regulation of only construction sites over five acres. Permittees may provide for separate requirements for projects in different categories, but each category must be regulated. Given the existing planning process, this does not impose a significant burden on the municipalities. The County and the cities of Beverly Hills, El Segundo and Hermosa Beach have all agreed to regulate storm water runoff from all construction sites.

We propose the following additional minimum requirements for the Permittees (which have been agreed to by the County):

(1) Erosion (Stormwater) Control Plan

The Permittees shall require submittal of a written Storm Water Control Plan that includes specification of erosion control and other storm water control measures that will be implemented on the construction site. Projects over two acres shall provide a narrative description of how and why specific control measures specified on the plan were selected (and why others were rejected). However, projects less than two acres would not be required to comply with the stricter requirements of a narrative description of how

specified BMP measures were selected or rejected, except in special circumstances; rather, a checklist would be developed for those projects.

(2) Storm Water Pollution Prevention Plans

The Permittees shall verify that Storm Water Pollution Prevention Plans ("SWPPPs") have been prepared for projects in their jurisdictions (the County shall do so for the unincorporated County areas) subject to the State Construction Activities Storm Water Permit ("Construction Permit"). If the project proponent cannot show that a NOI and a SWPPP has been prepared, a Permittee shall not issue the proponent a grading and/or building permit.

A municipality could choose to have its inspectors review the SWPPP prepared under the State construction Permit for projects over five acres in lieu of a separate local requirement for submittal of a written storm water plan for those projects. However, we are not in these comments seeking imposition of a requirement that municipalities generally review the SWPPP prepared under the State Permit for adequacy.

(3) Permittee construction requirements

As to construction projects sponsored or undertaken by a Permittee, that Permittee shall include stormwater control measures as a separate bid item.

(4) Private/Public Requirements

The Permittees shall ensure that the same requirements (and procedures, for example, a plan check process and review of the Erosion Control Plan) apply for public and private projects.

(5) Training

a. Permittee Staff

The Permittees shall provide comprehensive training to their inspection and erosion control/stormwater plan check staffs on new program requirements and other applicable standards and practices prior to October 15, 1996.

b. Construction contractors and developers

The Permittees shall provide free training to construction contractors and developers on its regulations and requirements, including changes brought about by its new Stormwater Program. Permittees shall also provide for free or on an at-cost basis stormwater pollution prevention training for construction contractors and developers where that training is not being provided locally by the APWA or another appropriate entity.

(6) Guidance documents

The Permittees shall develop comprehensive guidance documents that provide general guidance on stormwater pollution control and that cover specific BMPs for certain types of projects. The Permittee's Stormwater Program will provide that BMP standards of quality will be specified as in the State Task Force BMP Handbook and/or another guidance document.

Section E.1.b. should contain a section that specifically references erosion control BMPs. This is a serious omission from the development of source controls and we assume it was an oversight. As noted earlier, this section on control measures should make clear those sections that apply to construction activities and those that only apply to post-construction.

Section IV.E.4. should make clear that the BMPs set out in subsections a-e apply to grading activity. Section IV.E.4. should also include a provision requiring the proper containment and storage of construction materials/waste and demolition debris that have the potential to leach, generate sediment, or otherwise contaminate storm water. Such materials should be bermed and either covered, stored indoors or have some other overhead protection. Sub-sections IV.E.4.f. through i. should be listed separately as post-construction new development and redevelopment controls (instead of as demolition/construction activity BMPs).

The Permit should also require that the specific BMPs mandated under sub-sections IV.E.4. and 5. should be included in the checklist developed for section IV.E.1. Also, section IV.E.3. should require the use of the checklist developed under E.1. and require pre- and post-storm event inspections as was required in the May draft. Another element that was eliminated from the May draft which we believe should be put back in future drafts is the requirement to conduct pilot studies or other reviews of effectiveness for post-construction BMPs. Under Section IV.E.5., there should be more elaboration on what constitutes a "sensitive case".

The provision in the May draft Permit (section IV.E.6.) for evaluating the feasibility of retrofitting existing development with treatment controls should be put back in future drafts. This is a significant element for addressing existing pollution sources -- it is important for the Permittees to determine whether such retrofit opportunities are feasible in order to develop appropriate requirements for redevelopment.

Section F -- Source Inspections

As with the earlier inspection provisions in the current draft, sub-section IV.F., "Source Inspection," should specify inspection frequency minimums and require the use of the checklist developed in IV.E.1. The Permit should provide for inspections of all construction sites, not just those over five acres. As noted above, as a practical reality, these sites are already inspected as part of the Permit approval process. Adding a storm water component to these inspections is essential. In addition, this draft appears to suggest that sites with fewer than five acres can be inspected as infrequently as once during a five year period. This is not a sensible distinction. All construction sites should be inspected regularly during the rainy season.

Section G -- Reporting

We incorporate by reference our comments set forth above on this subject.

V. PUBLIC AGENCY REQUIREMENTS

Section B -- Sewage Systems

Generally, here, as elsewhere in the draft Permit, the Permit bestows a critical role on the EAC in developing procedures and requirements. NRDC's and the BayKeeper's general comments (set out above) regarding the critical importance of subjecting the EAC to public accountability specifically applies here (as it does to in each similar instance in the Permit, for example, with respect to the development of procedures to detect illicit sewer connections). Further, in each case in which the EAC develops program elements, including here, these requirements should be minimums that are subject to increase, as appropriate, given the nature of the municipality at issue and its experience in the field. The Permit should use mandatory language that makes it clear that Permittees must implement EAC guidelines. Finally, in this regard, it is also important to emphasize that the EAC's goal should be to develop model programs that are useful to the municipalities (see, for example, Section V.C.1., discussing vehicle maintenance and material storage facility pollution prevention plans, and Section D.1.a., discussing a plan to apply pesticides and fertilizers).

We do not agree with the weakened language relating to sewage spills in sub-section V.B.1. that has been changed from "must not be allowed to enter" storm drains to "all reasonable efforts shall be undertaken". Also eliminated from this sub-section were the guidelines for disinfection of contaminated areas. Since many Permittees currently have such guidelines as existing BMPs it seems impractical to leave these out of the new Permit.

Additionally, the September draft leaves out provisions requiring sewage spill containment and collection, storm drain ranking for dry weather flow, diversion to POTWs, and more frequent cleaning of trouble areas. These provisions are significant measures for the prevention and control of storm water pollution which should be included in future drafts.

Requiring pollution prevention plans for each public maintenance yard and material storage facility is a strategy with which we agree. Furthermore, the provision requiring a list of all the public yards and storage areas by watershed should be put back in future drafts in order to make this information accessible to the Regional Board and the public.

The September draft eliminates certain provisions from sub-section V.D.2. (Facility Management) that we think should be put back in. For example, storm water from parking lots is often contaminated with high concentrations of grease, oil, suspended particles, metals and other petroleum by-products of engine combustion. Parking lots should be required to implement BMPs specific to their use. Additionally, weed abatement requirements should be put back in future drafts because this activity is important for proper maintenance of open storm channels and for inhibiting illegal dumping of waste.

Also, the provision requiring the identification of storm drain ownership by a given date should be restored because this information will help determine who is responsible in the case that problem areas are reported either by scheduled inspections or through public complaint. Furthermore, the provision requiring known problem basins to be inspected and cleaned more frequently should be restored.

Since public facilities include golf courses, schools, ponds, fountains, multi-use parks, fairgrounds, and stadiums, and all of these facilities contribute to storm water pollution, they should also be covered in this section. The May draft included them and the September draft has left them out. Unless there is a clear explanation of why these facilities should not be regulated, they should be included in future drafts.

Section C -- Vehicle Maintenance/Material Storage Facilities

In section C.2.c, the Permit sets out a list of possible BMPs that may be used to address storm water pollution. These BMPs should be mandatory for use in those instances in which they are appropriate. In Section C.2.e, the Permit should include a an additional

BMP set out in Section D.1.c.i, that materials be stored inside or under cover on paved surfaces.

Section D -- Parks and Recreation

In section 2.b., the language in the Permit is unclear: the phrase "loss to storm water" should be clarified to read "the amount of these materials reaching storm water." Further, with respect to each subsection of section 2., the Permit should clarify that each Permittee must undertake the actions set forth here.

Section E -- Storm Drain System Operation and Management

In Section E.1.a., the Permit should make clear that the schedule for catch basin cleaning provided therein is a minimum and should be expanded, as necessary, after evaluation by the Permittees. In addition, catch basin "maintenance" between October 15 and April 15 should include catch basin inspection and cleaning, as appropriate.

VI. PUBLIC INFORMATION AND PARTICIPATION

The Permit language in Section C. of the section Outreach Material should be clarified to specify that catch basin stenciling is mandatory. Permittees should be required to evaluate how often stenciled catch basins must be re-stenciled to account for paint fading and, thereafter, institute a program to keep stenciling in a state where it attracts the public's attention (i.e., not smeared or faded).

Sub-section B. in the section General Education Strategy does not specify who is responsible for carrying out the provisions it contains. This should be remedied in future drafts.

Sub-section A. of the section Outreach Based on Activity-Type should provide a minimum list of industry categories. The September draft begins by stating that the list "shall include at a minimum," but ends the listing with "etc." This is inappropriate -- especially because evaluations conducted by the County as part of a public survey provide specific guidance about these issues. For example, the County has determined that, at a minimum, restaurants, automotive related facilities, and gardeners are necessary targets of the education program. These must be added to an appropriate minimum list that is complete and comprehensive.

Sub-section B. of the same section above should include a provision requiring that developers be provided with any submittals required of them (BMPs, URMPs, SWPPPs, and any other plans) at their initial visit to the planning counter. Providing them with this

information should also be an item on any related checklist to ensure that developers have indeed been provided with the necessary information and guidance.

Sub-section D. of this section should specify that public agency employees whose jobs or activities may contribute to storm water pollution (e.g., construction and maintenance personnel) receive training. In addition, appropriate training regimes must be included in the Permittee's implementation plans.

Thank you for the opportunity to comment on the September 15, 1995 draft. If you have any question regarding our comments, please call us.

Sincerely,

Maribel Marín
Gail Ruderman Feuer, Esq.
Natural Resources Defense Council

Terry Tamminen
Santa Monica Baykeeper

Natural Resources
Defense Council

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September 26, 1995

Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Los Angeles County Department of Public Works
900 S. Fremont Avenue
Alhambra, CA 91803-1331

Comments on the September 15, 1995, Draft Permit

The Natural Resources Defense Council and the Santa Monica BayKeeper appreciate this opportunity to comment on the September 15, 1995 Draft Permit. Overall, we found that this draft was much better organized than previous drafts, has been strengthened in some areas, and in many respects, has increased clarity. For example, the Legal Authority aspects which have been added to various sections are a big improvement.

However, we also believe that there are several fundamental deficiencies with the provisions of the proposed Permit. We feel that until these major issues are resolved, detailed comments on particular aspects of the new Permit are premature. Nevertheless, given the rapid time frame of the negotiations, we will provide specific comments this week.

We feel that in the following key respects, the proposed Permit is deficient:

1. Lack of Sufficient Minimum Standards

In general, the September draft Permit focuses on the process for developing stormwater management programs and the issues which various plans must address. These are important elements but they do not provide the regulatory framework necessary for determining whether a Permittee's program is adequate. The lack of specific minimums or standards of measure in many areas of the draft Permit creates an untenable situation where cities cannot plan for concrete requirements and where some may argue that adequate compliance is subjective. This is not acceptable to NRDC, nor do we believe it should be acceptable to the Permitees who are charged with complying with the new Permit. The Permit must contain clear baseline requirements and/or provide for the adoption of clear baseline requirements, as appropriate. The draft Permit must not relegate the prescription of minimum BMPs or other required procedures to external documents.

In this regard, the September draft Permit places too much responsibility for the

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development of stormwater program details on the Principal Permittee and the Executive Advisory Committee (EAC). This is problematic for two reasons. First, it places the specific program requirements outside of the regulatory framework provided by the Permit. This raises questions of enforceability and creates opportunities for legal challenges if Permittees choose not to implement all or some of the activities identified by the Principal Permittee or EAC under the contention that if it is not in the Permit it is not legally required. Currently, the draft Permit is not consistent in stating that implementing the Principal Permittee or EAC guidelines is mandatory. Indeed, the delegation of Permit-related standards to the regulated community, even with Board oversight, raises a serious question about legality.

Second, relying on external sources rather than providing minimums in the Permit itself may have the effect of distancing the Permittees from direct accountability for implementing necessary programs. It is important that each Permittee understand that it retains full responsibility for implementing an adequate stormwater program: cities cannot merely rely upon the Principal Permittee or the EAC to develop their programs. The Principal Permittee's and the EAC's role instead should be to provide model programs and BMPs to the Permittees as guidance for enhancing the Permittees' own programs.

2. Lack of Performance Standards for Determining Program Adequacy

In addition to a lack of specifics on minimum requirements, the September draft Permit is further deficient by not providing standards for measuring program adequacy. It is not sufficient for the new Permit to require programs and procedures for such activities as inspections, outreach, monitoring, reporting, corrective action, and enforcement without also providing some measure for determining a program's adequacy. By leaving performance standards out of the new Permit, we are in essence ascribing discretionary authority for determining program adequacy to the Principal Permittee or the EAC. Determining the adequacy of a program must be a ministerial action and for this purpose the new Permit must contain specific performance standards or other similar measures regarding programs and procedures.

For example, the provisions requiring the development of a "Baseline Stormwater Management Plan" and "Watershed Management Plans" do not even provide an outline or listing of which minimum areas these plans should cover. Considering that these plans will provide the backbone of the Permittees' plans, it is essential that the Permit clearly identify what these base plans should contain.

Similarly, adequate standards are essential in the September draft Permit's budget requirements. The September draft no longer contains the provision in previous drafts requiring that municipal budgets ensure that there is adequate training to carry out the Permittees' planned stormwater management activities. Providing minimums for the training required gives the Permittees clear targets for which they can budget.

3. Lack of Public Participation/Oversight Opportunities

Another major deficiency of the September draft Permit is the elimination of the public representative from the Watershed Management Committees. The plans developed by the WMCs are to contain specific activities and they represent one of the few areas in the Permit where clear compliance is required of the Permittees via the "Implementation Plan" (sub-section III.B.2.b). We believe that the public must be allowed to participate as a WMC member in the development of the plan provisions. It is unacceptable to create a Permit mechanism whereby those responsible for complying with the Permit conditions develop compliance standards without public involvement. This same problem infects the current EAC framework. This is particularly true because in the September draft, the EAC has been assigned the bulk of the responsibility for developing specific program implementation guidelines.

4. Inadequate Legal Authority

While the September draft Permit's Legal Authority provisions have been strengthened, the Permit must go further and specifically require a stormwater ordinance or unified stormwater guidance manual. It has been our experience that the Legal Authority requirement of the existing Permit has led to inadequate results. We also believe that the Legal Authority checklist proposed in the May draft was useful and should be retained. The lack of such provisions in this section will undoubtedly lead to the continuation of existing conditions whereby Permittees rely on a combination of sources which in many cases only indirectly deal with stormwater management and/or provide insufficient enforcement authority.

Inadequate Legal Authority is directly related to inadequate stormwater pollution management; it also makes Permittees vulnerable to legal challenges from a number of quarters. In this critical area, we feel that the Permit must provide strict and specific directives that will ensure that every Permittee is fully complying with these requirements.

5. Industrial Facility Inspections

We also believe that the new Permit must address directly a critical source of stormwater pollution: restaurants, gas stations, auto-related businesses, and industrial facilities.

After extensive discussion with numerous experts in the area, we believe that an appropriate inspection protocol for these types of facilities includes, at a minimum:

(1) The Permitees must create a list of all of the facilities in Los County that may be subject to the Industrial Stormwater Permit, and further determine whether each applicable facility has or has not submitted a Notice of Intent (NOI) as required by the Industrial Stormwater Permit, using physical inspections and review of SIC codes and other data necessary to create comprehensive database;

(2) The Permitees must survey the aforementioned facilities to determine whether they are potentially subject to the Industrial Stormwater Permit;

(3) If the industrial facility is already being inspected by an agency through an existing program, a stormwater component must be added to that inspection. In addition, the remaining facilities shall be inspected as follows: the Permitees shall thereafter inspect 30% of the remaining facilities subject to the Industrial Stormwater Permit annually; another 30% of the facilities biannually; and the remaining 40% of the facilities every third year. The Permitees shall divide the facilities for purposes of annual, bi-annual, and tri-annual inspections according to the relative likely contribution of stormwater pollution posed by each facility (i.e., the highest priority facilities must be inspected annually);

(4) The Permitees shall also conduct annual inspections of all County restaurants, gas stations, and automotive service facilities with a specific focus on stormwater; and

(5) The Permitees shall also biannually inspect malls, amusement parks, commercial and industrial business parks and commercial nurseries.

6. Compliance with the Existing Permit

A deficiency in the September draft -- which we also noted in our previous comments to the May draft -- is the lack of a clear and unequivocal provision stating that in order for the Permittees to be in compliance with the new Permit, they must be in compliance with the existing Permit. One version of this requirement was in section VIII(A)(5) of the February Draft. A similar provision is essential for successful operation of the new Permit. Otherwise, cities that have continued to avoid compliance with the existing Permit will gain an unfair advantage over those cities that have worked hard to come into compliance. The new Permit will also need to incorporate those requirements of the existing Permit for phases II and III which have not come due.

While the latest draft of the Permit contains language addressing this issue, the language must be made clearer.

7. Deadlines

We had hoped that the September draft would include compliance and deadline dates considering that we are so close to the proposed new Permit adoption date. One of our principal concerns is that the new Permit remain on schedule for adoption in December 1995. We fear that many cities are delaying further stormwater program improvements until adoption of the new Permit. While we disagree with this approach, it is imperative that new guidance in the form of a new Permit be issued as soon as possible.

In addition, this timing is critical for a smooth transition to the new Permit. Municipal fiscal years begin in July and city staff will need time to research and design programs that

meet the new Permit requirements and to develop budgets to take to their city councils. Delays that move the adoption of the new Permit into 1996 may throw off the timing for getting budget items approved and programs implemented.

Another concern is the establishment of sufficiently short-term deadlines for the various new Permit provisions. The February Draft contained many 1995 or January 1996 deadlines. We hope the next draft will similarly contain short deadlines. Since many of the proposed new Permit requirements are the same as those required under the existing Permit, the short-term deadlines should be easy for cities now in compliance to meet. Cities which have lagged in implementing their stormwater programs must be forced to come into compliance quickly -- since they already had up to five years in which to comply under the existing Permit. Further, the cities that are behind should be able (and encouraged) to borrow programs from other cities and therefore speed up their program implementation.

In cases where the ability of the Permittees to carry out their programs is dependent upon the completion of another task, it is particularly important to keep the deadlines short. For instance, the provisions requiring the EAC to develop program guidelines must be done within the first 60 days after the new Permit is adopted to reduce the delay in getting the Permittees to implement the programs within the first year.

Thank you for your consideration of these comments. If you have questions or wish clarification, please do not hesitate to contact either one of us.

Sincerely,

Terry Tamminen
Santa Monica BayKeeper

Maribel Marin
Gail Ruderman Feuer, Esq.
Natural Resources Defense Council

CITY OF PARAMOUNT

Facsimile Transmission Cover Sheet

Date: 10-16-95

To: Gary Hildebrand

Firm Name: L.A.C.D.P.W.

Fax Number: (818) 458-3534

Main Phone:

From: Bill Pagett Office: City of Paramount

Fax Number: (310) 630-2713

Main Phone: ☐ Community Services and Recreation (310) 220-2121

☐ Public Works (310) 220-2020

This fax consists of 2 pages (including cover sheet). If there are any problems with this transmission, please contact _____.

Comments: _____

Transmission Completed By: _____ Time: _____

CITY OF PARAMOUNT
Public Works
(310) 220-2050

October 16, 1995

Mr. Donald Wolfe
Los Angeles Co. Dept. of Public Works
P. O. Box 1460
Alhambra, CA 91802-1460

SUBJECT: Comments on the September 15 Draft Permit

Dear Mr. Wolfe:

Since I sit on the Executive Advisory Committee (EAC), my comments will only pertain to the major problem areas of the draft permit as the EAC along with the County will be submitting a detailed review. The extensive corrections being submitted by the EAC could have been minor had not the Regional Water Quality Control Board staff taken such liberties in changing what the EAC had negotiated in good faith. The areas of concern are as follows:

- The EAC should only be an advisory committee to all watersheds. No legal responsibilities should be made of the EAC. All legal responsibilities should lie with 1) the Regional Water Quality Control Board, 2) the principal permittee, and 3) the permittees. The EAC should be designed to aid in the planning and development of programs.
- Permitted discharges should at a minimum include all federally-approved discharges to date, which include waterline flushing, uncontaminated pumped ground water, discharges from potable water sources, and lawn watering.
- The final permit should have a finding by the Regional Water Quality Control Board that justifies that all activities and the extent of the activities are required by the Clean Water Act.

The City of Paramount would very much appreciate your careful consideration of these comments in the permit renewal process.

CITY OF PARAMOUNT

William C. Pagett
Assistant City Engineer

16400 Colorado Avenue • Paramount, California 90723-5050 • (310) 220-2000
Facsimiles: City Hall (310) 630-6731, Public Services Facility (310) 630-2713, Sheriff Substation (310) 220-2009

ROBERT A. DELOACH
Director

THE CITY OF
POMONA

Public Works Department

October 16, 1995

California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754--2156

Attention: Ms. Catherine Tyrrell, Assistant Executive Director

Subject: ***Proposed Los Angeles County Storm Water Discharge Permit Comments***

Dear Ms. Tyrrell:

Per our discussion at the September meeting, I am returning our comments to you late. I was on vacation from September 29th until today; however, I did take the opportunity to review, in detail, the proposed permit while I was out of the area. I did review the EAC comments on the notated copy so my list was substantively shorter than when I started from the 15 September draft , which by the way, I did not receive. Many of the comments are procedural in nature or refer to typographic errors, and I am certain that you and your staff have already made the corrections.

The only really significant comments that I would hope you can take special note of are in regard to the apparent conflicts between State Health Department Requirements and your requirements with regard to system flushing: one agency demanding that the water purveyors flush hydrants, wells and pipelines and the other stating that it does not approve - both threatening fines for non compliance. The really difficult part is both you and the Health Department are quoting different parts of Federal EPA regulations. In this regard we feel that it is incumbent that the State agencies work out the differences to achieve the goals of safe drinking water systems and clean receiving waters; goals that should not cause any significant conflicts. The permittees need to be involved, to supply data and identify areas of conflicting regulations; however, the principal resolution burden needs to be born by the State.

City Hall, 505 So. Garey Ave., Box 660, Pomona, CA 91769, (909) 620-2261

Again my apologies for the lateness in this submittal. I would hope that you view the criticism for what it is: an effort to provide all with a realistic, workable permit that will be enforceable without causing undue economic burdens on our depressed Southern California Economy. Please feel free to call if you have any questions with regard to the comments and suggestions offered.

Sincerely yours,

ROBERT A. DELOACH
Director of Public Works

Charles L. Sihler,
Engineering Associate

Attachment: Permit Comments

cc: Don Wolf, EAC Chairperson
Los Angeles County, Dept. of Public Works
Glen Lewis, Assistant Director of Public Works/City Engineer

(ltrwqb01.f)

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City of Pomona Comments on Proposed Los Angeles County Storm Water Discharge Permit

EAC comments of 09/25/95 are acceptable as recommended, unless otherwise noted.

1. Page 1 or 2 - Proposed permit should supply a glossary of terms, in the front of the permit OR , throughout the permit, utilizing a uniform process or methodology that, in all cases, the item is spelled out, followed by the abbreviation to be utilized, throughout the permit [Exception - re-use as a title or major heading]

2. Page 3 -line 5 add italicized baseline BMP's, in addition to all others ***that they have individually proposed*** in the ROWD.

3. Page 3 - Paragraph "ii" - substitute ***Permittees*** for Discharger.

4. Page 4 - Paragraph "D" - add, in brackets, after the title ***[EAC].***

5. Page 5 - Paragraph "E" add, in brackets, after the title ***[WMC].***

6. Page 6 - Add new paragraph 3 as follows & change existing 3 to 4.
3 ***Each WMC shall appoint their own Chairperson and secretary, however in the absence of a volunteer(s) for those positions, the Principal Permittee shall assume those roles in each WMC, until a qualified person is otherwise approved by the WMC.***

7. Page 6 - Item "G" Fiscal Resources - Somewhere within the item, I would suggest that the following verbiage be inserted. ***A sample format for the budget is included as [attachment XX, enclosure xx or whatever other method], and it is suggested that the budget be done in this format; however, if an agency can provide all of the necessary data in some other format, it will be acceptable to the Board.***

8. Page 7 - H.3.d. - Clarification, as requested by the EAC, is definitely required, especially any differentiation between Charter and General Law Cities [Pomona is a Charter City].

9. Page 7 - H.4. - We are referring this item to our City Attorney for review and comment. This may take some additional time that is not available to the Board.

10. Page 8 - It would appear that the Regional Board [Item J], should appear prior to their duties [Item I Administrative Review] & thus change the Item designations; otherwise we concur with the EAC recommendations.

11. Page 9 - It would certainly appear that current item **III "PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES"** [pages 14 thru 17] should appear ahead of current Item **II "ILLICIT DISCHARGES\DISPOSAL"** [pages 9-13] for a variety of reasons. Not only do I personally feel that legal sources should be addressed ahead of illegal

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ones, but the data base development in III should also include the data required in II; the definitions of sources & prioritizations show up in III - basically you have the cart before the horse. While I feel that they should be reversed, the balance of my comments on both will reflect the pages and sections as presented.

12. Page 9 - II A.1.f - Suggest that the standard records keeping system be the same as the data base required in III A.1.

13. Page 11 - II C.2. Add under Conditionally Exempted Discharges, as item o. or p., the following: ***State Health Department mandated well flushing, unless containing known contaminants.***

14. Page 14 - III A.1.b. i. & ii. - Question - has the EPA not made this determination?? It would appear that the permittees should review businesses within their jurisdiction, based upon SIC, if the industries are conducting activities that might impact runoff discharges. Not just start from ground zero to re-invent the wheel!!

15. Page 14 - III B. 2. Order of priority needs to be defined; i.e., shall we rank on the degree of pollutant hazard, that the potential quantity of pollutant materials that might be introduced or the qualities of the materials [a million gallons of a 1% solution of "X" or 100,000 gallons of a 15% solution of "X"].

16. Page 15 - III C.2.e. - Sweeping of private parking lots, in excess of 10 spaces, previously constructed. Great idea - but how do we require?? New lots can be mandated thru the permitting process, however unless we can PROVE public health & safety, we cannot go back and impose new conditions on old, properly maintained parking lots. Not realistic from an implementation standpoint!!

17. Page 15 - III C. 3 & III C. 4 - Where are they????

18. Page 15 - III C. 5 - Suggest that some possible examples be listed to insure compliance - Say your "industrial facilities" to most cities & the response will be "Not Applicable, Next item!!"

19. Page 20 - We concur totally with the EAC comments - That the planning process cannot be dictated to a City - Only recommended.

20. Page 21 - IV B. 7. a. iii. c. As an absolute, I definitely concur with the EAC comments; however, if the phrase "***Where economically feasible and practicable by the permittee,***" was inserted in front and the phrase, "to the extent practicable" deleted, it would provide a strong suggestion to explore all available options, without unduly burdening anyone.

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21. Page 21 - IV B. 7. a. v. - That the determination as to the degree of criminal violation; i.e., felony, misdemeanor, infraction, etc. will be a part of each permittee's legal authority and cannot be set by the regional board, unless they are ready to get it into the California Penal Code.

22. Page 21 - IV C. 2. e. - While I concur that the permittees have no control [EAC comments], the dates could and should be requested as a part of the construction permit process.

23. Page 23 - If item 2, on page 22 is deleted, then items 3 & 4 should be renumbered 2 & 3.

24. Page 26 -Item IV H. - Firstly, we concur with the EAC comment with regard to placement, but we feel very strongly that the Regional Board should assume the leadership in any conflicts that cannot be readily resolved by the permittees, especially when the other mandates are at the state and federal level. If it is a conflict for one Permittee, it most definitely will be a conflict for others of the 87, especially in the area of State Health Department jurisdictions where two state agencies are placed in the position of giving contradictory instructions due to federal mandates. For each permittee to argue the point of the conflict(s) is a criminal waste of funds that could be much better spent on other issues.

25. Page 28 - Item V C.2.c. Add the word should in the 2nd sentence as follows: BMP's that can be used to improve the quality of runoff ***should*** include, but are not limited to:

26. Page 28 - Item V C.2.d.i. - Rewrite as follows:
Delete the words *or Contractors* from the statement as presented and add a second sentence. ***If feasible, any contractors of the permittees should also receive such training.***

27. Page 28 - Item V C.2.e. Conventional paragraphing outline procedures need to be followed and the item is very narrow - covering only chemical storage spills/or other similar problems. Needs to be re-written to cover a wider area of materials storage - yes it addresses the most significant potential problem, however it may cause some to pass over the item as not applicable.

28. Page 29 - Item V C.2.f.iii - Redundant - should be incorporated with V C.2.c.

29. Page 30 - Item V D.2.f. -Second line add the words as noted: . . . only be discharged to the ***storm drain system*** under separate Waste Discharge Requirements.

30. Page 30 - Item V D.2.g. - Third line - add the words as noted: . . . recreational water bodies, ***if applicable,*** by _____. We all wish we had them but few of the 87 really do!!

31. Page 31 - Item V E.1.d. - Unclear - needs to be re-written to define how to track the amount of waste material collected; i.e., tons, loads, cubic yards etc.

32. Page 30 - Item V G.2. - Possibly for the principal permittee. This is not a feasible item for the

substantive majority of the Co-permittees; either from a staffing level or as a fiscal drain -NOT FEASIBLE!!

33. Page 34 - Section VI - General - That the Conventional paragraphing outline procedures need to be followed; i.e., Outreach Materials should be "A", with the Written material being "1." and the 1& 2 under "Written Material being a. & b.. However, for purposes of clarity, all comments will refer to the sections as named in the draft report.

34. Page 34 - Item VI B.1.- Add the words to the beginning of this section: ***"If fiscally feasible."***

35. Page 34 - Item VI C.2 - Add the following words to the EAC revision as noted:
. . . stations and cable access programs throughout all watersheds on a regular basis, ***to the maximum extent that the Permittees can request the showings.***

36. Page 35 - General Education Strategy - Add, in the first line of "A", as follows:
That the EAC ***& the PIPP Committee*** shall develop and the permittees shall . . .

37. Page 36 - Item at top of page should have the designation "d."

38. Page 36 - Next to top paragraph noted as "C" - Add the following to the proposed paragraph:
That the Permittees shall ***request a listing of*** pertinent City phone numbers . . . .; and delete the word *list* from the same space. While the EAC's comments are valid, I feel that the cities should be required to at least make a good faith attempt to have their numbers listed - if the telephone companies ignore - no harm done. If they do include, we are all the better for it.

39. Page 36 - Third paragraph noted as "D" - Add the following to the proposed paragraph in the last line: . . . Harbors, ***Metropolitan Water District of Southern California;*** Resource Agencies, etc.

40. Page 36 - First line in the unnumbered paragraph under Outreach to Target Audiences - Add the following to the last line of the proposed paragraph: That the program may be developed locally or regionally and ***should include,*** as a minimum: Followed by the listed programs. While the EAC is trying to simplify the requirements, "should include" is permissive as opposed to the mandatory "shall" and many of the agencies have developed or are in the process of developing the listed items as a part of their obligation under the existing permit.

41. Page 40 - Item VIII A. 2. Add the following wording in the sentence:
That the Watershed Management Committees are responsible for demonstrating the effectiveness of other *Watershed Specific* BMPs through . . .

42. Page 41 - VIII B. 1. - Delete the Italicized words at the end of the first sentence as follows:
. . . to be used by all Permittees *within the watershed*

43. Page 41 - VIII B. 2. - Modify the sentence as follows: "All records shall be retained by the Permittees for a period of five years ***or as otherwise*** required by ***competent authority, such as*** the USEPA or the Regional Board."

44. Page 41 - VIII C. 1.a - Change from 30 days to a minimum of 45 - preferably 60 days. Larger municipalities take a significantly longer time, not only to acquire and process data but to get the applicable signatures for submission once the reports are completed.

45. Page 43 - VIII C. 2.e - Change from 30 days to a minimum of 45 - preferably 60 days. See above.

46. Page 43 - VIII D. 1.a - Line 2 - Add the following words: That the EAC ***or Permittees*** can recommend and request revisions . . .

47. Page 44 - Item IX General - That the conventional paragraphing outline procedures need to be followed; i.e., Item I under general should be "A."

48. Page 44 - Item IX I. 1. Remove the words *"discharger is"* and substitute the words ***"Permittees are"***.

49. Page 47 - Throughout remove the word *"discharger "* and substitute the word ***"Permittees"***.

(ltrwqb01.fcm)

CT WJ, CW

Please take care of + call to say they will do the mailing list

RUTAN & TUCKER

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December 1, 1995

Ms. Catherine Tyrrell
Assistant Executive Director
California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754-2156

Re: Draft NPDES Permit No. CAS0061654

Dear Ms. Tyrrell:

The purpose of this letter is simply to request that our office be placed on your mailing list for all future correspondence and proposed draft NPDES permits for the Los Angeles basin. Recall that our office submitted comments to you on behalf of the Cities of Baldwin Park, Lawndale, Signal Hill and West Covina on October 18, 1995, and we appreciate being kept apprised of the status of the Regional Board's revisions to the draft permit.

Thank you in advance for your consideration of the above and your cooperation in this matter.

Sincerely,

RUTAN & TUCKER

Richard Montevideo

RM/jb

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VOL 24

0564

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October 18, 1995

VIA TELECOPY
[Original by U.S. Mail]

Ms. Catherine Tyrrell
Assistant Executive Director
California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754-2156

Re: Comments to September 15, 1995 NPDES Draft Permit No. CAS0061654--Cities of Baldwin Park, Lawndale, Signal Hill and West Covina

Dear Ms. Tyrrell:

This letter provides the comments of the Cities of Baldwin Park, Lawndale, Signal Hill and West Covina to the draft NPDES Permit dated September 15, 1995. The comments below track the order of the provisions within the Draft Permit itself, and are provided to each of the eight Roman numeraled Titles of the Draft, as well as the initial preliminary findings.

We want to thank you for the opportunity to comment on the Draft and hope the comments prove productive towards our mutual goal of arriving at an NPDES Permit that complies with both the letter and the spirit of the Clean Water Act and the applicable regulations.

PRELIMINARY FINDINGS

1. With respect to the "findings" of the Regional Board and the recognition of the EAC ("Executive Advisory Committee"), we believe assigning responsibilities to the EAC in this document is

practically and legally troubling. The EAC is not a separate legal entity, nor is it an entity with a separate governing body, budget and/or location. Rather, its makeup is a group of individual employees of the respective Co-Permittees who have come together for the sole purpose of working towards the completion of the present Draft NPDES Permit, by providing comments and input to the Regional Board. Thus, any reference to the EAC in the Draft and more importantly any obligations and responsibilities imposed on the EAC within the Draft Permit should likely be deleted.

2. Three subsections appear to have been added to the Draft Permit in the findings portion of the Permit, the first is labeled "A. Discharge Prohibitions," the second is labeled "B. Receiving Water Limitations," and the third is labeled "C. Provisions." Initially, the concern with these sections is that they do not appear to be incorporated into the findings, nor do they appear to be part of any other section or provision. They, thus, need to be reformatted.

3. As to subsection "A. Discharge Prohibitions," this paragraph seems to paraphrase language from the Clean Water Act, but fails to except the exempted and conditionally exempted discharges, and "permitted" non-stormwater discharges.

I. PROGRAM MANAGEMENT

4. Throughout this section and throughout the entirety of the Permit, the EAC is referenced and responsibilities are placed on the EAC. For the reasons set forth above, we believe placing responsibilities on the EAC is inappropriate. We will assume this issue would be addressed consistently each time the EAC is referenced in the Draft Permit and will not hereafter point out EAC references. We would propose, however, that many, if not all, of the responsibilities placed on the EAC in the Draft are more appropriately placed on the Regional Board and/or the Principal Permittee.

5. Subsection "E. Watershed Management Committee" refers to meetings of the WMC being open to attendance by the public, but that the "WMC may hold closed sessions at its discretion to discuss permit-related issues." We are concerned that this language could result in violations of the Ralph M. Brown Act, and would suggest you confer with your legal counsel on potential problems created by this wording.

6. Subtitle "H. Legal Authority" appears to be overly broad and is vague. We would recommend that this section be modified and limited in accordance with federal regulations, 40 CFR Section 122.26(d)(2)(i). As written, the Draft provides that the Co-Permittees shall exercise their legal authority and require compliance. It thereafter requires each Permittee to have their legal counsel complete a review of their existing legal authority to ensure compliance with the order. What is intended by these provisions is unclear. For example, does the requirement that a Co-Permittee exercise its legal authority and require compliance mean that all violations must be criminally prosecuted? Civilly prosecuted? Sent a notice of violation? If, moreover, a Permittee does not prosecute a violator or seek fines civilly or send out a notice of violation, does this then mean the Permittee has violated the terms of the Permit because the Permittee has not exercised its "legal authority and required compliance"? Also, what is intended by the requirement that legal counsel complete a "review of its existing authority"? Does this simply mean the Permittee is to insure that it has an ordinance on file to enforce the terms of the Permit as to facilities and persons within its jurisdiction? Please consider clarifying these issues.

7. Subtitle "I. Administrative Review" allows the Executive Officer to find a Permittee's program is insufficient and thereafter issue a Notice of Intent to Meet and Confer to a particular permittee. However, there is no requirement the Executive Officer make specific "findings" in support of the NIMC, nor is there an administrative process in the Permit for a Permittee to challenge any NIMC issued by the Executive Officer. Thus, there are serious due process issues raised by these omissions. If the Administrative Review Section is to remain, please consider amending to address these concerns.

II. ILLICIT DISCHARGES/DISPOSAL

8. There are a number of references in this Title to the development of guidelines and enforcement procedures. It is our understanding, however, that the Regional Board recently assumed responsibility for developing these guidelines, and that the Regional Board has already retained a consultant to start this process. If the Regional Board would like to proceed with the development of the guidelines, we feel the Regional Board should bear the financial responsibility, and, more importantly, we believe the permit should indicate that the Regional Board will be developing these guidelines. Moreover, if the Regional Board is to

develop these guidelines, given the import of the guidelines on the process, we would suggest the guidelines be developed and available for the Co-Permittees' review prior to the time the Permit is to be approved by the Regional Board, so that the Permittees have an opportunity to comment on the guidelines and understand how the guidelines and the Permit will work together. If, on the other hand, the Regional Board would like the Permittees to establish the guidelines as implied by the references to the EAC, we would suggest that language to this effect be included in the Permit, i.e., that the Co-Permittees shall establish the guidelines.

9. With respect to subtitle "A. Illicit Connections," subsection 1(B) of this subtitle refers to "major" problem areas, which is defined to include but is not limited to "older business areas." This provision appears vague and overly broad, and should be modified to provide more definition and limitation on its application.

10. In addition, with respect to a Permittee identifying an "Illicit Connection" and "Illegal Discharges," any program to be developed by a Permittee must be developed in accordance with existing resources and personnel of the Permittee. If these provisions are interpreted to require Permittees to purchase expensive geographic informational systems, while although these systems would be extremely helpful, many of the Permittees simply cannot afford either the initial capital costs or the people power necessary to obtain and input this data into such systems. Thus, imposing overly burdensome requirements will be counterproductive and result in provisions which many of the Permittees simply cannot comply with.

11. Within this Title II "Illicit Discharges/Disposal," we would suggest that language be added clarifying responsibility as between Co-Permittees for addressing cleanup and removal of pollutants from stormwater facilities. Specifically, we would suggest that language to the effect that as between the Co-Permittees, primary responsibility for cleanup and removal of pollutants in a stormwater facility from an illicit discharge shall be the responsibility of the owner/operator of the stormwater facility. However, there should also be a qualification that nothing contained in the Permit is intended to in any way prevent action against the party responsible for the illicit discharge.

12. With respect to the Exempted and Conditionally Exempted Discharges under subsection "C. Non-Stormwater Discharges," we would recommend that additional Exempted Discharges include discharges from firefighting, landscape irrigation to property "one-half acre in size or less," and individual residential carwashing. In addition, with respect to Conditionally Exempted Discharges, we would recommend that fire hydrant flushing, water line flushing, flushing of inductive traffic loops and "hydraulic graffiti abatement" be added, and that the catch-all language within section 2(n) be changed to read as follows:

> "Other discharges identified by either the Permittee or the Executive Officer as not being a source of pollutants to receiving waters or as being a source where appropriate control measures can be taken to minimize the adverse impacts of such source."

13. Within subsection "D. Other Permissible Activities," subsection 1(B) appears to be redundant and should probably be deleted.

14. Subsection 2(C) within subtitle "D. Other Permissible Activities" is overly broad and vague in that it requires sweeping of all commercial and industrial motor vehicle parking lots, regardless of size. It also fails to set forth a standard or frequency for sweeping parking lots. From both a legal and a practical standpoint, this requirement should be written as requiring owners of commercial/industrial vehicle parking lots of 10 or more spaces to sweep the lots as necessary to avoid excess accumulation of debris. Also, an exception should be provided to this requirement, if the owner or operator has already taken other source control measures or has otherwise shown that runoff from the vehicle parking lot in issue does not contribute to stormwater pollution.

15. Similarly, subsection 2(D) is vague in that it fails to identify what is meant by "potentially harmful materials"; nor is there a definition of "areas susceptible to runoff." If these phrases are to be left in the Permit, some additional definition should be provided.

16. Subtitles "E. Public Reporting" and "F. Reporting" are problematic because they are a number of instances throughout the Permit where public reporting is required. In order for each of the Permittees to understand all of their reporting obligations,

including the frequency of the various reports, to whom the reports are to be provided, and the contents of the reports, we would recommend that each reporting requirement be consolidated into one Title, that the reporting provisions themselves be coordinated, that the various reports be provided on an annual basis unless otherwise necessitated by the report, and that the reports only provide information that can reasonably be obtained and compiled. As presently written, the reporting obligations under the Draft Permit are burdensome, somewhat inconsistent and complex, and very few of the Permittees would likely be able to comply with all of these obligations.

III. PROGRAM REQUIREMENTS FOR INDUSTRIAL/COMMERCIAL SOURCES

17. Subtitle "C. Source Control Measures," particularly subdivisions 2 and 3, are probably more appropriately addressed in subsection "D. Source Inspection," and we would suggest that these provisions be redrafted and incorporated therein.

18. Subtitle "D. Source Inspection," as written, is overly broad and appears to apply to every industrial/commercial facility within the city, which would, for most cities, make this provision impossible to implement. We would suggest that a random inspection schedule be adopted by the Permittees for prioritized facilities.

19. With respect to subsection "E. Reporting," again, we would stress the need to consolidate all reporting obligations into one Title in the Permit, and that the reporting obligations be consistent and not overly burdensome.

20. Subtitle "G. Conflict of Mandates" appears in several locations in the Draft Permit and should probably be added as a separate Title to apply to the entire Permit.

IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT

21. With respect to subtitles "A. Regional Policy" and "B. Planning Process," many of the cities in the County do not have the in-house geotechnical or soils engineering expertise to comply with these provisions. Development of an overall regional policy should therefore come from either the Regional Board or the Primary Permittee, including the development of guidelines for stormwater management for new development projects, and the development of an urban runoff mitigation plan.

22. Within subtitle "B. Planning Process" there is a provision indicating that failure to comply with the urban runoff mitigation plan is a misdemeanor. Enforcement of any violation of this Permit by an individual person or entity is probably more appropriately set forth within a Co-Permittee's ordinance, rather than in the Permit itself.

23. To enforce violations of this Permit by any private party, as indicated above, it is agreed that the Co-Permittees should include language within their own individual ordinances to give them this legal authority. On the other hand, with respect to development projects in excess of five acres, as you know, these development projects will require obtaining a separate permit from the Regional Board. Thus, the present Permit should make it clear that the Co-Permittees will not have the responsibility of enforcing the terms of this separate permit obtained by the party from the Regional Board. In that event, the language of the present Permit should clarify that the Regional Board will have enforcement responsibility since the Regional Board would have issued the individual permit to govern that circumstance.

24. Subtitle "E. Control Measures," subdivision 3, requires the incorporation of BMPs in private development, including through CC&Rs. It also imposes other maintenance obligations. The provisions in this section, however, are broad and burdensome in their requirement on the Permittees to design, install and maintain BMPs for construction sites. We would suggest that these provisions be revised and modified so that procedures are adopted by the Regional Board and/or Primary Permittee to be enforced by the Co-Permittees, and to be carried out by the contractor.

25. Subtitle "E. Control Measures," section 4, should be modified to allow the washing of vehicles on construction sites where the runoff is treated to remove sediments and pollutants.

26. Subtitle "E. Control Measures," section 5, should be limited to construction sites in excess of a certain size. Unless limited, it appears overly broad and will require BMPs for any construction on a hillside area or in an area adjacent to natural waterways.

27. Subtitle "F. Source Inspection," section 3, allows a Permittee to report "problematic construction sites" to the Regional Board. What is meant by "problematic" should be clarified, as well as whether at that time the Regional Board is to

assume full responsibility for the site and whether this then relieves the Permittee of responsibility.

V. PUBLIC AGENCY REQUIREMENTS

28. The pollution prevention plan for vehicle maintenance and material storage facility should be a standardized plan and should probably be developed by the Regional Board and/or the Primary Permittee.

29. Subtitle "H. Parking Facilities" should similarly be limited to parking lots with 10 of more parking spaces to be swept to avoid the accumulation of excess debris.

VI. PUBLIC INFORMATION AND PARTICIPATION

30. This title contains several subsections entitled "Outreach Materials," "General Education Strategy," "Outreach and Target Audiences," "Outreach Based on Activity--Type," and "Evaluation." However, these individual provisions are not formatted and numbered in accordance with the other provisions of the Permit. Obviously the format throughout the Permit should be consistent.

31. Subsection "C. General Education Strategy" places a requirement on individual Permittees to list certain city phone numbers in local directories. As pointed out by the EAC, this requirement is subject to the discretion of the company publishing the phone listing.

32. Subtitle "D. Construction" of the section entitled "Outreach Based on Activity--Type" appears to require the Permittee to take measures to ensure that contractors comply with certain BMPs. This provision should be deleted, however, since the requirements on construction activities appears earlier in Title IV of the Permit. We believe the provisions concerning "Outreach Based on Activity--Type" should be limited to programs to inform and educate the community.

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VIII. PROGRAM EVALUATION AND REPORTING

33. First, please recognize that there is no VII, and this title needs to be retitled "VII."

34. Title VIII initially requires that a procedure be imposed to "develop action-specific performance indicators and criteria, perform evaluation of compliance and effectiveness based on the performance criteria . . . ." This language is vague and it is unclear what is being required.

35. The second full paragraph under this Title is somewhat redundant with the initial paragraph. We would recommend that Paragraphs 1 and 2 be consolidated and rewritten.

36. Subtitle "D. Storm Water Management Plan Revisions" restricts revisions to the Stormwater Management Plan unless certain circumstances occur. This provision is far too restrictive since until the Stormwater Management Plan is actually developed, it is uncertain as to what and when revisions may be necessary.

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IX. MONITORING PROGRAM OUTLINE

37. This Title should be reorganized. It initially addresses revisions to the Monitoring Plan, then identifies "Objectives" and finally sets forth the "Monitoring Program Requirements." We would recommend that what is labeled as "II. Objectives" (which, to be consistent with the other format of the Permit, should be labeled with a capital letter rather than a roman numeral) be moved as the first section in this Title. Sections 2-4 within "I. General" of this Title, moreover, all concern monitoring information and data, and we would recommend that these provisions be incorporated within the "Monitoring Program Requirements."

38. The provision entitled "I. General," subsection 1, concerns revisions to the monitoring and reporting program, and should be moved to the end of the "Monitoring Program Requirements" section.

39. The very last page of the text of the permit refers to an attached "Monitoring and Reporting Program," and this term appears to refer to a formal, defined program, which was not previously defined in the Draft Permit. We suggest that if such a program is to be complied with by any discharger, that the program be defined and that it actually be included as an attachment to the Permit so

that the respective Permittees can review the program to determine whether they have comments to the same.

We want to thank the Regional Board for the opportunity to review the Draft Permit and to provide these comments to you. We hope the above has been helpful and constructive.

Please contact the undersigned should you have any questions with respect to any of the above or if we can be of any further assistance.

Thank you for your attention to this matter.

Sincerely,

RUTAN & TUCKER

Richard Montevideo

RM/jb
cc: Mr. Sid Mousavi
Director of Public Works, Baldwin Park
Ms. Linda Holmes
Interim City Manager, Lawndale
Mr. Douglas N. La Belle
City Manager, Signal Hill
Mr. Richard Lundahl
City Engineer, Signal Hill
Mr. Jim Starbird
City Manger, West Covina
Mr. Patrick Glover
City Engineer, West Covina
Mr. Louis M. Winters
Principal Engineer, West Covina
Mr. John L. Hunter
Hunter & Associates

CT RPG, DD, WJ
XS, EO

VOL 24

November 1, 1995

Ms. Catherine Tyrrell
Assistant Executive Officer
Los Angeles Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754

RE: RENEWAL OF THE LOS ANGELES COUNTY MUNICIPAL STORM WATER NPDES PERMIT

Dear Ms. Tyrrell: Catherine

Strong and effective management of storm water and urban runoff is a key component of the Santa Monica Bay Restoration Plan. This Plan, the product of a five-year, consensus-based effort by the Bay's stakeholders, provides detailed and extensive information that should be utilized in developing the new permit. The Plan includes recommendations for implementation of specific Best Management Practices and for improving the design and effectiveness of the County's monitoring program.

At its September 28, 1995, the Bay Oversight Committee (BOC) of the Santa Monica Bay Restoration Project (member list attached) discussed the Los Angeles County municipal storm water permit currently under development by the Regional Board staff. To ensure that the new permit moves us toward our goal of a clean and healthy Bay, the BOC urges the Los Angeles Regional Water Quality Control to:

(a) Develop a strong, environmentally sound storm water permit, consistent with conservation principles of aquatic biology, that incorporates the recommendations contained in the Bay Restoration Plan, and

(b) ensure timely implementation of permit requirements, in particular, development and implementation of the storm water monitoring program.

Thank you for the opportunity to comment on the permit at this time. I will be pleased to forward more detailed comments to you as SMBRP members have the opportunity to reviews future drafts.

Sincerely,

Marianne Yamaguchi

Marianne Yamaguchi
Program Manager

0575

R0067512

SANTA MONICA BAY RESTORATION PROJECT
BAY OVERSIGHT COMMITTEE

Chair: Charles Vernon, Member, Los Angeles Regional Water Quality Control Board

Members and Alternates

Samantha Bricker, Office of Supervisor Zev Yaroslavsky
Mitch Maracich, Office of Supervisor Deane Dana
Jeffrey Cross, Ph.D., So. Calif. Coastal Water Research Project, Chair, Technical Advisory Committee
John K. Mitchell, Vice-Chair, Technical Advisory Committee
Gail Ruderman Feuer, Natural Resources Defense Council
Maribel Marin, Natural Resources Defense Council
Mary Jane Forster, Board Member, State Water Resources Control Board
David Cohen, Ph.D. , State Water Resources Control Board
Councilmember Ruth Galanter, City of Los Angeles
Melinda Bartlett, LA Environmental Affairs Dept.
Madelyn Glickfeld, Commissioner, California Coastal Commission
David Gottlieb, Santa Monica Mountains RCD, Chair, Malibu Creek/SM Mtns Watersheds Implementation Committee
Randal Orton, Ph.D., Las Virgenes MWD, Vice-Chair, Malibu Creek/SM Mtns Watersheds Implementation Committee
Dorothy Green, Heal the Bay
Mark Gold, Executive Director, Heal the Bay
Joan Hartman, American Oceans Campaign
Senator Tom Hayden
Sandy Brown, Office of Senator Hayden
Robert Horvath, Co. Sanitation Dists. of LA County
Kenneth Ludwig, City of LA, Bureau of Sanitation
Susan Little, Congressman Anthony Beilenson
Congresswoman Jane Harman
Susan McCabe, Chair, Public Involvement and Health Communication Committee
Ane Deister, Las Virgenes MWD, Vice Chair, PIHCC
Laurie Newman, Assemblymember Sheila J. Kuehl
Cynthia Porter, Assemblymember Sheila J. Kuehl
Jim Noyes, Director, LA Co.-Dept. of Public Works
Don Wolfe, LA Co.-Dept. of Public Works
Councilmember Robert Pinzler, City of Redondo Beach
Councilmember Carolyn Van Horn, City of Malibu
Jack Petralia, LA Co. Dept. of Health Services
Philip L. Richardson, City LA-Stormwater Mgmnt. Division, Chair, Urban Watershed Implementation Committee
David Talcott, City of LA-Stormwater Mgmnt. Division
Marvin Sachse, Brash Industries
Rod Spackman, The Chevron Co., El Segundo Refinery
Alexis Strauss, Acting Director, Water Management Div. ,USEPA Region 9
Jovita Pajarillo, USEPA Region 9
Charles Vernon, Board Member, LA Reg. Water Quality Control Board
Robert Ghirelli, Executive Officer, LA Regional Water Quality Control Board
Mayor Dennis Washburn, City of Calabasas
Mayor Pro Tem Bob Hill, City of Calabasas

San Dimas

October 25, 1995

Mr. Don Wolfe, Deputy Director
N.P.D.E.S. - E.A.C. Chairperson
Los Angeles County
Department of Public Works
P. O. Box 1460
Alhambra, CA 91802-1460

Subject: Draft Municipal N.P.D.E.S. Permit

Dear Mr. Wolfe:

As requested, our staff has reviewed the draft permit dated September 15, 1995, and are submitting the attached comments. We did submit comments in response to the previous draft permit, but feel that our concerns were not addressed as many items are still included in this latest draft permit. The problem may be that "target dates are being ignored, and we are being rushed into reviewing two different versions of the permit which makes our task twice as difficult and confusing. Therefore, we would like to reiterate some of the concerns which we feel have not been properly addressed:

- The permit needs to clearly identify responsibilities for permit tracking and enforcement. We believe permits issued by the State should be administered and enforced by the State as they collect the fees and set the standards to be met.

- The permit should include an administrative review process to mitigate the need for third party legal action to ensure that the terms of the permit are met and to establish a procedure for Board enforcement of the permit of each Co-permittee.

- San Dimas, as with many other cities, has experienced financial cutbacks, and is operating on a severely reduced budget, and manpower has been cut to a minimum. It is extremely difficult to budget for this unfunded, yet mandated program since the new permit has yet to be adopted. The proposed reporting requirements alone would be an enormous hardship on us. We suggest using a more feasible, simplified check list format which is not so time consuming.

245 EAST BONITA AVENUE • POST OFFICE BOX 307 • CALIFORNIA 91773 • (909) 394 6200 • FAX (909) 394 6209

- A budget review and reporting process should be developed by the Water Management Committee as a part of the Stormwater Management Plan.

The amount of work required for implementation of this permit is enormous, therc fore, we should concentrate on realistically achievable goals. In general, we need to develop a program (GOAL) to minimize pollutants, which is both effective and realistic for both the public and private sector (OBJECTIVE). The permit should have clear, specific objectives which address pollution problems and their order for resolution.

While great strides have been made in developing the new permit, we believe that consideration should be given in extending the existing permit to allow time for the development of a Stormwater Management Plan. The new permit could then adopt an approved plan and limit the permit requirements to water quality objectives, program management, and enforcement. Also, the permit could be conditioned to be reviewed and revised in accordance with any Federal Legislation passed in the process of reauthorization of the Clean Water Act or any other legislation granting relief from this unfunded Federal Mandate.

Thank you in advance for your consideration of our concerns. We look forward to our continued working relationship with your staff.

Sincerely,

Rosemarie Peterson

ROSEMARIE PETERSON
ADMINISTRATIVE TECHNICIAN

attachment

cc: Catherine Tyrrell, Assistant Executive Director
California Water Quality Control Board

VOL 24

COMMENTS ON DRAFT NPDES PERMIT OF SEPTEMBER 15, 1995

I. PROGRAM MANAGEMENT

A. PRINCIPAL PERMITTEE

2a-d Time frame for providing personnel and fiscal resources still needs to be resolved.

2h Implement stormwater activities of "regional significance"---We have already divided permittees by watershed areas.

D. EXECUTIVE ADVISORY COMMITTEE

The EAC should be an advisory and coordinatng body, not an implementation or regulatory body. Tasks assigned to the EAC in the permit should be divided among the Board, the principle permittee, and the co-permittees.

E. WATERSHED MANAGEMENT COMMITTEE

3d. How are we to assess the effectiveness of plan and WMP's?

G. FISCAL RESOURCES

Submit an annual budget...which summarizes and identifies capital, operation and maintenance, funding and staff resources, contract services, funding shortfalls, etc.---:---Our City uses a line item budget. This detailed budget would place an additional burden on our City and gets us no closer in meeting our objectives.

Area Wide Resources - An agreement and budget is required for jointly funded area-wide program.---Would this apply to our fair display next season, and what benefit would be achieved from having an other agreement or budget?

H. LEGAL AUTHORITY

We believe we have the appropriate legal authority to control discharges and require compliance and have submitted copies of our ordinances to the State. Why is it necessary to expend resources to provide the Board with certification on our legalauthority.?

I. ADMINISTRATIVE REVIEW

3. The time that the Executive Officer has to either reject or accept a SPCA should be more specific--such as the thirty day limit to remedy a deficiency.

4. The frequency of progress reports for a SPCA needs to be more specific, such as monthly, quarterly, etc. Quarterly reports would seem adequate.

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II. ILLICIT DISCHARGE/DISPOSAL

A. ILLICIT CONNECTIONS

Since not all unauthorized connections discharge pollutants, emphasis should be placed on identifying and eliminating illicit discharges.

B. ILLEGAL DISCHARGES/DISPOSAL

4. The surveillance program outlined in this section would create an extreme financial burden on our City with our limited budget and manpower.

D. OTHER PROHIBITED ACTIVITIES

2. Storage of Materials, Machinery and Equipment

c. The requirement that parking lots of 10 spaces or more should be vacuum swept is too cost restrictive. Also, enforcement would not be cost effective.

E. PUBLIC REPORTING

2. The reporting procedures outlined is too cumbersome and unnecessary. A once a year reporting would be adequate.

F. REPORTING

1. A detailed reporting procedure outlined is too cumbersome. A checklist type of reporting system would accomplish the same results and not be as burdensome.

G. COORDINATION WITH STATE PERMITS

1. With the ease of using an electronic bulletin board, it should be possible for the State to provide us with a monthly updated list of NPDES permits issued. It would be better if they could provide a copy of every permit issued or applied for within our local jurisdiction. (i..e., by Zip code identification)

IV. PROGRAM REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT

F. SOURCE INSPECTION

2-f. Why is it necessary to have an electronic recording system for inspections?

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V. PUBLIC AGENCY REQUIREMENTS

D. PARKS AND RECREATION

2. Facility Management.

ff. Why should commercial/municipal swimming pools be required to have a separate waste discharge requirements.

E. STORM DRAIN SYSTEM OPERATION AND MANAGEMENT

1-d. How is it proposed to track the amount of waste collected in inlets.

GENERAL COMMENTS:

1. We need to adequately measure of effectiveness and impact of our baseline BMP's --which are working--which need revision. Also, we need to ascertain that the BMP's are addressing the major pollutants of concern?

2. We need to better identify the main pollutants of concern so that we can better focus on them. We need to identify the quality of water runoff and set up an adequate monitoring system. Both require better guidance from the State on possible illegal discharges.

3. The permit, in an outline fashion, should clearly establish the functions of a stormwater management plan, include a summary of the existing BMP's, and have a definite schedule for the development of the stormwater management plan. The proposed permit is too long, unnecessarily complicated, and there are far too many ambiguities.

4. We need to establish a funding program which will be equitable to all parties involved. Possibly, this can be done on a proportionate share based on population. We still need to look at the possibility of an overall County assessment district.

5. We need to determine who is responsible for determing if a SWPPP is required, and for compliance monitoring. If local jurisdictions are responsible, we need to set up training workshops so inspectors can be better trained for commercial and industrial inspections. We cannot have rules to enforce if no one will follow through with proper enforcement

6. Overall, we need a program that is easy to enforce, administer and report. There needs to be clear, defined specific tasks where everyone knows their area of responsibilities and duties. Cooperatively, we need to develop an effective program to reduce pollutants, but at the same time not be to burdensome on either the public or private sector.

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CITY OF SANTA FE SPRINGS

11710 TELEGRAPH ROAD, 90670-3658 - P.O. BOX 2120 - (310) 868-0511 - FAX (310) 868-7112

LOS ANGELES REGION

November 1, 1995

California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Attention: Catherine Tyrrell, Assistant Executive Officer Surface Water Programs

Dear Ms. Tyrell:

As requested at the September open forum meeting, I am submitting for your information a few general comments regarding the latest draft of the proposed new NPDES Permit. After reviewing both the permit and the response letters from surrounding cities, this is to document the City's concurrence of the problem areas brought to your attention by other agencies in the San Gabriel River Watershed. I would also like to take this opportunity to emphasize a few of our basic concerns with this permit as follows:

1. The monitoring, reporting, and inspection requirements in this permit are excessive. Such requirements will place an intense strain on our already fragile budget.

2. The Administrative Review section is far too intense for this stage of the program. We are still in the initial implementation stages of many aspects of the program. This type of police review would be better suited for an already established program. Cities that are making honest attempts at compliance should not be graded to such an intense degree.

3. The enforcement of Board issued Permits such as general industrial/commercial and construction sites should not in any way involve the affected City. A permit issued by the Regional Board should be enforced only by the Board itself.

The intent of this permit is to improve storm water quality. This goal can be achieved through various alternatives, but we have to remember that if the route by which we choose to achieve this goal is unrealistic for those involved, it would never be reached. Please take into consideration the fragile state of many of our budgets as impacted by unfunded mandates, and the political arena in which we are all involved.

Thank you for your time and consideration. If you have any questions or comments, please feel free to contact George O'Brien at this office at (310) 868-051, Extension 267.

Very truly yours,

John R. Price
Director of Public Works

JRP/gho/tc

xc: Frank Kuo, Los Angeles County Department of Public Works,
Waste Management Division

CITY OF SAN MARINO
2[illegible] HUNTINGTON DRIVE, CITY HALL, SAN MARINO, CALIFORNIA 91108-2639 (818) 300-0700

VOL 24

October 12, 1995

Catherine Tyrrell
Assistant Executive Director
CALIFORNIA WATER QUALITY CONTROL BOARD, LOS ANGELES REGION
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Re: Comments on the September 15th Draft NPDES Permit CAS0061654

Dear Ms. Tyrell:

Thank you for allowing us the opportunity to comment on the draft NPDES permit dated September 15, 1995.

As a general comment, the draft is very lengthy and too complex for effective implementation. In addition, the issuance of two different versions of the draft, i.e. the official and the EAC versions, made the review process even more time consuming.

The permit seems to over-address specifics. It would have been better to incorporate those specifics in the overall watershed management plan instead of narrowing down the focus on marginal details.

Many permittees have already finalized their budget for fiscal year 1995-96 by the beginning of July, when the permit has not been yet adopted. It is very unlikely that sufficient allocations were made for costly items such as inspection programs. However, it seems that this fact was not taken into consideration when preparing the draft, as it contains phrases such as:

"The _____ shall develop by _____"
"The _____ shall establish by _____"

In addition, the reporting requirements could be an enormous burden on co-permittee staff. It would be less encumbrant to submit a yearly report instead. A simplified check list demonstrating the permittees compliance with the intent of the permit should be used rather than concentrating on details such as the amount of debris collected from catch basins, and the frequency of street sweeping, and the like.

The amount of work required for implementation of this permit will be considerable. The work should concentrate on realistically achievable goals for the first five years. The exempted stormwater discharges, as proposed by the EAC, should be fully adopted.

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In regards to incorporating the guidance document, currently under development, as part of the permit, we are concerned that this will make modifications to operating procedures, no matter how minute, difficult to achieve without prior board approval.

I also would like to make additional comments on the handling of our feedback on the previous draft permit. It seems that our comments were totally ignored. The concerns that we have previously voiced were not reflected in the September 15th draft permit. In addition, the time table which was initially set up were consistently ignored. In fact, the new general meeting was pushed back and the permit review time had shrunk to one week. Without reasonable amount of time to review the draft permit, adequate comments are difficult to present.

In its present form, the permit is lengthy in process and short on results. Should further questions arise, please contact me at (818) 300-0708.

Sincerely,

Debbie Bell

Debbie Bell
Assistant City Manager

DB:mm

cc: Don Wolfe, EAC Chairperson

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SIDLEY & AUSTIN
A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

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NEW YORK
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TOKYO

WRITER'S DIRECT NUMBER
(213) 896-6617

FOUNDED 1866

December 8, 1995

VIA FEDERAL EXPRESS

Dr. Xavier Swamikammu
California Regional Water Quality
Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754-2156

Re: **Disk with Monitoring Program Documents**

Dear Xavier:

At your request, I am forwarding herewith a disk in WordPerfect 5.1 format with the monitoring documents requested by you in your phone call to me of yesterday. The documents are entitled Monitor-Doc and Station.Met.

Please call me if you have any questions concerning the enclosed materials.

Very truly yours,

David W. Burhenn

DWB/rm
Enclosure
cc: Donald L. Wolfe, P.E.
Gary W. Hildebrand, P.E.

D2B95D60.SEL

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CITY OF SIGNAL HILL
2175 Cherry Avenue • Signal Hill, California 90806 • (310) 989-7300 • FAX (310) 989-7393/7391

October 17, 1995

Catherine Tyrell
Assistant Executive Director
CALIFORNIA WATER QUALITY CONTROL BOARD, LOS ANGELES REGION
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Subject: Comments September 15th Draft NPDES Permit CAS0061654

Dear Ms. Tyrell:

This letter is in response to the Draft NPDES permit dated September 15, 1995. In general, the draft permit is too lengthy and complex for effective implementation. The permit should provide a framework for watershed management and not concentrate on specifics. The specifics should be developed as part of an overall watershed management plan. Other comments are:

1. The draft permit contains many phrases such as:

   "The ____ shall develop by ____"
   "The ____ shall establish by ____"

   Since the new permit has not yet been adopted, it is unlikely that many permittees have budgeted for high cost items such as inspection programs for this fiscal year. All high cost items should be scheduled to begin no earlier that July 1, since that is the beginning of the fiscal year for most permittees.

2. The EAC should be an advisory and coordinating body, not an implementation or regulatory body. The amount of work and responsibility for the members of

the Executive Advisory committee is enormous. This will make membership on the EAC a nearly full time position (and volunteers for the EAC may become very scarce).

The tasks assigned to the EAC in the draft permit should be divided among the Board, the principle permittee and the co-permittees. This most recent draft appears to have placed many regulatory and semi-regulatory responsibilities on the shoulders of the EAC. These responsibilities should be assigned to the Board.

3. The number of groups required by the permit to develop and implement the many tasks will lead to confusion. There should be only three groups identified by the permit:

   The Board,
   The principle permittee, and
   The co-permittees

   Participation in the Executive Advisory Committee and the Watershed management committees should be voluntary (although encouraged).

4. The reporting requirements could be an enormous burden on co-permittee staff. Reports should be required no more than once per year. A simplified check list which demonstrates the permittees compliance with the intent of the permit should be used rather than concentrating on minutiae such as how much debris was collected from catch basins (which have been regularly cleaned since well before the stormwater program) and how often streets are swept (which also has been done since well before the stormwater program).

   Written descriptions should be required only for anomalies.

5. A specific comment on Section IV.F.3. (pg 23) and similar sections:

   In a program of this magnitude, it is likely that many problem sites will be encountered which will need direct Board involvement for problem resolution. If a problem site is referred to the Board, does that relieve the permittee from the responsibility of taking further actions until a ruling is made by the Board?

6. The amount of work required for implementation of this permit will be considerable. During the first five years, the work should concentrate on realistically achievable goals. The exempted stormwater discharges, as proposed by the EAC, should be fully adopted.

7. It has been suggested that the guidance document currently under development be incorporated as part of the permit. We are concerned that this

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will make any modifications to operating procedures, no matter how minor, difficult to make without prior board approval.

We appreciate the opportunity to offer our comments to you. Please call me at (310) 802-7880 if you have any questions.

Sincerely,

John L. Hunter, P.E.
Environmental Protection Specialist

cc: Don Wolfe
Los Angeles County Department of Public Works

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0589

City of South Gate

8650 CALIFORNIA AVENUE • SOUTH GATE, CA 90280-3575 • (213) 563-9537
FAX (213) 563-9572

FROM THE OFFICE OF
JAMES A. BIERY, P.E.
DIRECTOR OF PUBLIC WORKS
CITY ENGINEER

VOL 24

October 3, 1995

Catherine Tyrell
Assistant Executive Director
CALIFORNIA WATER QUALITY CONTROL BOARD, LOS ANGELES REGION
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Subject: Comments September 15th Draft NPDES Permit CAS0061654

Dear Ms. Tyrell:

This letter is in response to the Draft NPDES permit dated September 15, 1995. In general, the draft permit is too lengthy and complex for effective implementation. The permit should provide a framework for watershed management and not concentrate on specifics. The specifics should be developed as part of an overall watershed management plan. Other comments are:

1. The draft permit contains many phrases such as:

   "The ____ shall develop by ____"
   "The ____ shall establish by ____"

   Since the new permit has not yet been adopted, it is unlikely that many permittees have budgeted for high cost items such as inspection programs for this fiscal year. All high cost items should be scheduled to begin no earlier that July 1, since that is the beginning of the fiscal year for most permittees.

2. The EAC should be an advisory and coordinating body, not an implementation or regulatory body. The amount of work and responsibility for the members of the Executive Advisory committee is enormous. This will make membership on the EAC a nearly full time position (and volunteers for the EAC may become very scarce).

   The tasks assigned to the EAC in the draft permit should be divided among the Board, the principle permittee and the co-permittees. This most recent draft appears to have placed many regulatory and semi-regulatory responsibilities on the shoulders of the EAC. These responsibilities should be assigned to the Board.

3. The number of groups required by the permit to develop and implement the many tasks will

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lead to confusion. There should be only three groups identified by the permit:

The Board,
The principle permittee, and
The co-permittees

Participation in the Executive Advisory Committee and the Watershed management committees should be voluntary (although encouraged).

4. The reporting requirements could be an enormous burden on co-permittee staff. Reports should be required no more than once per year. A simplified check list which demonstrates the permittees compliance with the intent of the permit should be used rather than concentrating on minutiae such as how much debris was collected from catch basins (which have been regularly cleaned since well before the stormwater program) and how often streets are swept (which also has been done since well before the stormwater program).

   Written descriptions should be required only for anomalies.

5. A specific comment on Section IV.F.3. (pg 23) and similar sections:

   In a program of this magnitude, it is likely that many problem sites will be encountered which will need direct Board involvement for problem resolution. If a problem site is referred to the Board, does that relieve the permittee from the responsibility of taking further actions until a ruling is made by the Board?

6. The amount of work required for implementation of this permit will be considerable. During the first five years, the work should concentrate on realistically achievable goals. The exempted stormwater discharges, as proposed by the EAC, should be fully adopted.

7. It has been suggested that the guidance document currently under development be incorporated as part of the permit. We are concerned that this will make any modifications to operating procedures, no matter how minor, difficult to make without prior board approval.

We appreciate the opportunity to offer our comments to you. Please call Mr. John Hunter at (310) 802-7880 if you have any questions.

Sincerely,

John M. Garcia, P.E.
Assistant City Engineer

cc: James A. Biery,P.E., Director of Public Works/City Engineer

VOL 24 0591

CITY OF SOUTH EL MONTE

1415 N. SANTA ANITA AVENUE
SOUTH EL MONTE, CALIFORNIA 91733
(818) 579-6540 • (213) 686-0460 • FAX (818) 579-2107

VOL 24

October 6, 1995

Ms. Catherine Tyrell
Assistant Executive Director
California Water Quality Control Board,
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Re: Comments - September 15th Draft NPDES Permit CAS0061654

Dear Ms. Tyrell:

This letter is in response to the Draft NPDES permit dated September 15, 1995. In general, the draft permit is too lengthy and complex for effective implementation. The permit should provide a framework for watershed management and not concentrate on specifics. The specifics should be developed as part of an overall watershed management plan. Other specific comments are as follows:

1. The draft permit contains many phrases such as, "The ____ shall develop by _____" or "The ____ shall establish by _____". High cost items such as inspection programs must be scheduled to begin no earlier than July 1, since that is the beginning of the fiscal year for most permittees. To require activities that are currently un-budgeted is not only impractical; but a farce.

2. True to its name, the EAC should be an advisory and coordinating body; not an implementation body. The amount of work and responsibility for the members of the Executive Advisory Committee is enormous. This will make membership on the EAC a nearly full-time position; making volunteers for the EAC scarce and effectively denying small-city representation on the EAC.

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The tasks assigned to the EAC in the draft permit should be divided among the Board, the principle permittee and the co-permittees.

3. The number of groups required by the permit to develop and implement the many tasks will lead to confusion. There should be only three groups identified by the permit: the Board; the Principle Permittee; and the Co-permittees. Participation in the Executive Advisory Committee and the Watershed Management Committees, while being encouraged, must be voluntary.

4. The reporting requirements will be an enormous burden on co-permittee staff. Reports should be required no more than once per year. A simplified check list which demonstrates the permittee's compliance with the intent of the permit should be used rather than concentrating on minutiae such as how much debris was collected from catch basins (which have regularly been cleaned since well before the stormwater program) and how often streets are swept (which also has been done since well before the stormwater program).

5. A specific comment on Section IV.F.3 (page 23) and similar sections:

In a program of this magnitude, it is likely that many problem sites will be encountered which will need direct Board involvement for resolution. If a problem site is referred to the Board, does that relieve the permittee from the responsibility of taking further actions until a ruling is made by the Board?

6. The amount of work required for implementation of this permit will be considerable. During the first five years, the work should concentrate on realistically achievable goals. The exempted stormwater discharges, as proposed by the EAC, should be fully adopted.

7. It has been suggested that the guidance document currently under development be incorporated as part of the permit. We are concerned that this will make any modifications, no matter how minor, difficult to achieve without prior Board approval.

We appreciate the opportunity to offer our comments and thank you in advance for your consideration of our concerns.

Respectfully,

Steve A. Henley
Assistant City Manager/
Director of Public Works

CITY OF WEST COVINA

Incorporated 1923

October 16, 1995

Mrs. Catherine Tyrell
Assistant Executive Director
California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Re: Draft NPDES Permit No. CAS0061654

Dear Ms. Tyrell:

The purpose of this letter is to inform you that the City of West Covina, one of the co-permittees under NPDES No. CAS0061654, is in the process of reviewing and commenting on the above-referenced draft permit.

As you know, the draft is quite lengthy and the provisions of the permit are quite complex, and I would prefer to provide all of my comments to you on the present draft at one time. I intend to have comments on behalf of the City of West Covina forwarded to you by no later than October 20, 1995.

If you have any questions, or need any additional information with respect to the above, please do not hesitate to contact the undersigned.

Thank you for your cooperation in this matter.

Sincerely,

Louis M. Winters

Louis M. Winters
Principal Engineer

LMW:lw:NPDES
cc: Rutan & Tucker

VOL 24

05995

R0067532

VOL 24

CITY OF WEST HOLLYWOOD
DEPT. OF TRANSPORTATION &
PUBLIC WORKS
8300 SANTA MONICA BLVD.
WEST HOLLYWOOD, CA 90069
TEL (213) 848-6375 FAX (213) 848-6564

FAX TRANSMITTAL

TO: Catherine Tyrrell

FAX #: 213/266-7600

FROM: Sharon Perlstein

OF PAGES TO FOLLOW 6

DATE 10/11/95 TIME 1145

COMMENTS:

0596

CITY OF
WEST HOLLYWOOD

CITY HALL
8300 SANTA MONICA BLVD.
WEST HOLLYWOOD, CA
90069-4314
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DEPARTMENT OF
TRANSPORTATION
AND PUBLIC
WORKS

October 11, 1995

Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Attention: Catherine Tyrrell

Re: Comments on September 15, 1995, Draft Waste Discharge Requirements for Stormwater Management/Urban Runoff Discharges within the County of Los Angeles (NPDES No. CAS0061654)

Dear Ms. Tyrrell:

The Regional Water Quality Control Board staff has invited written comments on the draft "Waste Discharge Requirements for Stormwater Management/Urban Runoff Discharges within the County of Los Angeles (NPDES No. CAS0061654)." The two-week comment period has not provided us sufficient time to carefully review and evaluate the current draft permit or to obtain outside input. However, the City of West Hollywood considers it very important to provide its initial and preliminary comments on a permit which will ultimately have a significant impact upon the City's operations and its fiscal resources and, most importantly, upon West Hollywood's residents and businesses.

As the negotiation of the terms of the proposed permit has proceeded, we have become extremely concerned about both the direction the permit has taken and the scheduling for the renewal of the permit. Before addressing specific portions of the permit, we thought it would be appropriate to first discuss some of our general concerns, which we understand are shared by many of the other co-permittee cities.

In considering our comments, the Board should recognize that, even aside from federal and state statutory and regulatory requirements, the City of West Hollywood is fully committed to and shares the Board staff's objective of implementing a realistic stormwater program which is designed to reduce the discharge of pollutants to the maximum extent practicable.

\sharon\wastr.com

1. Complexity and Length of the Draft.

West Hollywood is particularly concerned about the fundamental change in philosophy reflected by the Board's staff's approach to the proposed new permit. The current permit provides a regulatory framework for cities such as West Hollywood to develop and implement stormwater management programs tailored to the unique local environmental characteristics of this city.

The current proposed draft of the permit seems to reflect a presumption that co-permittee cities, such as West Hollywood, have not fully complied with the terms of the existing permit in developing stormwater management programs, leading the Board to unilaterally dictate the programs which each of the co-permittee cities must implement regardless of whether the programs permit requirements are suitable or even relevant to the unique circumstances of an individual city. The City of West Hollywood believes that such an underlying presumption is fundamentally incorrect and certainly as applied to the City of West Hollywood.

The City has fully complied with the terms of its existing permit. In fact, by letter dated August 1, 1995, the Regional Board commended the City of West Hollywood's program as being a model for other local agencies' programs. I am enclosing a copy of that letter for your reference.

It appears that the incorrect underlying presumption of non-compliance by the cities is what compelled the Board staff to suggest a nearly 50 page renewed permit with very specific requirements and programs in place of the more general and flexible current 16 page permit which was carefully reviewed and approved not only by the Regional Board but also the State Water Resources Control Board. Regrettably, the Board staff has not taken the time to explain at any public meetings what it believes needs to be fixed in the current permit and why it is departing from the State Board's preferred approach to the NPDES permit process. Accordingly, we question the need for the new approach to the permit.

We are particularly concerned about the length and complexity of the draft permit. We share the concerns previously expressed by the City of Long Beach and the City of Carson that the permit should be simple, clear and concise, and establish a framework for a stormwater management plan, rather than an attempt to dictate numerous, inflexible management programs. Both the existing permit, as well as other permits currently being issued in other regions, utilize a framework approach that allows the individual co-permittees to select the BMP's which best suit their needs while accomplishing the objectives of the Clean Water Act and state law. The current draft runs over 45 pages and is not even complete and contains numerous inflexible dictates.

The current approach to the proposed permit seems to run contrary to the objectives expressed in the State's Stormwater Municipal Best Practices Handbook, which allow municipal permittees flexibility in selecting effective BMP's themselves, which would (1) adequately address the pollutants of concern; (2) be compatible with stormwater regulations, as well as other regulations for air, hazardous waste, and solid waste disposal, (3) have public support, (4) be compatible with land uses and facilities, (5) be technologically feasible, considering soils, geography and water resources, and (6) balance the cost for implementing specific programs against the pollution control benefits expected to be achieved.

For these reasons, we believe that the renewed permit needs to be drastically reduced in size and verbiage to reflect the State's own objective of allowing municipal co-permittees and individual watersheds the flexibility to select the best and most effective BMP's to fit their unique environmental conditions.

2. Scheduling of the Renewed Permit.

Neither the City's staff, the residents of our City, nor other interested parties have been provided sufficient time to carefully evaluate either the specific language of the proposed permit or its impact. We understand that the Board's staff is hoping to complete the negotiation process as soon as possible so that the permit can be considered by the Regional Board at either its December or January meeting. While we appreciate the staff's concern that this matter be brought to a conclusion, we do not believe that the current schedule is realistic for a number of reasons.

First, we have not yet received a full version of the draft permit. Even now, there are numerous versions of the permit which are being discussed. The draft which we have been asked to comment upon has been modified significantly. This piecemeal modifications have created a moving target. This, of course, makes it very difficult to intelligently comment upon the draft permit when the version we are reviewing has most likely been revised two or three times.

Second, to our knowledge, the Regional Board has not made substantial effort to date to obtain input from other interested parties. This permit when adopted will have a significant impact on not only the cities and their administration but also on the residents and businesses in each of the co-permittee cities.

The City is very concerned that no opportunity has been provided for involvement in the process by businesses stakeholders. For example, restaurants comprise a high percentage of the commercial uses within West Hollywood. The draft permit contains a number of provisions directly affecting restaurant waste handling operations, many of which are addressed

by our current program. However, we have not been told what efforts have been made by the Board staff to obtain input from the restaurant industry regarding the terms of the proposed new permit.

We believe that, before the draft permit is presented to the Regional Board, all interested parties who have a stake in the process should be given a fair and meaningful opportunity to participate in the process through workshops and public meetings.

The 30 or 60 day public notice period before the permit is actually adopted would not really be sufficient for all of the interested parties to carefully review and evaluate the permit and provide a meaningful input as to its terms.

Accordingly, the City would prefer to work out a realistic schedule for the renewal of the permit which allows sufficient time for careful evaluation and meaningful input from our business and residents, as well as other interested parties. That objective cannot be achieved on the time schedule under which the Board staff has been operating.

3. Limitations on Co-Permittee's Efforts.

West Hollywood's fiscal and administrative resources for implementing additional unfunded mandates are limited. West Hollywood's objective in the permit renewal process is to continue the implementation of its current effective stormwater management program. We have been provided with no technical or scientific data which demonstrate the effectiveness of many of the programs dictated by the current draft of the permit or any cost justification or which show that our current programs have not been effective. To our knowledge, the Board's staff has not yet suggested any factual findings in connection with the proposed permit which would require the adoption of the many new programs which would be required by the permit if adopted in its current form.

A number of sections of the draft permit impose a variety of data gathering requirements, many of which have no substantial relevance to West Hollywood. We believe it is important to ensure that the data proposed to be gathered at considerable cost to the City is meaningful and useful, both for the Board's purposes as well as the City's.

West Hollywood needs to be sure that the money it spends on stormwater management is utilized in a cost-effective manner. As a comparatively small city, West Hollywood does not have the administrative or fiscal resources to implement programs that are neither mandated or funded by federal or state law and are not demonstrably more effective in meaningfully reducing stormwater pollution than the City's current programs.

4. Failure to Incorporate Prior Comments.

The City has commented regarding the draft permit at public meetings. While we have presumed that some note has been made of those comments, they are rarely responded to.

In order to ensure that permittee and public participation in the process is meaningful and that comments are seriously considered, we believe that it would be appropriate for the Board staff to collect and summarize the public comments made regarding the draft permit and directly respond to them either in writing or at a public meeting.

5. Specific Dictates of the Permit.

We are concerned that specific programs are being dictated in the draft permit to cities without a clear understanding of the water quality goals that the permit aims to achieve and, most importantly, without the benefit of an accurate assessment of existing conditions.

Each of the co-permittee cities has very definite local areas of concern and thoughts as to what actions it is willing to take to address those interests. Those interests, however, can only be fully determined through public workshops where the cities, as well as citizens and other interested parties, are informed about stormwater pollution problems and are invited to present their views.

The City of West Hollywood would very much appreciate your careful consideration of our preliminary comments in the permit renewal process and a response to them.

Very truly yours,

Sharon Perlstein, P.E.
City Engineer

SP:dev

cc: Gary Hildebrand
L.A. County Dept. of Public Works

STATE OF CALIFORNIA—ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
101 CENTRE PLAZA DRIVE
MONTEREY PARK, CA 91754-2156
(213) 266-7500
FAX: (213) 266-7600

COPY

August 1, 1995

Ms. Sharon Perlstein, P.E.
City Engineer
City of West Hollywood
8300 Santa Monica Blvd.
West Hollywood, CA 90069-4314

NPDES MUNICIPAL STORM WATER DISCHARGE PERMIT FOR LOS ANGELES COUNTY ANNUAL REPORT (CA0061654, CI 6948)

This Regional Board received your annual report under the NPDES Municipal Storm Water Discharge Permit for Los Angeles County for fiscal year 1994/95 on June 28, 1995. We apologize for the delay in reviewing and commenting.

The background included in the report submitted about the City was very clear and concise. It explained the programs being implemented by the City, which is very helpful in determining compliance with the Permit. More importantly, however, was the fact that the City of West Hollywood under your direction is taking a rational, well thought out approach to managing urban runoff, and not simply trying to comply with a permit.

This Regional Board commends what you and the City of West Hollywood have accomplished, and looks forward to other agencies using your program as a model. We are hopeful that your public education and outreach materials will help in the City's efforts to educate the public and reduce urban runoff pollution. Please let us know if there is anything that this Board can do to assist you.

If you have any questions or comments, please feel free to call me directly at (213) 266-7515, or Carlos Urrunaga of my staff at (213) 266-7598.

Catherine Tyrrell

CATHERINE TYRRELL
Assistant Executive Officer
Surface Water Programs

Natural Resources Defense Council

6310 San Vicente Blvd., Suite 250
Los Angeles, CA 90048
213 934-6900
Fax 213 934-1210

MEMORANDUM

TO: Catherine Tyrell, RWQCB, L.A. Region
Gary Hildebrand, L.A. County

FROM: Gail Ruderman Feuer, Maribel Marin, NRDC

DATE: December 7, 1995

RE: **Thresholds for Triggering the Urban Runoff Mitigation Plan Requirement**

We urge that the threshold for requiring an URMP should be based on parcel size rather than floor area. We propose that the cut-off for requiring an URMP or, more generally, the cut-off for a priority site, be set at 10,000 square feet.

Our rational for going with parcel size as opposed to floor area is basically that in commercial/industrial and multi-family residential, the majority of the parcel is developed with impervious surface so it makes sense to target the lot sizes which have the potential to contribute the highest pollutant loads. Since a 10,000 square foot is probably close to the smallest lot size that could be developed as a mini-mall or fast-food type of use, it seemed like a reasonable place to draw the line. Additionally, we felt that at 10,000 square feet, most mom-and-pop style businesses would fall below the threshold. We feel comfortable with this line based on conversations with city planners.

We absolutely cannot accept the 100,000 square foot or the 40,000 square foot alternatives being proposed. Projects of that size are considered major projects that trigger site plan reviews, environmental review, and traffic studies. They also represent a very small percentage of the projects that get permitted. Too many projects that need storm water controls would be exempted.

As discussed at our meeting, we still feel that the following should be categorically exempt from a written plan requirement and/or subject only to "limited" requirements:

- single-family dwellings;
- duplexes; and
- lot sizes greater than 10,000 square feet if they can demonstrate that impervious area on the parcel is less than 10,000 square feet.

cc: Mark Gold, Heal the Bay

40 West 20th Street
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Fax 212 727-1773

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71 Stevenson Street
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QUALITY CONTROL BOARD
LOS ANGELES REGION

MEMORANDUM

TO: Catherine Tyrrell/RWQCB

FROM: Maribel Marin, Gail Ruderman Feuer

DATE: December 14, 1995

RE: Background Data for URMP Thresholds Recommended by NRDC

As we explained in our last memo to you dated 12/7/95, we feel that the thresholds for requiring an URMP are much to high and would exempt many of the land uses that contribute to stormwater pollution. We have obtained data from the City of Los Angeles which we believe indicates that the much lower thresholds NRDC has recommended are more appropriate.

The following list provides parcel sizes for projects typical of what can be found all over Los Angeles and that presently would fall under the "Limited Priority" category for stormwater mitigation. These include:

Burger King	17,119 square feet
Mc Donald's	20,168 square feet
Wells Fargo Bank	29,142 square feet
Ship's Restaurant	23,174 square feet
Trader Joe's Market	17,163 square feet
7-Eleven Food Store	13,634 square feet
Unocal Gas Station	19,150 square feet
Mobil Gas Station	21,240 square feet
NRDC's Office Bldg.	36,242 square feet
12 Unit Apt. Bldg. (2 stories)	11,500 square feet
26 Unit Apt. Bldg.	20,473 square feet
62 Unit SRO Hotel (2 stories)	11,021 square feet
27 Story Office/Pkg. complex	14,636 square feet

As currently written, the draft Permit would not require these projects to do anything more than reference appropriate post-construction BMPs on their development plans. However, because these projects require a substantial amount of parking and generate a significant number of automobile trips, they should be targeted for more extensive stormwater mitigation measures. It would be more appropriate for uses such as those listed above, to fall into the "Priority Project" category which additionally requires the maximization of pervious surfaces and the minimization of parking lot pollution. Accordingly, we reiterate the recommendation in our 12/7/95 memo that the "Priority Project" threshold be set at parcels measuring at least 10,000 square feet but less than 40,000 square feet. The list shows that "mom and pop" style uses would most likely be exempted since most would be smaller than a typical 7-Eleven store (with its own parking lot) which registers at about 13,000 square feet.

40 West 20th Street
New York, New York 10011
212 727-2700
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212 Merchant St., Suite 203
Honolulu, Hawai'i 96813
808 533-1075
Fax 808 521-6841

We also object to limiting the "High Priority" category threshold to projects over 100,000 square feet because it misses projects that would benefit highly from the control measures recommended for this level of development. For example, developments such as the Hillcrest Promenade (47,480 square feet), Vons Super Market (87,120 square feet), and the 14 unit, Wilshire-Crescent Mini Mall (43,996 square feet) which have extensive parking areas would be exempted from putting in filters, lot and roof drainage systems, and berms. Uses such as these should be obvious targets for additional controls because they have extensive parking areas (over 100 in many cases), generate extremely heavy traffic volumes, and in many cases house food service, auto-related, and other businesses that pose heightened stormwater threats. We recommend that this category include projects above 40,000 square feet.

In any case, our information from the City shows that very few projects over 100,000 square feet get permitted on a regular basis. Based on data for projects valued at over $1,000,000, out of roughly 77,000 permits issued this past year, only about 200 projects were over 100,000 square feet. On a monthly basis, projects of this size ranged from 9 to 34 permits issued with an average of 20.

We believe that the threshold levels recommended by NRDC are the only ones substantiated by actual data. Recommendations for higher thresholds appear to be based solely on guesstimates or motivated by the desire to evade regulation. This is not acceptable nor is it effective for achieving the Permit's objectives. We strongly urge you to modify the current thresholds to reflect our data. It makes much more sense to start with low thresholds that capture a wider range of uses and allow negotiations to start from that basis. It will be much more difficult if not impossible to lower the thresholds after the draft Permit is circulated for public comment.

We have enclosed copies of the data from the City. Please call if you have any questions or comments.

cc: Don Wolfe/County of Los Angeles
Mark Gold/Heal the Bay

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[redacted] J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGELES

DECEMBER 1994

BUILDING PERMITS CLASSIFED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	107	107	26,549,500
02	Duplexes	6	3	527,000
03	Airport Buildings		2	17,600
04	Amusement Buildings			
05	Apartment Buildings	130	6	9,986,000
35	Condominiums	40	6	4,669,000
06	Churches		2	83,000
07	Garages, Private		61	803,700
08	Garages, Public		4	9,494,000
09	Gasoline Service Stations		2	141,000
10	Hospitals			
11	Hotels		1	5,530,000
12	Manufacturing Buildings		2	328,000
13	Office Buildings		4	1,019,000
14	Public Administration Buildings		1	2,900,000
15	Public Utilities Buildings		1	5,000
16	Retail Stores		9	13,309,201
17	Restaurants		4	630,000
18	School Buildings		3	1,379,000
19	Signs		102	797,672
20	Swimming Pools – Private		51	653,500
21	Theater Buildings			
22	Warehouses		3	1,627,000
23	Miscellaneous Buildings and Structures		838	8,637,021
24	Prefabricated Houses			
25	Solar Heaters		1	8,000
26	Temporary Structures		4	48,200
	Additions – Commercial and Manufacturing		16	3,504,000
	Additions – Housing–Additional Units			
	Additions – Residential with units removed			
	Additions – Housing–No Additional Units		395	15,109,514
	Additions – Miscellaneous Buildings and Pools		6	198,100
	Alterations – Commercial and Manufacturing		671	49,375,814
	Alterations – Miscellaneous Buildings and Pools		99	2,076,327
	Alterations – Housing–Additional Units	5	4	91,200
	Alterations – Residential with units removed			
	Alterations – Housing–No Additional Units		4,325	64,154,747
	Relocations		2	11,300
60	Grading		224	1,831,791
61	Certificates of Occupancy for Use of Land		21	
00	Special Permits – No Valuation		58	
	DEMOLITIONS*			
	JURISDICTIONAL SUB–TOTAL	(127	191	7,944,122
	Construction within City – not under Department permits: NON–JURISDICTIONAL SUB–TOTAL		7,229	$225,495,187
	TOTAL PERMITS AND VALUATION		7,229	$225,495,187

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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R0067543

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4899

WARREN V. O'BRIEN
GENERAL MANAGER

ARTHUR J. JOHNSON, JR.
EXECUTIVE OFFICER

January 17, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUIDLING PERMITS W/VALUATIONS IN EXCESS OF 1 MILLION DOLLARS - DECEMBER 1994

During the month of December 1994, the Department of Building and Safety issued 34 building permits with valuation in excess of $1,000,000. The highest of these was a $5,530,000 permit issued for a Retirement Hotel at 1030 W. 85th Street. These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #: LA26277
Date: 12/1/94
Valuation: 2,000,000
Structure: Car Dealership
Bldg. Type: V-N
Use Code: 16
Type Permit: 1
No. Stories: 1
Address: 19550 Nordhoff St
Owner: Toyoto Motor Sales, USA

Permit #: WL22502
Date: 12/1/94
Valuation: 1,500,000
Structure: Single Family Dwelling
Bldg. Type: V-N
Use Code: 01
Type Permit: 1
No. Stories: 2
Address: 70 Beverly Park Dr
Owner: Leader Inc

Permit #: LA28398
Date: 12/5/94
Valuation: 5,530,000
Structure: Retirement Hotel
Bldg. Type:
Use Code: 11
Type Permit: 1
No. Stories: 3
Address: 1030 w. 85th St
Owner: P & P Homes for Elderly Inc

Permit #: SP17741
Date: 12/5/94
Valuation: 2,100,000
Structure: Office/Soil Lab.
Bldg. Type: V-N
Use Code: 13/23
Type Permit: 4
No. Stories: 1
Address: 514 Pier "A"
Owner: LA Harbor Dept

Permit #: LA28510
Date: 12/7/94
Valuation: 1,500,000
Structure: Apartment
Bldg. Type:
Use Code: 05
Type Permit:
No. Stories: 2
Address: 9710 Zelzah Ave
Owner: Fish Construction

Permit #: LA28511
Date: 12/7/94
Valuation: 1,000,000
Structure: Apartment
Bldg. Type:
Use Code: 05
Type Permit:
No. Stories:
Address: 9730 Zelzah Ave
Owner: Fish Construction

Permit #: VN68531
Date: 12/7/94
Valuation: 1,760,000
Structure: Condo
Bldg. Type:
Use Code: 35
Type Permit: 3
No. Stories:
Address: 18530 Hatteras St
Owner: Tarzana Plaza Condo HOA

Permit #: VN68660
Date: 12/8/94
Valuation: 2,900,000
Structure: Library
Bldg. Type: V-N
Use Code: 14
Type Permit:
No. Stories: 2
Address: 1410 Temple St
Owner: City of Los Angeles

Permit #: LA28672
Date: 12/9/94
Valuation: 2,220,000
Structure: 23-Unit Apartment
Bldg. Type: V-IHR
Use Code: 05
Type Permit: 1
No. Stories: 3
Address: 8327-8343 S. Hoover St
Owner: Greater Bethany Economic Dev Corp

Permit #: LA28832
Date: 12/13/94
Valuation: 1,500,000
Structure: Apartment
Bldg. Type:
Use Code: 05
Type Permit: 3
No. Stories:
Address: 10620 Balboa Bl
Owner: Vista Balboa

Permit #: LA28914
Date: 12/15/94
Valuation: 1,140,000
Structure: Single Family Dwelling
Bldg. Type: V-N
Use Code: 01
Type Permit: 1
No. Stories: 2
Address: 4611 N. Faring Rd
Owner: Emanuel Sadighpour

Permit #: LA28930
Date: 12/15/94
Valuation: 2,030,000
Structure: 28-Unit Apartment
Bldg. Type:
Use Code: 05
Type Permit: 1
No. Stories:
Address: 4630 Kester Av
Owner: Kester Village, L.P.

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Permit #: LA28943
Date: 12/15/94
Valuation: 4,750,000
Structure: Retail/Market
Bldg. Type: I
Use Code: 16
Type Permit: 1
No. Stories: 3
Address: 9618 W. Pico Bl
Owner:

Permit #: LA28838
Date: 12/14/94
Valuation: 1,000,000
Structure: Theater
Bldg. Type:
Use Code: 21
Type Permit: 3
No. Stories: 1
Address: 2700 N. Vermont av
Owner: L.A. City Rec. and Parks

Permit #: WL23001
Date: 12/15/94
Valuation: 1,200,000
Structure: Single Family Dwelling
Bldg. Type: V-N
Use Code: 01
Type Permit: 1
No. Stories: 2
Address: 31 Beverly Park Te.
Owner: Schoeler

Permit #: VN69442
Date: 12/16/94
Valuation: 5,460,000
Structure: Manufacturing
Bldg. Type:
Use Code: 12
Type Permit: 5
No. Stories: 2
Address: 8000 Van Nuys Bl
Owner: General Motors

Permit #: VN69241
Date: 12/14/94
Valuation: 2,000,000
Structure: Office/Warehouse
Bldg. Type: I
Use Code: 13
Type Permit: 3
No. Stories: 2
Address: 9450 DeSoto Av
Owner: Devon Industries

Permit #: LA28863
Date: 12/14/94
Valuation: 2,800,000
Structure: Parking Structure
Bldg. Type: I
Use Code: 08
Type Permit:
No. Stories: 2
Address: 701 World Way
Owner: LA, Dept of Airports

Permit #: HO34389
Date: 12/16/94
Valuation: 1,200,000
Structure: 62-Unit SRO Hotel
Bldg. Type: III-N
Use Code: 11
Type Permit:
No. Stories: 2
Address: 2201-07 E. First St
Owner: A Community of Friends

Permit #: HO34454
Date: 12/20/94
Valuation: 1,130,000
Structure: Manufacturing
Bldg. Type: I
Use Code: 12
Type Permit: 3
No. Stories: 4
Address: 3654 E. Olympic Bl
Owner: Angelus Grand Plaza

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Permit #: LA29108
Date: 12/20/94
Valuation: 4,970,000
Structure: 54-Unit Apartment
Bldg. Type: VI-I
Use Code: 05
Type Permit: 1
No. Stories: 3
Address: 8300 S. Hoover St
Owner: Greater Bethany Econ.

Permit #: LA29121
Date: 12/20/94
Valuation: 2,062,100
Structure: Condominium
Bldg. Type: V-N
Use Code: 35
Type Permit: 3
No. Stories: 3
Address: 18307 Burbank Bl
Owner: Jilla Lorena HOA

Permit #: LA29183
Date: 12/21/94
Valuation: 2,100,000
Structure: Office
Bldg. Type: V-N
Use Code: 13
Type Permit: 3
No. Stories: 2
Address: 6150 Canoga Av
Owner: Arnoff Bros.

Permit #: LA29268
Date: 12/22/94
Valuation: 5,000,000
Structure: Parking Structure
Bldg. Type: I
Use Code: 08
Type Permit: 1
No. Stories: 1
Address: 3650 W. Martin Luther King Jr.
Owner: Haagen Property Mgmnt. Inc.

Permit #: LA29114
Date: 12/20/94
Valuation: 1,300,000
Structure: Condominium
Bldg. Type: V-N
Use Code: 35
Type Permit: 3
No. Stories: 3
Address: 18307 Burbank Bl
Owner: Jilla Lorean HOA

Permit #: VN69696
Date: 12/20/94
Valuation: 1,000,000
Structure: 8-Unit Condominium
Bldg. Type: V-I
Use Code: 35
Type Permit: 1
No. Stories: 2
Address: 11449 Tampa Av
Owner: PK. Northridge

Permit #: LA29251
Date: 12/22/94
Valuation: 1,270,000
Structure: Office
Bldg. Type: I
Use Code: 13
Type Permit: 3
No. Stories: 22
Address: 3250 Wilshire Bl
Owner: 3250 Wilshire Assoc.

Permit #: LA27278
Date: 12/23/94
Valuation: 1,200,000
Structure: Church
Bldg. Type: III-NR
Use Code: 06
Type Permit: 3
No. Stories: 1
Address: 4371 Valley bl
Owner: Ming Ya Buddhist Found.

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Permit #: LA29351
Date: 12/27/94
Valuation: 2,000,000
Structure: Parking
Bldg. Type: I
Use Code: 08
Type Permit: 3
No. Stories: 3
Address: 10730 W. Pico Bl
Owner: May Co. Design and Const

Permit #: LA29412
Date: 12/28/94
Valuation: 4,610,000
Structure: Retail/Supermarket
Bldg. Type: III-N
Use Code: 16
Type Permit: 1
No. Stories:
Address: 11727 W. Olympic Bl
Owner: Ralphs Grocery Co.

Permit #: LA29426
Date: 12/28/94
Valuation: 1,200,000
Structure: 68-Unit Apartment
Bldg. Type: V-IHR
Use Code: 05
Type Permit: 3
No. Stories: 3
Address: 8511 Balboa Bl
Owner: 8511 Balboa Bl. L.T.D.

Permit #: LA29431
Date: 12/28/94
Valuation: 4,200,000
Structure: Parking
Bldg. Type: I
Use Code: 08
Type Permit: 1
No. Stories: 5
Address: 5971 Venice Bl
Owner: Kaiser Permanente

Permit #: WV21860
Date: 12/30/94
Valuation: 1,200,000
Structure: Apartment
Bldg. Type:
Use Code: 05
Type Permit:
No. Stories: 2
Address: 11220 Moorpark St
Owner: Garfields

Permit #: VN70450
Date: 12/30/94
Valuation: 1,000,000
Structure: School
Bldg. Type: V
Use Code: 18
Type Permit: 1
No. Stories: 1
Address: 18848 Erwin St
Owner: Ruben Dokhanian

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OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES

JANUARY 1995

BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	69	69	12,630,207
02	Duplexes	4	2	247,000
03	Airport Buildings			
04	Amusement Buildings			
05	Apartment Buildings	32	2	3,120,000
35	Condominiums			
06	Churches		3	610,200
07	Garages, Private		40	507,600
08	Garages, Public		3	5,643,000
09	Gasoline Service Stations		3	207,000
10	Hospitals		1	3,000
11	Hotels			
12	Manufacturing Buildings			
13	Office Buildings		10	1,440,000
14	Public Administration Buildings		2	352,000
15	Public Utilities Buildings			
16	Retail Stores		4	376,900
17	Restaurants			
18	School Buildings		1	417,000
19	Signs		155	1,320,650
20	Swimming Pools - Private		28	313,500
21	Theater Buildings		1	775,000
22	Warehouses			
23	Miscellaneous Buildings and Structures		387	6,257,076
24	Prefabricated Houses			
25	Solar Heaters			
26	Temporary Structures		2	19,500
	Additions - Commercial and Manufacturing		11	11,704,400
	Additions - Housing-Additional Units	2	2	268,000
	Additions - Residential with units removed			
	Additions - Housing-No Additional Units		326	10,117,065
	Additions - Miscellaneous Buildings and Pools		2	71,000
	Alterations - Commercial and Manufacturing	2	515	49,023,537
	Alterations - Miscellaneous Buildings and Pools		132	5,219,059
	Alterations - Housing-Additional Units	3	3	174,000
	Alterations - Residential with units removed	-1	1	12,000
	Alterations - Housing-No Additional Units		3,139	53,570,779
	Relocations		2	26,000
60	Grading		152	75,910
61	Certificates of Occupancy for Use of Land		12	
00	Special Permits - No Valuation		43	
	DEMOLITIONS*	-146	116	1,284,377
	JURISDICTIONAL SUB-TOTAL		5,169	164,501,383
	Construction within City - not under Department permits: NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		5,169	164,501,383

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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SUMMARY

RECORD OF FAMILIES

Single Family Dwellings	69	Additions/Alterations Removing Units*	-1
Duplexes	4	Apt. Units Converted to Condominiums*	9
Apartment Units	32	Housing Units Completed*	219
Condominiums			
TOTAL DWELLINGS	105		
Additions Making Additional Units	2		
Alterations Making Additional Units	3		
Relocations			
GRAND TOTAL OF FAMILIES	**110**		

	Permits Issued	Estimated Valuation
January 1995	5,169	164,501,383
January 1994	3,093	84,959,526

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PERMITS AND VALUATION RECAP

Permits Issued

	Building	Plumbing	Electrical	H & R	Elevators	Boilers	Estimated Valuation
January	5,169	821	1,154	560	38	13	164,501,383
							--
TOTALS	5,169	821	1,154	560	38	13	164,501,383

*Not included in "Grand Total of Families" Figure

XB&S AS-20 R. 01/92

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4869

WARREN V. O'BRIEN
GENERAL MANAGER

ARTHUR J. JOHNSON, JR.
EXECUTIVE OFFICER

February 2, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUILDING PERMITS W/VALUATIONS IN EXCESS OF 1 MILLION DOLLARS - JANUARY 1995

During the month of January 1995, the Department of Building and Safety issued 14 building permits with valuations in excess of $1,000,000. The highest of these was a $13,000,000 permit issued for highway structure at the Los Angeles Airport. These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in room 424, City Hall, or by callilng (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #: LA29624
Date: 1/5/95
Valuation: 1,190,000
Structure: Office
Bldg. Type: I
Use Code: 13
Type Permit: 3
No. Stories: 55
Address: 555 W. 5th St
Owner: Maguire Thomas

Permit #: WL23598
Date: 1/12/95
Valuation: 1,500,000
Structure: Condo
Bldg. Type: V
Use Code: 35
Type Permit: 3
No. Stories: 3
Address: 4630 Willis Ave
Owner: Chateau of the Oaks Condos

Permit #: vn71203
Date: 1/17/95
Valuation: 2,900,000
Structure: Apartment
Bldg. Type: I
Use Code: 5
Type Permit: 3
No. Stories: 3
Address: 12946 Valleyheart Dr
Owner: Valleyheart 3, LP

Permit #: VN71270
Date: 1/17/95
Valuation: 3,000,000
Structure: Retail
Bldg. Type: I
Use Code: 16
Type Permit: 3
No. Stories: 3
Address: 9301 Tampa Ave
Owner: Bullock's Property Corp

Permit #: LA30083
Date: 1/18/95
Valuation: 5,000,000
Structure: 161 Unit Apartment
Bldg. Type: V
Use Code: 5
Type Permit: 3
No. Stories: 3 & 4
Address: 1630 Kingsbury St
Owner: Sam Menlo

Permit #: LA30117
Date: 1/18/95
Valuation: 13,000,000
Structure: Airport
Bldg. Type: I
Use Code: 3
Type Permit: 3
No. Stories: 2
Address: 1 World Way
Owner: City of Los Angeles

Permit #: LA30151
Date: 1/19/95
Valuation: 9,4000,000
Structure: Parking Structure
Bldg. Type: I
Use Code: 8
Type Permit: 3
No. Stories: 3
Address: 9301 Tampa Ave
Owner: MEPC American Properties

Permit #: LA30152
Date: 1/19/95
Valuation: 4,600,000
Structure: Parking Structure
Bldg. Type:
Use Code: 8
Type Permit: 1
No. Stories: 3
Address: 9301 Tampa Ave
Owner: MEPC American Properties

Permit #: HO35057
Date: 1/24/95
Valuation: 1,500,000
Structure: Synagogue
Bldg. Type: V
Use Code: 6
Type Permit: 4
No. Stories: 2
Address: 12800 Chandler Bl
Owner: Shaarey Zedek

Permit #: VN71747
Date: 1/24/95
Valuation: 1,680,000
Structure: 14 Unit Apartment
Bldg. Type: V
Use Code: 5
Type Permit: 1
No. Stories:
Address: 13030 Moorpark St
Owner: Paramount Moorpark OA

Permit #: LA30363
Date: 1/25/95
Valuation: 1,000,000
Structure: 24 Unit Apartment
Bldg. Type: V
Use Code: 35
Type Permit: 3
No. Stories: 3
Address: 4455 Hazeltine Ave

Permit #: LA30402
Date: 1/25/95
Valuation: 2,240,000
Structure: Office
Bldg. Type: I
Use Code: 13
Type Permit: 3
No. Stories: 3
Address: 411 N. Vermont Ave

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Owner: Hazeltine Court H.O.A.

Permit #: VN71986
Date: 1/26/95
Valuation: 1,200,000
Structure: Bath House
Bldg. Type: VN
Use Code: 23
Type Permit: 3
No. Stories: 2
Address: 8133 Vineland Ave
Owner: City of Los Angeles Rec and Parks

Owner: City of Los Angeles

Permit #: LA30497
Date: 1/26/95
Valuation: 1,440,000
Structure: 18-Unit Apartment
Bldg. Type: V-1HR
Use Code: 05
Type Permit: 1
No. Stories: 3
Address: 130 S. Carondelet St
Owner: Casa Carondelet, L.P.

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OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES

FEBRUARY 1995

BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	48	48	9,797,900
02	Duplexes	8	4	637,000
03	Airport Buildings			
04	Amusement Buildings		1	1,800,000
05	Apartment Buildings	6	1	675,000
35	Condominiums			
06	Churches		1	20,000
07	Garages, Private		52	546,500
08	Garages, Public		4	388,000
09	Gasoline Service Stations			
10	Hospitals			
11	Hotels			
12	Manufacturing Buildings		1	1,000
13	Office Buildings		4	85,800
14	Public Administration Buildings			
15	Public Utilities Buildings		5	10,315,000
16	Retail Stores		3	5,480,000
17	Restaurants		1	86,000
18	School Buildings			
19	Signs		107	737,828
20	Swimming Pools - Private		66	916,329
21	Theater Buildings			
22	Warehouses		7	3,592,000
23	Miscellaneous Buildings and Structures		454	9,170,986
24	Prefabricated Houses			
25	Solar Heaters			
26	Temporary Structures		1	540,000
	Additions - Commercial and Manufacturing		13	6,124,800
	Additions - Housing-Additional Units	1	1	32,000
	Additions - Residential with units removed			-
	Additions - Housing-No Additional Units		328	11,289,751
	Additions - Miscellaneous Buildings and Pools		3	113,800
	Alterations - Commercial and Manufacturing		582	40,616,142
	Alterations - Miscellaneous Buildings and Pools		149	35,454,120
	Alterations - Housing-Additional Units			
	Alterations - Residential with units removed	-20	2	41,500
	Alterations - Housing-No Additional Units		3,914	56,969,700
	Relocations	1	4	147,092
60	Grading		180	286,878
61	Certificates of Occupancy for Use of Land		6	
00	Special Permits - No Valuation		90	
	DEMOLITIONS*	-290	139	2,416,298
	JURISDICTIONAL SUB-TOTAL		6,171	195,865,126
	Construction within City - not under Department permits: NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		6,171	195,865,126

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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SUMMARY

RECORD OF FAMILIES

Single Family Dwellings	48	Additions/Alterations Removing Units*	-20
Duplexes	8	Apt. Units Converted to Condominiums*	40
Apartment Units	6	Housing Units Completed*	301
Condominiums			
TOTAL DWELLINGS	62		
Additions Making Additional Units	1		
Alterations Making Additional Units			
Relocations	1		
GRAND TOTAL OF FAMILIES	**64**		

	Permits Issued	Estimated Valuation
February 1995	6,171	195,865,126
February 1994	5,679	169,475,026
January - February 1995	11,340	360,366,509
January - February 1994	8,772	254,434,552

PERMITS AND VALUATION RECAP
Permits Issued

	Building	Plumbing	Electrical	H & R	Elevators	Boilers	Estimated Valuation
January	5,169	821	1,154	560	38	13	164,501,383
February	6,171	1,001	1,323	637	86	24	195,865,126
TOTALS	11,340	1,822	2,477	1,197	124	37	360,366,509

*Not included in "Grand Total of Families" Figure

XB&S AS-20 R. 01/92

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CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4869
ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
ARTHUR C. DEVINE
EXECUTIVE OFFICER

March 7, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUILDING PERMITS WITH VALUATIONS IN EXCESS OF 1 MILLION DOLLARS- FEBRUARY 1995

During the month of February 1995, the Department of Building and Safety issued 20 building permits with valuations in excess of 1,000,000. The highest of these was a 40,000,000 permit issued for compressor and blower tunnels at 12000 Vista Del Mar. These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #: LA30648
Date: 02/01/95
Valuation: 3,780,000
Structure: Theater
Bldg. Type: 3
Use Code: 21
Type Permit:
No. Stories: 1
Address: 4020 Marlton Ave
Owner: Majic Johnson Theaters

Permit #: LA30676
Date: 02/01/95
Valuation: 1,800,000
Structure: Gymnasium
Bldg. Type: 1
Use Code: 04
Type Permit: II
No. Stories: 2
Address: 5941 Hollywood Bl
Owner: Salvation Army

Permit #: VN72441
Date: 02/02/95
Valuation: 2,000,000
Structure: 65 Unit Condo
Bldg. Type: 3
Use Code: 35
Type Permit:
No. Stories: 4
Address: 4949 Genesta Ave
Owner: Encino Park Assoc

Permit #: LA30740
Date: 02/02/95
Valuation: 1,275,000
Structure: Retail
Bldg. Type: 3
Use Code: 16
Type Permit: III-N
No. Stories:
Address: 8975-9001 Tampa Ave Bldg B
Owner: Mr Abe Grossman

Permit #: LA30831
Date: 02/06/95
Valuation: 1,300,000
Structure: 10 Unit Condo
Bldg. Type: 3
Use Code: 35
Type Permit:
No. Stories: 2
Address: 5460 White Oak Ave #A
Owner: Encino Oak HOA

Permit #: VN72974
Date: 02/09/95
Valuation: 1,000,000
Structure: 26 Unit Apt
Bldg. Type: 3
Use Code: 05
Type Permit: 5
No. Stories:
Address: 4567 Willis Ave
Owner: Willis Group

Permit #: WL24504
Date: 02/10/95
Valuation: 3,750,000
Structure: Office
Bldg. Type: 3
Use Code: 13
Type Permit: 5-IHR/I
No. Stories: 3
Address: 1999 S Bundy Dr
Owner: Fox Inc

Permit #: LA31248
Date: 02/14/95
Valuation: 2,500,000
Structure: Transportation Station
Bldg. Type: 3
Use Code: 23
Type Permit: I
No. Stories: 3
Address: 785 N Vignes St
Owner: Catellus Dev Corp

Permit #: LA31301
Date: 02/15/95
Valuation: 4,000,000
Structure: Market
Bldg. Type: 1
Use Code: 16
Type Permit: III-N
No. Stories: 1
Address: 10823 Zelzah Ave
Owner: Hughes Family Market

Permit #: LA31302
Date: 02/15/95
Valuation: 7,970,000
Structure: Office
Bldg. Type: 3
Use Code: 13
Type Permit: I
No. Stories: 30
Address: 785 N Vignes St
Owner: Catellus Development

Permit #: VN73242
Date: 02/14/95
Valuation: 2,500,000
Structure: Filter Facility
Bldg. Type: 1
Use Code: 23
Type Permit:
No. Stories: 1
Address: 445 Ferry St
Owner: City of Los Angeles

Permit #: LA31370
Date: 02/16/95
Valuation: 1,440,000
Structure: Warehouse
Bldg. Type: 1
Use Code: 22
Type Permit: III-N
No. Stories: 2
Address: 901 S Alameda St
Owner: L S J

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Permit #: LA31576
Date: 02/22/95
Valuation: 2,000,000
Structure: Restaurant
Bldg. Type: 4
Use Code: 17
Type Permit: I
No. Stories: 2 + Basement
Address: 6433 Fallbrook Ave
Owner: Univest Inc (K-Mart)

Permit #: LA31756
Date: 02/27/95
Valuation: 1,500,000
Structure: Retail & Office
Bldg. Type: 3
Use Code: 16
Type Permit:
No. Stories:
Address: 21500 Victory Bl
Owner: Circuit City Stores

Permit #: HO35936
Date: 02/28/95
Valuation: 1,000,000
Structure: Library
Bldg. Type: 3
Use Code: 14
Type Permit: III-N
No. Stories: 2
Address: 1005 W 64Th St
Owner: City of Los Angeles

Permit #: LA31852
Date: 02/28/95
Valuation: 3,700,000
Structure: 7Th St Pipe Gallery
Bldg. Type: 3
Use Code: 15
Type Permit:
No. Stories:
Address: 12000 Vista Del Mar
Owner: City of Los Angeles

Permit #: LA31673
Date: 02/23/95
Valuation: 1,400,000
Structure: Market
Bldg. Type: 1
Use Code: 16
Type Permit: 5-N
No. Stories: 2
Address: 11357 Sherman Wy
Owner: Robert Rodriguez

Permit #: HO35873
Date: 02/27/95
Valuation: 1,500,000
Structure: Office/MFG
Bldg. Type: 4
Use Code: 13
Type Permit: 5-N
No. Stories: 2
Address: 9340 Ownesmouth Ave
Owner: Owensmouth C2BLP

Permit #: LA31850
Date: 02/28/95
Valuation: 40,000,000
Structure: Compressor & Blower Tunnels
Bldg. Type: 3
Use Code: 23
Type Permit: II-N
No. Stories: 2
Address: 12000 Vista Del Mar
Owner: City of Los Angeles

Permit #: LA31853
Date: 02/28/95
Valuation: 5,000,000
Structure: Compressor & Blower Bldg
Bldg. Type: 1
Use Code: 15
Type Permit: II-N
No. Stories: 2
Address: 12000 Vista Del Mar
Owner: City of Los Angeles

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OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES

MARCH 1995

BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	141	141	32,558,480
02	Duplexes	6	3	519,000
03	Airport Buildings		3	52,670
04	Amusement Buildings			
05	Apartment Buildings	32	3	1,919,000
35	Condominiums	31	1	4,960,000
06	Churches			
07	Garages, Private		44	580,801
08	Garages, Public		1	2,000
09	Gasoline Service Stations			
10	Hospitals			
11	Hotels			
12	Manufacturing Buildings		1	175,000
13	Office Buildings		5	434,400
14	Public Administration Buildings			
15	Public Utilities Buildings		2	21,000,400
16	Retail Stores		7	6,457,600
17	Restaurants		4	1,121,000
18	School Buildings		2	17,000
19	Signs		159	1,046,279
20	Swimming Pools - Private		86	1,265,351
21	Theater Buildings			
22	Warehouses		2	456,000
23	Miscellaneous Buildings and Structures		537	9,786,928
24	Prefabricated Houses			
25	Solar Heaters			
26	Temporary Structures		2	29,700
	Additions - Commercial and Manufacturing		22	6,087,400
	Additions - Housing-Additional Units	2	1	235,000
	Additions - Residential with units removed			
	Additions - Housing-No Additional Units		489	17,485,871
	Additions - Miscellaneous Buildings and Pools		5	52,000
	Alterations - Commercial and Manufacturing	(1)	691	76,846,359
	Alterations - Miscellaneous Buildings and Pools	(1)	172	7,198,470
	Alterations - Housing-Additional Units	8	4	292,000
	Alterations - Residential with units removed	(1)	1	201
	Alterations - Housing-No Additional Units		4,317	61,297,307
	Relocations		4	38,000
60	Grading		241	220,375
61	Certificates of Occupancy for Use of Land		15	
00	Special Permits - No Valuation		169	
	DEMOLITIONS*	(82)	112	1,189,548
	JURISDICTIONAL SUB-TOTAL		7,246	252,134,592
	Construction within City - not under Department permits:			
	NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		7,246	$252,134,592

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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R0067559

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4869
ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
ARTHUR C. DEVINE
EXECUTIVE OFFICER

April 05, 1995

TO WHOM ITH MAY CONCERN

MONTHLY BUILDING PERMITS WITH VALUATIONS IN EXCESS OF 1 MILLION DOLLARS-MARCH 1995

During the month of March 1995, the Department of Building and Safety issued 27 building permits with valuations in excess of 1,000,000. The highest of these was a 21,000,000 permit issued for LAPD Regional Facility at 7600 Broadway. These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #: LA31964
Date: 03/02/95
Valuation: 3,594,300
Structure: Transportation Station
Bldg. Type: 3
Use Code: 23
Type Permit:
No. Stories: 3
Address: 785 Vignes St
Owner: Catellus Dev Corp

Permit #: SP18441
Date: 03/06/95
Valuation: 1,000,000
Structure: 42 Unit Condo
Bldg. Type: 3
Use Code: 35
Type Permit: 5
No. Stories: 3
Address: 4705 Kester Ave
Owner: Golden Palms H O A

Permit #: LA32079
Date: 03/03/95
Valuation: 1,050,000
Structure: Office
Bldg. Type: 3
Use Code: 13
Type Permit: I
No. Stories:
Address: 784 Vignes St
Owner: Catellus Dev

Permit #: LA32402
Date: 03/10/95
Valuation: 30,000,000
Structure: Mall
Bldg. Type: 3
Use Code: 16
Type Permit: I
No. Stories: 2
Address: 9301 Tampa Ave
Owner: MEPC American Prop

Permit #: WL25408
Date: 03/10/95
Valuation: 1,350,000
Structure: Single Family Dwelling
Bldg. Type: 1
Use Code: 01
Type Permit: 5N
No. Stories: 2
Address: 51 Beverly Park Way
Owner: LTD Partnership

Permit #: LA32378
Date: 03/10/95
Valuation: 1,000,000
Structure: Filter Expansion
Bldg. Type: 1
Use Code: 23
Type Permit: I
No. Stories: 1
Address: 4600 Colorado Bl
Owner: City of L A

Permit #: VN75407
Date: 03/15/95
Valuation: 1,030,000
Structure: Bakery / Office
Bldg. Type: 3
Use Code: 13
Type Permit: 3N
No. Stories: 1
Address: 15335 Saticoy St
Owner: Steve / Dave Ustin

Permit #: VN75410
Date: 03/15/95
Valuation: 1,000,000
Structure: 38 Unit Apt
Bldg. Type: 3
Use Code: 05
Type Permit:
No. Stories:
Address: 4607 Willis Ave
Owner: Jeff Scara

Permit #: VN75411
Date: 03/15/95
Valuation: 1,000,000
Structure: 42 Unit Apt
Bldg. Type: 3
Use Code: 05
Type Permit:
No. Stories:
Address: 4420 Ensign Ave
Owner: Dr Summerhog

Permit #: WL25575
Date: 03/16/95
Valuation: 1,100,000
Structure: 96 Unit Apt
Bldg. Type: 3
Use Code: 05
Type Permit: 5N
No. Stories: 2
Address: 18540 Plummer St
Owner: Bob / Beverly Jones

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Permit #: WL25595
Date: 03/17/95
Valuation: 4,960,000
Structure: 31 Unit Condo
Bldg. Type: 1
Use Code: 35
Type Permit: 5-1/I
No. Stories: 4
Address: 10784-90 Rose Ave
Owner: K M K Real Corp

Permit #: LA32962
Date: 03/23/95
Valuation: 1,350,000
Structure: 34 Unit Apt
Bldg. Type: 3
Use Code: 05
Type Permit: 5
No. Stories: 3
Address: 13951 Moorpark St
Owner: J M F Enterprises

Permit #: LA25719
Date: 03/21/95
Valuation: 1,158,000
Structure: Single Family Dwelling
Bldg. Type: 1
Use Code: 01
Type Permit: 5
No. Stories: 2
Address: 227 N Carolwood Dr
Owner: Bruce Gabbai

Permit #: LA32943
Date: 03/22/95
Valuation: 3,000,000
Structure: Office
Bldg. Type: 3
Use Code: 13
Type Permit:
No. Stories: 42
Address: 300 S Grand Ave
Owner: Ms Management

Permit #: LA32942
Date: 03/22/95
Valuation: 5,340,000
Structure: Office
Bldg. Type: 3
Use Code: 13
Type Permit: I
No. Stories: 30
Address: 785 N Vignes St
Owner: Catellus Dev

Permit #: LA33022
Date: 03/24/95
Valuation: 2,160,000
Structure: U-Haul Rent & Mini Storage
Bldg. Type: 3
Use Code: 22
Type Permit: 2-1HR
No. Stories: 2
Address: 18160 Parthenia St
Owner: U-Haul International

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Permit #: LA33023
Date: 03/24/95
Valuation: 1,070,000
Structure: U-Haul Storage/Warehouse
Bldg. Type: 4
Use Code: 22
Type Permit: 2-1HR
No. Stories: 3
Address: 18160 Parthenia St
Owner: U-Haul International

Permit #: HO36543
Date: 03/24/95
Valuation: 1,000,000
Structure: Condominium
Bldg. Type: 3
Use Code: 35
Type Permit:
No. Stories: 3
Address: 21529 Saticoy St
Owner: Villa Saticoy Homeowners Assoc

Permit #: LA33089
Date: 03/27/95
Valuation: 2,100,000
Structure: Retail
Bldg. Type: 3
Use Code: 16
Type Permit:
No. Stories:
Address: 8500 Beverly Bl
Owner: The Taubman Co

Permit #: VN76466
Date: 03/28/95
Valuation: 1,200,000
Structure: Warehouse
Bldg. Type: 3
Use Code: 22
Type Permit:
No. Stories:
Address: 15800 Roscoe Bl
Owner: Anheuser Busch

Permit #: VN76026
Date: 03/23/95
Valuation: 1,680,000
Structure: Theatre
Bldg. Type: 4
Use Code: 21
Type Permit: I/2FR
No. Stories: 2
Address: 6731 Fallbrook Ave
Owner: General Cinema Theatres

Permit #: VN76212
Date: 03/24/95
Valuation: 1,200,000
Structure: Retail
Bldg. Type: 4
Use Code: 16
Type Permit: 3/I
No. Stories:
Address: 14550 Chase St
Owner: Mace-Rich Inc

Permit #: LA33151
Date: 03/28/95
Valuation: 1,100,000
Structure: 16 Unit Apt
Bldg. Type: 3
Use Code: 05
Type Permit: 5N
No. Stories: 2
Address: 18550 Citronia St
Owner: Citronia Landmark

Permit #: LA33208
Date: 03/29/95
Valuation: 2,300,000
Structure: Retail
Bldg. Type: 3
Use Code: 16
Type Permit:
No. Stories:
Address: 9200 Shirley Ave
Owner: May Department Store

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Permit #: VN76648
Date: 03/30/95
Valuation: 1,100,000
Structure: Condo
Bldg. Type: 3
Use Code: 35
Type Permit:
No. Stories:
Address: 4542 Willis Ave
Owner: Willis Ave HOA

Permit #: LA33230
Date: 03/30/95
Valuation: 21,000,000
Structure: LAPD Regional Facility
Bldg. Type: 3
Use Code: 14
Type Permit:
No. Stories: 4
Address: 7600 Broadway
Owner: City of L A

Permit #: LA33322
Date: 03/31/95
Valuation: 5,700,000
Structure: Retail
Bldg. Type: 1
Use Code: 16
Type Permit: 5N
No. Stories: 1
Address: 11600 Sherman Wy
Owner: Home Depot, USA Inc

Permit #:
Date:
Valuation:
Structure:
Bldg. Type:
Use Code:
Type Permit:
No. Stories:
Address:
Owner:

Permit #:
Date:
Valuation:
Structure:
Bldg. Type:
Use Code:
Type Permit:
No. Stories:
Address:
Owner:

Permit #:
Date:
Valuation:
Structure:
Bldg. Type:
Use Code:
Type Permit:
No. Stories:
Address:
Owner:

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OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES

APRIL 1995

BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	52	52	16,016,255
02	Duplexes	8	4	737,000
03	Airport Buildings		1	1,200
04	Amusement Buildings		1	10,000
05	Apartment Buildings	272	6	20,167,000
35	Condominiums	10	2	1,471,000
06	Churches		1	1,600,000
07	Garages, Private		53	627,160
08	Garages, Public		2	50,201
09	Gasoline Service Stations		2	62,000
10	Hospitals		1	510,000
11	Hotels		1	1,910,000
12	Manufacturing Buildings		2	15,000
13	Office Buildings		3	6,067,000
14	Public Administration Buildings		1	700,000
15	Public Utilities Buildings			
16	Retail Stores	9	4	4,376,000
17	Restaurants		6	2,430,000
18	School Buildings		1	10,000
19	Signs		126	879,534
20	Swimming Pools - Private		92	1,441,151
21	Theater Buildings			
22	Warehouses		1	735,000
23	Miscellaneous Buildings and Structures		459	6,112,351
24	Prefabricated Houses			
25	Solar Heaters			
26	Temporary Structures		10	128,701
	Additions - Commercial and Manufacturing		14	771,600
	Additions - Housing-Additional Units	2	2	141,000
	Additions - Residential with units removed			
	Additions - Housing-No Additional Units		429	15,097,582
	Additions - Miscellaneous Buildings and Pools		3	41,000
	Alterations - Commercial and Manufacturing		615	56,190,810
	Alterations - Miscellaneous Buildings and Pools		155	1,950,906
	Alterations - Housing-Additional Units	1	1	32,000
	Alterations - Residential with units removed			
	Alterations - Housing-No Additional Units		4,024	53,668,111
	Relocations		6	92,000
60	Grading		223	767,611
61	Certificates of Occupancy for Use of Land		10	
00	Special Permits - No Valuation		63	
	DEMOLITIONS*	(199)	119	1,011,499
	JURISDICTIONAL SUB-TOTAL		6,495	194,809,173
	Construction within City - not under Department permits:			
	NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		6,495	$194,809,173

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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R0067565

VOL 24

SUMMARY

RECORD OF FAMILIES

Single Family Dwellings	52	Additions/Alterations Removing Units*	
Duplexes	8	Apt. Units Converted to Condominiums*	16
Apartment Units	281	Housing Units Completed*	227
Condominiums	10		
TOTAL DWELLINGS	351		
Additions Making Additional Units	2		
Alterations Making Additional Units	1		
Relocations			
GRAND TOTAL OF FAMILIES	354		

	Permits Issued	Estimated Valuation
April 1995	6,495	$194,809,173
April 1994	10,007	218,208,686
January - April 1995	31,576	1,002,119,447
January - April 1994	28,529	675,827,606

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PERMITS AND VALUATION RECAP
Permits Issued

	Building	Plumbing	Electrical	H & R	Elevators	Boilers	Estimated Valuation
January	5,169	821	1,154	560	38	13	164,501,383
February	6,171	1,001	1,323	637	86	24	195,865,126
March	7,246	1,276	1,661	683	71	41	252,134,592
April	6,495	1,112	1,467	603	53	26	194,809,173
TOTALS	25,081	4,210	5,605	2,483	248	104	807,310,274

*Not included in "Grand Total of Families" Figure

XB&S AS-20 R. 01/92

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4869
ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
ARTHUR C. DEVINE
EXECUTIVE OFFICER

May 12, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUILDING PERMITS W/VALUATIONS IN EXCESS OF 1 MILLION DOLLARS - APRIL 1995

During the month of April 1995, the Department of Building and Safety issued 22 building permits with valuations in excess of $1,000,000. The highest of these was a $14,000,000 permit issued for a Theater at 2049 Century Park East . These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in Room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #:	WL26335
Date:	4/10/95
Valuation:	6,000,000
Structure:	Office/Storage
Bldg. Type:	I
Use Code:	13
Type Permit:	1
No. Stories:	5
Address:	199 N. Church Ln
Owner:	The J. Paul Getty Trust

Permit #:	LA33521
Date:	4/5/95
Valuation:	1,500,000
Structure:	Primary Care Clinic
Bldg. Type:	3
Use Code:	10
Type Permit:	5
No. Stories:	1
Address:	5620 Mesmer Av
Owner:	Summa Corporation

Permit #:	WL26132
Date:	4/4/95
Valuation:	3,400,000
Structure:	Single Family Dwelling
Bldg. Type:	1
Use Code:	1
Type Permit:	1
No. Stories:	2
Address:	9904 Kip Dr
Owner:	Armand Marciano

Permit #:	VN77003
Date:	4/5/95
Valuation:	2,800,000
Structure:	28 unit Apartment
Bldg. Type:	
Use Code:	05
Type Permit:	3
No. Stories:	
Address:	9700 Zelzah Av
Owner:	Fish Construction

Permit #:	LA33726
Date:	4/10/95
Valuation:	10,100,000
Structure:	100 unit Apartment Bldg
Bldg. Type:	1
Use Code:	5
Type Permit:	I
No. Stories:	6
Address:	231 E Third St
Owner:	L.P.E Ltd. Partshp. Little Tokoyo

Permit #:	LA33830
Date:	4/12/95
Valuation:	1,000,000
Structure:	Retail/Post Office
Bldg. Type:	1
Use Code:	16
Type Permit:	I
No. Stories:	1
Address:	12003 S. Avalon Bl
Owner:	Jung Kyu Choi

Permit #:	LA33856
Date:	4/12/95
Valuation:	1,750,000
Structure:	Mini Mall/9 unit Apt.
Bldg. Type:	51/HR1
Use Code:	16
Type Permit:	3
No. Stories:	2
Address:	1415 S. Robertson Bl
Owner:	Elizabeth Stevens

Permit #:	LA33891
Date:	4/12/95
Valuation:	3,920,000
Structure:	52 unit Apartment Bldg
Bldg. Type:	51/Hr/1
Use Code:	5
Type Permit:	1
No. Stories:	3
Address:	420 N Evergreen Av
Owner:	Evergreen Blkyn Villag

Permit #:	VN77733
Date:	4/13/95
Valuation:	1,000,000
Structure:	21 unit Condo
Bldg. Type:	
Use Code:	35
Type Permit:	3
No. Stories:	
Address:	21720 Hart St
Owner:	Canoga Cambridge

Permit #:	LA33923
Date:	4/13/95
Valuation:	1,990,000
Structure:	Theater
Bldg. Type:	
Use Code:	21
Type Permit:	3
No. Stories:	1
Address:	4020 Marlton Av
Owner:	Magic Johnson Thtrs

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Permit #:	LA34489
Date:	4/26/95
Valuation:	1,760,000
Structure:	General Retail Sales
Bldg. Type:	
Use Code:	16
Type Permit:	3
No. Stories:	2
Address:	19358 Nordhoff St
Owner:	Best Products Co

Permit #:	LA34520
Date:	4/26/95
Valuation:	14,000,000
Structure:	Theater
Bldg. Type:	3
Use Code:	21
Type Permit:	I
No. Stories:	3
Address:	2049 Century Park East
Owner:	AMC Inc

Permit #:	LA34548
Date:	4/26/95
Valuation:	2,380,000
Structure:	Retail
Bldg. Type:	I/V
Use Code:	16
Type Permit:	3
No. Stories:	
Address:	6433 Fallbrook Av
Owner:	Univest

Permit #:	LA34628
Date:	4/27/95
Valuation:	1,910,000
Structure:	Hotel/Commercial
Bldg. Type:	3/1HR
Use Code:	11/12
Type Permitt:	1
No. Stories:	4
Address:	1536 N Western Av
Owner:	N.C Patel

Permit #:	LA34634
Date:	4/27/95
Valuation:	1,500,000
Structure:	Office
Bldg. Type:	
Use Code:	13
Type Permit:	3
No. Stories:	26
Address:	21650 Oxnard St
Owner:	The Voit Co

Permit #:	LA34638
Date:	4/27/95
Valuation:	1,100,000
Structure:	Mann Theater
Bldg. Type:	
Use Code:	21
Type Permit:	3
No. Stories:	1
Address:	18632 Ventura Bl
Owner:	Mann Theaters

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Permit #:	LA34274
Date:	4/20/95
Valuation:	2,850,000
Structure:	57 unit Apartment Bldg
Bldg. Type:	1
Use Code:	05
Type Permit:	1
No. Stories:	2
Address:	9621 Reseda Bldg
Owner:	J.G. Development

Permit #:	LA34275
Date:	4/20/95
Valuation:	2,850,000
Structure:	56 unit Apartment Bldg
Bldg. Type:	1
Use Code:	5
Type Permit:	1
No. Stories:	2
Address:	9601 Reseda Bl
Owner:	J. G. Development

Permit #:	LA34310
Date:	4/21/95
Valuation:	1,400,000
Structure:	Drug Store (Savons)
Bldg. Type:	5-H1
Use Code:	16
Type Permit:	1
No. Stories:	1
Address:	4707 W Venice Bl
Owner:	Midtown Shopping Ctr Assoc

Permit #:	HO37374
Date:	4/25/95
Valuation:	1,600,000
Structure:	Church
Bldg. Type:	5-1HR
Use Code:	6
Type Permit:	1
No. Stories:	1
Address:	9901 Mason Av
Owner:	Roman Cath Chu

Permit #:	HO37375
Date:	4/25/95
Valuation:	1,100,000
Structure:	Church
Bldg. Type:	1
Use Code:	6
Type Permit:	3
No. Stories:	1
Address:	9901 Mason Av
Owner:	Roman Catholic Church

Permit #:	SP18939
Date:	4/26/95
Valuation:	1,200,000
Structure:	Apartment Bldg
Bldg. Type:	3
Use Code:	5
Type Permit:	5
No. Stories:	
Address:	4252 Lankershim Bl
Owner:	Claudia Flores

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OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES
MAY 1995
BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	72	72	17,385,000
02	Duplexes	10	5	913,000
03	Airport Buildings			
04	Amusement Buildings			
05	Apartment Buildings	117	2	9,650,000
35	Condominiums	13	2	1,545,000
06	Churches			
07	Garages, Private		57	762,500
08	Garages, Public		2	12,000
09	Gasoline Service Stations		3	410,000
10	Hospitals			
11	Hotels	2	1	1,600,000
12	Manufacturing Buildings		3	283,201
13	Office Buildings		5	48,321,000
14	Public Administration Buildings		2	10,830,000
15	Public Utilities Buildings			
16	Retail Stores		8	6,657,000
17	Restaurants		2	417,000
18	School Buildings		2	143,000
19	Signs		134	894,441
20	Swimming Pools - Private		112	1,581,801
21	Theater Buildings			
22	Warehouses		2	1,330,000
23	Miscellaneous Buildings and Structures		609	6,715,970
24	Prefabricated Houses			
25	Solar Heaters			
26	Temporary Structures		2	120,000
	Additions - Commercial and Manufacturing		20	2,548,000
	Additions - Housing-Additional Units			
	Additions - Residential with units removed			
	Additions - Housing-No Additional Units		463	14,116,202
	Additions - Miscellaneous Buildings and Pools		6	225,600
	Alterations - Commercial and Manufacturing	(2)	724	43,645,571
	Alterations - Miscellaneous Buildings and Pools		163	5,518,417
	Alterations - Housing-Additional Units	3	3	140,000
	Alterations - Residential with units removed	(6)	3	111,000
	Alterations - Housing-No Additional Units		4,704	83,265,303
	Relocations		2	32,000
60	Grading		241	329,765
61	Certificates of Occupancy for Use of Land		14	
00	Special Permits - No Valuation		53	
	DEMOLITIONS*	(177)	159	1,415,596
	JURISDICTIONAL SUB-TOTAL		7,580	$259,502,771
	Construction within City - not under Department permits: NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		7,580	$259,502,771

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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Permit #:	LA34873
Date:	05/03/95
Valuation:	1,100,000
Structure:	Office
Bldg. Type:	
Use Code:	13
Type Permit:	3
No. Stories:	18
Address:	15910 Ventura Bl
Owner:	Trizec Properties Inc.

Permit #:	LA34940
Date:	05/04/95
Valuation:	1,320,000
Structure:	Warehouse
Bldg. Type:	
Use Code:	22
Type Permit:	1
No. Stories:	2
Address:	1930 Long Beach Av
Owner:	Paul Lui

Permit #:	WL27334
Date:	05/09/95
Valuation:	1,200,000
Structure:	Commercial Center
Bldg. Type:	5N
Use Code:	13
Type Permit:	1
No. Stories:	2
Address:	14755 Ventura Bl
Owner:	Zelkheh McMeza

Permit #:	L34879
Date:	05/03/95
Valuation:	8,480,000
Structure:	105-Unit Apartment
Bldg. Type:	5
Use Code:	05
Type Permit:	1
No. Stories:	4
Address:	4688 Huntington Dr S
Owner:	Ajit Dev & Inv

Permit #:	LA34994
Date:	05/05/95
Valuation:	47,000,000
Structure:	Technical Support Bldg
Bldg. Type:	1
Use Code:	13
Type Permit:	3
No. Stories:	5
Address:	12000 Vista Del Mar
Owner:	City of Los Angeles

Permit #:	HO37837
Date:	05/10/95
Valuation:	3,313,000
Structure:	24-Unit Condominium
Bldg. Type:	5N
Use Code:	35
Type Permit:	3
No. Stories:	2
Address:	15780 Midwood Dr
Owner:	Rinaldi Village HOA

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Permit #:	HO37845
Date:	05/10/95
Valuation:	2,046,000
Structure:	18-Unit Condominium
Bldg. Type:	5N
Use Code:	35
Type Permit:	3
No. Stories:	2
Address:	15760 Midwood Dr
Owner:	Rinaldi Village HOA

Permit #:	VN80237
Date:	05/16/95
Valuation:	3,000,000
Structure:	Retail
Bldg. Type:	3N
Use Code:	16
Type Permit:	3
No. Stories:	1
Address:	14735 Ventura Bl (Q)
Owner:	American Stores Prop.

Permit #:	VN80261
Date:	05/17/95
Valuation:	1,100,000
Structure:	Office
Bldg. Type:	2
Use Code:	13
Type Permit:	3
No. Stories:	
Address:	19860 Plummer St
Owner:	GWB

Permit #:	wl27840
Date:	05/11/95
Valuation:	2,201,000
Structure:	Single Family Dwl
Bldg. Type:	5N
Use Code:	01
Type Permit:	1
No. Stories:	2
Address:	252 St. Pierre Rd
Owner:	St. Pierre Inv. Inc.

Permit #:	LA35562
Date:	05/17/95
Valuation:	4,360,000
Structure:	Retail
Bldg. Type:	3N
Use Code:	16
Type Permit:	1
No. Stories:	2
Address:	2600 S. Vermont Av
Owner:	Food 4 Less

Permit #:	LA35619
Date:	05/18/95
Valuation:	5,000,000
Structure:	150-Unit Apartment
Bldg. Type:	
Use Code:	05
Type Permit:	3
No. Stories:	
Address:	9810 Zelzah Av
Owner:	Hutton Real American

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Permit #:	WL27679
Date:	05/17/95
Valuation:	1,600,000
Structure:	SRO Hotel
Bldg. Type:	3I
Use Code:	11
Type Permit:	1
No. Stories:	4
Address:	224 Boyd St
Owner:	Skid Rod Housing Trust

Permit #:	LA35923
Date:	05/24/95
Valuation:	1,250,000
Structure:	Gymnasium
Bldg. Type:	3-1HR
Use Code:	04
Type Permit:	3
No. Stories:	1
Address:	14061 rOSCOE bL
Owner:	Roman Catholic Church

Permit #:	LA36091
Date:	05/30.95
Valuation:	10,758,000
Structure:	Police Facilities
Bldg. Type:	
Use Code:	14
Type Permit:	1
No. Stories:	2
Address:	3400 S. Central Av
Owner:	City of Los Angeles

Permit #:	LA35736
Date:	05/22/95
Valuation:	1,200,000
Structure:	Office
Bldg. Type:	1
Use Code:	13
Type Permit:	3
No. Stories:	11
Address:	6301 Owensmouth Av
Owner:	Tishman Warner Cntr

Permit #:	LA36029
Date:	05/26/95
Valuation:	1,400,000
Structure:	Office
Bldg. Type:	5N
Use Code:	13
Type Permit:	3
No. Stories:	2
Address:	21300 Oxnard St
Owner:	Warner Ctr Bus. Prk

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OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES
JUNE 1995
BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	127	127	30,263,800
02	Duplexes	4	2	447,000
03	Airport Buildings		3	15,700
04	Amusement Buildings		2	85,000
05	Apartment Buildings	7	2	378,000
35	Condominiums			
06	Churches			
07	Garages, Private		32	392,900
08	Garages, Public		3	4,700,000
09	Gasoline Service Stations		7	502,000
10	Hospitals			
11	Hotels			
12	Manufacturing Buildings		3	584,400
13	Office Buildings		9	13,748,500
14	Public Administration Buildings		2	295,000
15	Public Utilities Buildings			
16	Retail Stores	44	7	9,010,000
17	Restaurants		2	208,000
18	School Buildings		14	6,413,600
19	Signs		140	780,096
20	Swimming Pools - Private		88	1,314,500
21	Theater Buildings			
22	Warehouses		2	103,000
23	Miscellaneous Buildings and Structures		416	5,154,741
24	Prefabricated Houses			
25	Solar Heaters			
26	Temporary Structures		8	226,175
	Additions - Commercial and Manufacturing		21	3,550,601
	Additions - Housing-Additional Units	1	1	50,000
	Additions - Residential with units removed			
	Additions - Housing-No Additional Units		464	15,017,417
	Additions - Miscellaneous Buildings and Pools		9	271,800
	Alterations - Commercial and Manufacturing		770	80,564,619
	Alterations - Miscellaneous Buildings and Pools		210	4,161,998
	Alterations - Housing-Additional Units	1	1	15,000
	Alterations - Residential with units removed	(2)	2	50,000
	Alterations - Housing-No Additional Units		4,918	55,094,195
	Relocations	1	15	677,823
60	Grading		252	222,895
61	Certificates of Occupancy for Use of Land		12	
00	Special Permits - No Valuation		55	
	DEMOLITIONS*	(85)	139	-729,269*
	JURISDICTIONAL SUB-TOTAL		7,738	$234,298,760
	Construction within City - not under Department permits: NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		7,738	$234,298,760

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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R0067575

VOL 24

0500

SUMMARY

RECORD OF FAMILIES

Single Family Dwellings	127	Additions/Alterations Removing Units*	(2)
Duplexes	4	Apt. Units Converted to Condominiums*	6
Apartment Units	51	Housing Units Completed*	204
Condominiums			
TOTAL DWELLINGS	182		
Additions Making Additional Units	1		
Alterations Making Additional Units	1		
Relocations	1		
GRAND TOTAL OF FAMILIES	185		

	Permits Issued	Estimated Valuation
June 1995	7,738	$234,298,760
June 1994	10,210	256,341,134
January - June 1995	40,399	1,301,111,805
January - June 1994	48,901	1,129,351,053

PERMITS AND VALUATION RECAP
Permits Issued

	Building	Plumbing	Electrical	H &R	Elevators	Boilers	Estimated Valuation
January	5,169	821	1,154	560	38	13	164,501,383
February	6,171	1,001	1,323	637	86	24	195,865,126
March	7,246	1,276	1,661	683	71	41	252,134,592
April	6,495	1,112	1,467	603	53	26	194,809,173
May	7,580	1,272	1,512	696	63	33	259,502,771
June	7,738	1,250	1,627	670	61	25	234,298,760
TOTALS	40,399	6,732	8,744	3,849	372	162	1,301,111,805

*Not included in "Grand Total of Families" Figure

XB&S AS-20 R. 01/92

R0067576

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4869
ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
ARTHUR C. DEVINE
EXECUTIVE OFFICER

July 26, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUILDING PERMITS W/VALUATIONS IN EXCESS OF 1 MILLION DOLLARS - JUNE 1995

During the month of June 1995, the Department of Building and Safety issued 21 building permits with valuations in excess of $1,000,000. The highest of these was a $12,000,000 permit issued for a sound stage and support facilities at 4200 Radford Avenue . These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in Room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #:	WL28155
Date:	06/01/95
Valuation:	3,100,000
Structure:	Single Family Dwlg
Bldg. Type:	5n
Use Code:	01
Type Permit:	3
No. Stories:	2
Address:	47 Beverly Park Circle
Owner:	47 Beverly Ventura

Permit #:	VN81523
Date:	06/01/95
Valuation:	3,300,000
Structure:	School
Bldg. Type:	
Use Code:	18
Type Permit:	1
No. Stories:	3
Address:	461 N. La Brea
Owner:	Bais Yakov School

Permit #:	LA36200
Date:	06/01/95
Valuation:	1,250,000
Structure:	Office
Bldg. Type:	1
Use Code:	13
Type Permit:	3
No. Stories:	56
Address:	333 S. Hope St
Owner:	MS Mgmt Svcs

Permit #:	LA36201
Date:	06/01/95
Valuation:	1,100,000
Structure:	Office
Bldg. Type:	1
Use Code:	13
Type Permit:	3
No. Stories:	56
Address:	333 S. Hope St
Owner:	MS Mgmt Svcs

Permit #:	LA36242
Date:	06/01/95
Valuation:	1,150,000
Structure:	Office
Bldg. Type:	1
Use Code:	13
Type Permit:	3
No. Stories:	
Address:	8433 Fallbrook Av
Owner:	Coast Federal Bank

Permit #:	LA36286
Date:	06/02/95
Valuation:	4,500,000
Structure:	Office
Bldg. Type:	1
Use Code:	13
Type Permit:	3
No. Stories:	11
Address:	11150 Olympic Bl
Owner:	TCW Realty Ford VA

Permit #:	LA36406
Date:	06/06/95
Valuation:	1,350,000
Structure:	33-Unit Apartment
Bldg. Type:	5-1
Use Code:	5
Type Permit:	2
No. Stories:	2
Address:	9075 Cedros Av
Owner:	Joe Hetherington

Permit #:	VN82037
Date:	06/08/95
Valuation:	1,200,000
Structure:	54-Unit Apartment
Bldg. Type:	1
Use Code:	5
Type Permit:	3
No. Stories:	4
Address:	14056 Valleyheart Dr
Owner:	ValleyHeart Assoc.

Permit #:	LA36564
Date:	06/08/95
Valuation:	1,000,000
Structure:	Medical Office
Bldg. Type:	1
Use Code:	13
Type Permit:	3
No. Stories:	1
Address:	18370 Burbank Bl
Owner:	Tarzana M.O.B. Prt.

Permit #:	LA36568
Date:	06/08/95
Valuation:	1,400,000
Structure:	Condo
Bldg. Type:	5-1
Use Code:	35
Type Permit:	3
No. Stories:	2
Address:	15207 Magnolia Bl
Owner:	Western Prop. Mgmt

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Permit #:	LA36640
Date:	06/12/95
Valuation:	4,330,000
Structure:	Parking Structure
Bldg. Type:	2
Use Code:	8
Type Permit:	1
No. Stories:	1
Address:	7901 S. Vermont Av
Owner:	Crenshaw Christian Ctr

Permit #:	HO38790
Date:	06/15/95
Valuation:	1,000,000
Structure:	Telephone Co. Equip.
Bldg. Type:	I
Use Code:	23
Type Permit:	I
No. Stories:	4 + Basement
Address:	1900 S Grand Ave
Owner:	Pacific Bell

Permit #:	LA36956
Date:	06/16/95
Valuation:	1,399,000
Structure:	Retail Store
Bldg. Type:	1
Use Code:	16
Type Permit:	1
No. Stories:	1
Address:	6060 N Figueroa St
Owner:	Woodrow De Witt

Permit #:	LA36963
Date:	06/16/95
Valuation:	3,000,000
Structure:	Office Bldg/Parking
Bldg. Type:	3
Use Code:	13/08
Type Permit:	3
No. Stories:	12
Address:	11835 W Olympic Bl
Owner:	BBR Venture 1

Permit #:	LA37061
Date:	06/19/95
Valuation:	1,000,000
Structure:	Retail
Bldg. Type:	5N
Use Code:	16
Type Permit:	4
No. Stories:	1
Address:	10813-21 Zelzah Ave
Owner:	AMB Institutional

Permit #:	LA37116
Date:	06/20/95
Valuation:	12,000,000
Structure:	Snd Stages/Spt Fac.
Bldg. Type:	
Use Code:	13
Type Permit:	1
No. Stories:	4
Address:	4200 Radford Ave
Owner:	CBS Studio Center

0503

OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES

JULY 1995

BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	117	117	30,253,300
02	Duplexes	6	3	546,000
03	Airport Buildings			
04	Amusement Buildings			
05	Apartment Buildings	129	4	7,798,000
35	Condominiums			
06	Churches		3	242,000
07	Garages, Private		57	621,960
08	Garages, Public			
09	Gasoline Service Stations		2	161,300
10	Hospitals			
11	Hotels			
12	Manufacturing Buildings		6	1,228,800
13	Office Buildings		5	1,848,000
14	Public Administration Buildings			
15	Public Utilities Buildings			
16	Retail Stores		5	5,088,000
17	Restaurants		1	178,000
18	School Buildings		5	2,292,201
19	Signs		131	976,355
20	Swimming Pools - Private		96	1,458,902
21	Theater Buildings		1	880,000
22	Warehouses		1	164,500
23	Miscellaneous Buildings and Structures		311	2,766,610
24	Prefabricated Houses			
25	Solar Heaters			
26	Temporary Structures		5	143,000
	Additions - Commercial and Manufacturing		17	1,459,500
	Additions - Housing-Additional Units	5	4	427,000
	Additions - Residential with units removed	-1	1	27,000
	Additions - Housing-No Additional Units		423	15,422,841
	Additions - Miscellaneous Buildings and Pools		5	142,940
	Alterations - Commercial and Manufacturing	-3	619	54,177,411
	Alterations - Miscellaneous Buildings and Pools		155	2,103,009
	Alterations - Housing-Additional Units	1	1	148,000
	Alterations - Residential with units removed	-4	3	16,700
	Alterations - Housing-No Additional Units		4,275	42,480,019
	Relocations		5	224,116
60	Grading		204	389,511
61	Certificates of Occupancy for Use of Land		5	
00	Special Permits - No Valuation		250	
	DEMOLITIONS*	-245	182	1,926,315
	JURISDICTIONAL SUB-TOTAL		6,902	173,664,975
	Construction within City - not under Department permits: NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		6,902	173,664,975

*Permits issued for demolitions are included in Grand Total Permits.

[illegible] are exluded in Grand Total Units and Est. Valuation.

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R0067580

SUMMARY

RECORD OF FAMILIES

Single Family Dwellings	117	Additions/Alterations Removing Units*	-8
Duplexes	6	Apt. Units Converted to Condominiums*	35
Apartment Units	129	Housing Units Completed*	296
Condominiums			
TOTAL DWELLINGS	252		
Additions Making Additional Units	5		
Alterations Making Additional Units	1		
Relocations			
GRAND TOTAL OF FAMILIES	**258**		

	Permits Issued	Estimated Valuation
July 1995	6,902	173,664,975
July 1994	9,356	254,947,770
January - July 1995	47,301	1,474,776,780
January - July 1994	58,257	1,364,318,823

PERMITS AND VALUATION RECAP

Permits Issued

	Building	Plumbing	Electrical	H & R	Elevators	Boilers	Estimated Valuation
January	5,169	821	1,154	560	38	13	164,501,383
February	6,171	1,001	1,323	637	86	24	195,865,126
March	7,246	1,276	1,661	683	71	41	252,134,592
April	6,495	1,112	1,467	603	53	26	194,809,173
May	7,580	1,272	1,512	696	63	33	259,502,771
June	7,738	1,250	1,627	670	61	25	234,298,760
July	6,902	3,256	1,429	650	68	28	173,664,975
TOTALS	47,301	9,988	10,173	4,499	440	190	1,474,776,780

*Not included in "Grand Total of Families" Figure

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Permit #:	LA37328
Date:	06/23/95
Valuation:	1,800,000
Structure:	Retail/Senior Housing
Bldg. Type:	31
Use Code:	05/16
Type Permit:	1
No. Stories:	4
Address:	5169 Hollywood Bl
Owner:	5169 Limited Partnership

Permit #:	LA37353
Date:	06/23/95
Valuation:	1,000,000
Structure:	Apt/Garage
Bldg. Type:	
Use Code:	05/08
Type Permit:	3
No. Stories:	3
Address:	11611 Blucher Ave
Owner:	C & H Const Co Inc

Permit #:	LA37365
Date:	06/26/95
Valuation:	1,520,000
Structure:	Office
Bldg. Type:	
Use Code:	13
Type Permit:	3
No. Stories:	
Address:	8433 Fallbrook Ave
Owner:	Coast Federal Bank

Permit #:	VN83566
Date:	06/27/95
Valuation:	2,300,000
Structure:	36 Unit Condo
Bldg. Type:	51
Use Code:	35
Type Permit:	3
No. Stories:	3
Address:	16940 Chatsworth St
Owner:	Marc Gelman

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CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4869
ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
ARTHUR C. DEVINE
EXECUTIVE OFFICER

August 8, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUILDING PERMITS W/VALUATIONS IN EXCESS OF 1 MILLION DOLLARS - JULY 1995

During the month of July 1995, the Department of Building and Safety issued 12 building permits with valuations in excess of $1,000,000. The highest of these was a $15,500,000 permit issued for a Getty Center Museum at 1200 Getty Center Museum . These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in Room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #:	LA37889
Date:	07/05/95
Valuation:	1,090,000
Structure:	12 Unit Apt
Bldg. Type:	1
Use Code:	05
Type Permit:	5N
No. Stories:	2
Address:	4331 Mamoth Ave
Owner:	Sam Malik

Permit #:	LA37944
Date:	07/06/95
Valuation:	15,500,000
Structure:	Getty Center Museum
Bldg. Type:	3
Use Code:	04
Type Permit:	I
No. Stories:	
Address:	1200 Getty Center
Owner:	The J Paul Getty Trust

Permit #:	VN84916
Date:	07/11/95
Valuation:	5,000,000
Structure:	Dormitory
Bldg. Type:	1
Use Code:	11
Type Permit:	3Hr
No. Stories:	04
Address:	7101 W 80Th St
Owner:	Loyola Marymount Univ

Permit #:	LA38335
Date:	07/13/95
Valuation:	1,300,000
Structure:	Retail
Bldg. Type:	3
Use Code:	16
Type Permit:	I
No. Stories:	3
Address:	9600 Pico Bl
Owner:	Hillcrest Promeade

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Permit #:	LA38476
Date:	07/17/95
Valuation:	1,100,000
Structure:	56 Unit Apt
Bldg. Type:	3
Use Code:	05
Type Permit:	5N
No. Stories:	3
Address:	5665 Reseda Bl
Owner:	Tarzana Terrace

Permit #:	HO39686
Date:	07/21/95
Valuation:	1,080,000
Structure:	Office
Bldg. Type:	3
Use Code:	13
Type Permit:	I
No. Stories:	
Address:	3435 Wilshire Bl
Owner:	RReef Corp

Permit #:	VN85978
Date:	07/26/95
Valuation:	2,240,000
Structure:	32 Unit Apt
Bldg. Type:	1
Use Code:	05
Type Permit:	
No. Stories:	4
Address:	1315 W 7Th St
Owner:	Ajit Investment Co Inc

Permit #:	LA38642
Date:	07/20/95
Valuation:	4,060,000
Structure:	Retail
Bldg. Type:	1
Use Code:	16
Type Permit:	
No. Stories:	1
Address:	21601 Victory Bl
Owner:	Dave/ Best Buy

Permit #:	LA39171
Date:	07/25/95
Valuation:	1,780,000
Structure:	Theater
Bldg. Type:	1
Use Code:	21
Type Permit:	I
No. Stories:	3
Address:	14424 Milbank St
Owner:	Steve Greitzman

Permit #:	LA39327
Date:	07/27/95
Valuation:	2,000,000
Structure:	Child Day Care
Bldg. Type:	1
Use Code:	18
Type Permit:	V-1 HR
No. Stories:	2
Address:	5620 Delongpre Ave
Owner:	Assistance League

OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES
AUGUST 1995
BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	111	111	28,146,000
02	Duplexes			
03	Airport Buildings			
04	Amusement Buildings			
05	Apartment Buildings	81	3	7,262,000
35	Condominiums			
06	Churches			
07	Garages, Private		60	754,200
08	Garages, Public		2	65,000
09	Gasoline Service Stations		6	533,900
10	Hospitals			
11	Hotels			
12	Manufacturing Buildings		1	4,000
13	Office Buildings		4	2,643,000
14	Public Administration Buildings		1	8,000
15	Public Utilities Buildings			
16	Retail Stores		10	8,885,000
17	Restaurants		5	628,000
18	School Buildings		1	1,750,000
19	Signs		143	724,763
20	Swimming Pools - Private		101	1,621,104
21	Theater Buildings			
22	Warehouses		2	51,000
23	Miscellaneous Buildings and Structures		355	7,299,050
24	Prefabricated Houses			
25	Solar Heaters		2	10,000
26	Temporary Structures		7	74,701
	Additions - Commercial and Manufacturing		17	6,117,400
	Additions - Housing-Additional Units	1	1	299,000
	Additions - Residential with units removed			
	Additions - Housing-No Additional Units		415	15,612,703
	Additions - Miscellaneous Buildings and Pools		3	87,000
	Alterations - Commercial and Manufacturing	-6	807	68,823,249
	Alterations - Miscellaneous Buildings and Pools		177	2,547,300
	Alterations - Housing-Additional Units	7	6	175,500
	Alterations - Residential with units removed			
	Alterations - Housing-No Additional Units		3,883	36,644,922
	Relocations		1	3,600
60	Grading		272	1,810,784
61	Certificates of Occupancy for Use of Land		5	
00	Special Permits - No Valuation		86	
	DEMOLITIONS*	-90	163	1,950,191
	JURISDICTIONAL SUB-TOTAL		6,650	192,581,176
	Construction within City - not under Department permits: NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		6,650	192,581,176

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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VOL 24

0510

SUMMARY

RECORD OF FAMILIES

Single Family Dwellings	111	Additions/Alterations Removing Units*	-6
Duplexes		Apt. Units Converted to Condominiums*	97
Apartment Units	81	Housing Units Completed*	501
Condominiums			
TOTAL DWELLINGS	192		
Additions Making Additional Units	1		
Alterations Making Additional Units	7		
Relocations			
GRAND TOTAL OF FAMILIES	200		

	Permits Issued	Estimated Valuation
August 1995	6,650	192,581,176
August 1994	10,194	330,558,636
January - August 1995	53,951	1,667,357,956
January - August 1994	68,451	1,714,857,459

PERMITS AND VALUATION RECAP

Permits Issued

	Building	Plumbing	Electrical	H & R	Elevators	Boilers	Estimated Valuation
January	5,169	821	1,154	560	38	13	164,501,383
February	6,171	1,001	1,323	637	86	24	195,865,126
March	7,246	1,276	1,661	683	71	41	252,134,592
April	6,495	1,112	1,467	603	53	26	194,809,173
May	7,580	1,272	1,512	696	63	33	259,502,771
June	7,738	1,250	1,627	670	61	25	234,298,760
July	6,902	3,256	1,429	650	68	28	173,664,975
August	6,650	NOT AVAIL	NOT AVAIL	NOT AVAIL	75	19	192,581,176
TOTALS	53,951	9,988	10,173	4,499	515	209	1,667,357,956

Not included in "Grand Total of Families" Figure

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Permit #:	LA39334
Date:	07/27/95
Valuation:	1,500,000
Structure:	28 Unit Condo
Bldg. Type:	3
Use Code:	35
Type Permit:	
No. Stories:	
Address:	20155 Keswick St
Owner:	Keswick Homeowner

Permit #:	VN86063
Date:	07/27/95
Valuation:	4,140,000
Structure:	80 Unit Apt
Bldg. Type:	1
Use Code:	05
Type Permit:	%-1
No. Stories:	3
Address:	9907 White Oak Ave
Owner:	Limited Partnership

Permit #:
Date:
Valuation:
Structure:
Bldg. Type:
Use Code:
Type Permit:
No. Stories:
Address:
Owner:

Permit #:
Date:
Valuation:
Structure:
Bldg. Type:
Use Code:
Type Permit:
No. Stories:
Address:
Owner:

Permit #:
Date:
Valuation:
Structure:
Bldg. Type:
Use Code:
Type Permit:
No. Stories:
Address:
Owner:

Permit #:
Date:
Valuation:
Structure:
Bldg. Type:
Use Code:
Type Permit:
No. Stories:
Address:
Owner:

Permit #:
Date:
Valuation:
Structure:
Bldg. Type:
Use Code:
Type Permit:
No. Stories:

Permit #:
Date:
Valuation:
Structure:
Bldg. Type:
Use Code:
Type Permit:
No. Stories:

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4868
ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
ARTHUR C. DEVINE
EXECUTIVE OFFICER

September 8, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUILDING PERMITS W/VALUATIONS IN EXCESS OF 1 MILLION DOLLARS - AUGUST 1995

During the month of August 1995, the Department of Building and Safety issued 17 building permits with valuations in excess of $1,000,000. The highest of these was a $4,490,000 permit issued for a 46-Unit Apartment Building at 1801 W. Adams Boulevard . These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in Room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #:	LA39711
Date:	8/3/95
Valuation:	2,700,000
Structure:	Warehouse
Bldg. Type:	II-N
Use Code:	22
Type Permit:	3
No. Stories:	11
Address:	15800 Roscoe Bl
Owner:	Anheuser-Busch

Permit #:	LA39714
Date:	8/3/95
Valuation:	18,500,000
Structure:	Office/Parking
Bldg. Type:	-
Use Code:	13
Type Permit:	-
No. Stories:	27
Address:	200 N Spring St
Owner:	City of Los Angeles

Permit #:	LA39751
Date:	8/3/95
Valuation:	3,460,000
Structure:	Market
Bldg. Type:	III-N
Use Code:	16
Type Permit:	1
No. Stories:	1
Address:	8530 Tobias Av
Owner:	Panorama Towne Ctr

Permit #:	LA39819
Date:	8/7/95
Valuation:	2,060,000
Structure:	Office
Bldg. Type:	VN
Use Code:	13
Type Permit:	1
No. Stories:	1
Address:	5401 Crenshaw Bl
Owner:	5401 Assoc. L P

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Permit #:	LA39835
Date:	8/7/95
Valuation:	1,000,000
Structure:	Telephone Switching
Bldg. Type:	-
Use Code:	16
Type Permit:	3
No. Stories:	-
Address:	8075 Melrose Av
Owner:	Pacific Bell

Permit #:	LA39859
Date:	8/7/95
Valuation:	1,750,000
Structure:	School
Bldg. Type:	III-N
Use Code:	18
Type Permit:	1
No. Stories:	2
Address:	19850 Devonshire St
Owner:	N/A

Permit #:	LA40068
Date:	8/10/95
Valuation:	3,600,000
Structure:	Student Hall
Bldg. Type:	II-FR
Use Code:	18
Type Permit:	4
No. Stories:	4
Address:	7101 W 80th St
Owner:	Loyola Marymount Unv.

Permit #:	LA40181
Date:	8/11/95
Valuation:	1,870,000
Structure:	Classroom, Labs
Bldg. Type:	V-1
Use Code:	18
Type Permit:	1
No. Stories:	3
Address:	4533 Laurel Cyn Bl
Owner:	Campbell Hall

Permit #:	LA40396
Date:	8/17/95
Valuation:	1,920,000
Structure:	25 unit apt
Bldg. Type:	V1-HR
Use Code:	05
Type Permit:	1
No. Stories:	3
Address:	345 4th Av
Owner:	Venice Housing

Permit #:	LA40413
Date:	8/17/95
Valuation:	1,450,000
Structure:	Market
Bldg. Type:	III-N
Use Code:	16
Type Permit:	3
No. Stories:	2
Address:	10309 Olympic Bl
Owner:	Ralphs Grocery

0513

Permit #:	LA40545
Date:	8/21/95
Valuation:	1,180,000
Structure:	Office/Retail
Bldg. Type:	I
Use Code:	13/16
Type Permit:	3
No. Stories:	28
Address:	785 N Vignes
Owner:	So Cal RTD

Permit #:	VN87890
Date:	8/24/95
Valuation:	1,000,000
Structure:	Retail
Bldg. Type:	I
Use Code:	16
Type Permit:	3
No. Stories:	-
Address:	14006 Riverside Dr
Owner:	City Freeholds USA

Permit #:	WV30290
Date:	8/28/95
Valuation:	1,170,000
Structure:	Office
Bldg. Type:	II
Use Code:	13
Type Permit:	3
No. Stories:	4
Address:	12020 Chandler Bl
Owner:	The Lewis Co

Permit #:	VN87728
Date:	8/22/95
Valuation:	4,490,000
Structure:	46 unit Apt
Bldg. Type:	VI
Use Code:	05
Type Permit:	1
No. Stories:	3
Address:	1801 W Adams Bl
Owner:	Inderdenominational

Permit #:	VN87902
Date:	8/24/95
Valuation:	2,590,000
Structure:	Retail
Bldg. Type:	-
Use Code:	16
Type Permit:	1
No. Stories:	1
Address:	9301 Tampa Av
Owner:	Sears

Permit #:	WV30375
Date:	8/30/95
Valuation:	1,080,000
Structure:	Office
Bldg. Type:	I
Use Code:	13
Type Permit:	3
No. Stories:	17
Address:	6380 Wilshire Bl
Owner:	Wilshire CTR

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Permit #	VN88288
Date:	8/28/95
Valuation:	2,650,000
Structure:	Social Hall
Bldg. Type:	VII
Use Code:	23
Type Permit:	1
No. Stories:	2
Address:	714 Alpine St
Owner:	St. Anthony's Church

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R0067591

OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES

SEPTEMBER 1995

BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	55	55	15,662,000
02	Duplexes	4	2	426,000
03	Airport Buildings			
04	Amusement Buildings			
05	Apartment Buildings	19	2	1,597,000
35	Condominiums			
06	Churches			
07	Garages, Private		43	473,600
08	Garages, Public			
09	Gasoline Service Stations		5	3,183,000
10	Hospitals		1	201,000
11	Hotels			
12	Manufacturing Buildings		3	910,000
13	Office Buildings		6	1.943,000
14	Public Administration Buildings			
15	Public Utilities Buildings			
16	Retail Stores		2	1,724,000
17	Restaurants		3	388,000
18	School Buildings		2	1,228,000
19	Signs		147	893,392
20	Swimming Pools - Private		50	685,201
21	Theater Buildings			
22	Warehouses		5	1,046,800
23	Miscellaneous Buildings and Structures		256	3,855,926
24	Prefabricated Houses			
25	Solar Heaters			
26	Temporary Structures		9	189,800
	Additions - Commercial and Manufacturing		13	1,601,701
	Additions - Housing-Additional Units	2	2	162,000
	Additions - Residential with units removed			
	Additions - Housing-No Additional Units		358	13,926,892
	Additions - Miscellaneous Buildings and Pools		4	64,000
	Alterations - Commercial and Manufacturing	-1	612	39,845,422
	Alterations - Miscellaneous Buildings and Pools		146	2,589,492
	Alterations - Housing-Additional Units	1	1	10,000
	Alterations - Residential with units removed	-28	6	1,262,000
	Alterations - Housing-No Additional Units		3,100	33,719,395
	Relocations		4	306,500
60	Grading		201	183,048
61	Certificates of Occupancy for Use of Land		11	
00	Special Permits - No Valuation		159	
	DEMOLITIONS*	-39	79	878,116
	JURISDICTIONAL SUB-TOTAL		5,287	128,077,169
	Construction within City - not under Department permits: NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		5,287	128,077,169

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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R0067592

SUMMARY

RECORD OF FAMILIES

Single Family Dwellings	55	Additions/Alterations Removing Units*	-29
Duplexes	4	Apt. Units Converted to Condominiums*	18
Apartment Units	19	Housing Units Completed*	306
Condominiums			
TOTAL DWELLINGS	78		
Additions Making Additional Units	2		
Alterations Making Additional Units	1		
Relocations			
GRAND TOTAL OF FAMILIES	81		

	Permits Issued	Estimated Valuation
September 1995	5,287	128,077,169
September 1994	4,038	186,724,228
January - September 1995	59,238	1,795,435,125
January - September 1994	77,765	2,003,036,712

PERMITS AND VALUATION RECAP
Permits Issued

	Building	Plumbing	Electrical	H & R	Elevators	Boilers	Estimated Valuation
January	5,169	821	1,154	560	38	13	164,501,383
February	6,171	1,001	1,323	637	86	24	195,865,126
March	7,246	1,276	1,661	683	71	41	252,134,592
April	6,495	1,112	1,467	603	53	26	194,809,173
May	7,580	1,272	1,512	696	63	33	259,502,771
June	7,738	1,250	1,627	670	61	25	234,298,760
July	6,902	3,256	1,429	650	68	28	173,664,975
August	6,650	1,303	1,630	766	75	19	192,581,176
September	5,287				46	28	128,077,169
TOTALS	59,238	11,291	11,803	5,265	561	237	1,795,435,125

*Not included in "Grand Total of Families" Figure

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R0067593

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4869
ARTHUR J. JOHNSON, JR
GENERAL MANAGER
ARTHUR C. DEVINE
EXECUTIVE OFFICER

October 6, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUILDING PERMITS W/VALUATIONS IN EXCESS OF 1 MILLION DOLLARS - SEPTEMBER 1995

During the month of September 1995, the Department of Building and Safety issued 12 building permits with valuations in excess of $1,000,000. The highest of these were two permits for $1,590,000. They were issued for an auto retail and repair store located at 6065 Lankershim Boulevard and a condominum complex at 4487 Colbath Avenue. These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in Room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #:	HO40539
Date:	09/01/95
Valuation:	1,110,000
Structure:	School
Bldg. Type:	V
Use Code:	18
Type Permit:	1
No. Stories:	3
Address:	5760 6th Av
Owner:	Marcus Garvey School

Permit #:	LA41297
Date:	09/06/95
Valuation:	1,420,000
Structure:	Auto Retail/Repair
Bldg. Type:	2
Use Code:	09
Type Permit:	1
No. Stories:	1
Address:	8521 Van Nuys Bl
Owner:	Panorama Towne Cntr

Permit #:	LA41353
Date:	09/07/95
Valuation:	1,000,000
Structure:	Office
Bldg. Type:	
Use Code:	13
Type Permit:	3
No. Stories:	
Address:	16150 Sherman Wy
Owner:	LA Police Credit Union

Permit #:	VN88847
Date:	09/11/95
Valuation:	1,590,000
Structure:	Condo
Bldg. Type:	5
Use Code:	35
Type Permit:	3
No. Stories:	3
Address:	4487 Colbath Av
Owner:	Carlyle Tower Condo

Permit #:	LA41591
Date:	09/12/95
Valuation:	1,139,000
Structure:	Retail
Bldg. Type:	5-N
Use Code:	16
Type Permit:	1
No. Stories:	1
Address:	11130 Balboa Bl
Owner:	Richard De Lano

Permit #:	VN87144
Date:	09/14/95
Valuation:	1,280,000
Structure:	Warehouse
Bldg. Type:	3-N
Use Code:	22
Type Permit:	1
No. Stories:	2
Address:	667 Santa Fe Av
Owner:	Fred Kart

Permit #:	LA42251
Date:	09/26/95
Valuation:	1,450,000
Structure:	Office
Bldg. Type:	5
Use Code:	3
Type Permit:	13
No. Stories:	3
Address:	14925 Ventura Bl
Owner:	Saeed Matloob

Permit #:	LA41623
Date:	09/12/95
Valuation:	1,000,000
Structure:	27-Unit Apartment
Bldg. Type:	5
Use Code:	05
Type Permit:	3
No. Stories:	
Address:	7440 Alabama Av
Owner:	LA Family Housing

Permit #:	WL31786
Date:	09/18/95
Valuation:	1,400,000
Structure:	Condo
Bldg. Type:	
Use Code:	35
Type Permit:	3
No. Stories:	
Address:	14245 Dickens St
Owner:	Dickens House Condo

Permit #:	LA42260
Date:	09/26/95
Valuation:	1,590,000
Structure:	Retail/Auto Repair
Bldg. Type:	2-N
Use Code:	9
Type Permit:	1
No. Stories:	1
Address:	6065 Lankershim Bl
Owner:	The Pep Boys

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Permit #:	HO40928
Date:	09/26/95
Valuation:	1,000,000
Structure:	Terminal
Bldg. Type:	
Use Code:	14
Type Permit:	3
No. Stories:	
Address:	220 Swinford St
Owner:	Port of Los Angeles

Permit #:	LA42414
Date:	09/28/95
Valuation:	1,060,000
Structure:	Retail
Bldg. Type:	5-N
Use Code:	16
Type Permit:	1
No. Stories:	1
Address:	8520 Vesper Av
Owner:	Panorama Towne Cntr

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OFFICE OF ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
DEPARTMENT OF BUILDING AND SAFETY
CITY OF LOS ANGLES
OCTOBER 1995
BUILDING PERMITS CLASSIFIED BY USE OF BUILDING

		Units	Permits Issued	Estimated Valuation
01	Dwellings	36	36	10,765,000
02	Duplexes	6	3	371,000
03	Airport Buildings			
04	Amusement Buildings		1	40,000
05	Apartment Buildings	95	2	8,850,000
35	Condominiums			
06	Churches		2	60,000
07	Garages, Private		35	347,200
08	Garages, Public		1	63,000
09	Gasoline Service Stations		4	190,000
10	Hospitals			
11	Hotels			
12	Manufacturing Buildings		2	12,560
13	Office Buildings		6	516,000
14	Public Administration Buildings			
15	Public Utilities Buildings			
16	Retail Stores		4	959,000
17	Restaurants		2	559,000
18	School Buildings		1	49,000
19	Signs		148	854,720
20	Swimming Pools - Private		69	1,179,300
21	Theater Buildings			
22	Warehouses		3	825,000
23	Miscellaneous Buildings and Structures		271	4,392,448
24	Prefabricated Houses			
25	Solar Heaters			
26	Temporary Structures		7	102,800
	Additions - Commercial and Manufacturing		12	744,000
	Additions - Housing-Additional Units	3	3	203,000
	Additions - Residential with units removed	-1	1	15,000
	Additions - Housing-No Additional Units		322	12,721,500
	Additions - Miscellaneous Buildings and Pools		11	332,300
	Alterations - Commercial and Manufacturing	-1	630	33,373,828
	Alterations - Miscellaneous Buildings and Pools		163	2,572,869
	Alterations - Housing-Additional Units	3	3	118,200
	Alterations - Residential with units removed	-17	6	203,775
	Alterations - Housing-No Additional Units		3,346	47,291,968
	Relocations		4	163,000
60	Grading		213	182,649
61	Certificates of Occupancy for Use of Land		46	
00	Special Permits - No Valuation		328	
	DEMOLITIONS*	42	95	476,588
	JURISDICTIONAL SUB-TOTAL		5,780	128,058,117
	Construction within City - not under Department permits: NON-JURISDICTIONAL SUB-TOTAL			
	TOTAL PERMITS AND VALUATION		5,780	128,058,117

*Permits issued for demolitions are included in Grand Total Permits.
Units and Estimated Valuation for demolitions are exluded in Grand Total Units and Est. Valuation.

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SUMMARY

RECORD OF FAMILIES

Single Family Dwellings	36	Additions/Alterations Removing Units*	-19
Duplexes	6	Apt. Units Converted to Condominiums*	
Apartment Units	95	Housing Units Completed*	121
Condominiums			
TOTAL DWELLINGS	137		
Additions Making Additional Units	3		
Alterations Making Additional Units	3		
Relocations			
GRAND TOTAL OF FAMILIES	[illegible]		

	Permits Issued	Estimated Valuation
October 1995	5,780	128,058,117
October 1994	8,472	118,015,958
January - October 1995	65,018	1,923,493,242
January - October 1994	86,237	2,195,787,389

PERMITS AND VALUATION RECAP
Permits Issued

	Building	Plumbing	Electrical	H & R	Elevators	Boilers	Estimated Valuation
January	5,169	821	1,154	560	38	13	164,501,383
February	6,171	1,001	1,323	637	86	24	195,865,126
March	7,246	1,276	1,661	683	71	41	252,134,592
April	6,495	1,112	1,467	603	53	26	194,809,173
May	7,580	1,272	1,512	696	63	33	259,502,771
June	7,738	1,250	1,627	670	61	25	234,298,760
July	6,902	3,256	1,429	650	68	28	173,664,975
August	6,650	1,303	1,630	766	75	19	192,581,176
September	5,287	1,185	1,558	756	46	28	128,077,169
October	5,780	NOT AVAIL	NOT AVAIL	NOT AVAIL	47	16	128,058,117
TOTALS	65,018	12,476	13,361	6,021	608	253	1,923,493,242

*Not included in "Grand Total of Families" Figure

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R0067598

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4869
ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
ARTHUR C. DEVINE
EXECUTIVE OFFICER

November 7, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUILDING PERMITS W/VALUATIONS IN EXCESS OF 1 MILLION DOLLARS - OCTOBER 1995

During the month of October 1995, the Department of Building and Safety issued 9 building permits with valuations in excess of $1,000,000. The highest of these was a $6,160,000 permit issued for a 79 Unit Apartment Building at 960 W. 62nd Place . These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in Room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #:	LA42960
Date:	10/10/95
Valuation:	2,000,000
Structure:	Office/Lab
Bldg. Type:	III
Use Code:	13
Type Permit:	3
No. Stories:	2
Address:	2250 Alcazar St.
Owner:	University of South California

Permit #:	WL32467
Date:	10/12/95
Valuation:	1,500,000
Structure:	SFD
Bldg. Type:	VN
Use Code:	01
Type Permit:	1
No. Stories:	2
Address:	1425 Monaco Dr.
Owner:	Nancy Chapman-Trst

Permit #:	HO41275
Date:	10/16/95
Valuation:	2,690,000
Structure:	16 Unit Apt.
Bldg. Type:	V
Use Code:	05
Type Permit:	1
No. Stories:	4
Address:	356 S. Norton Ave
Owner:	Norton Townhouse

Permit #:	WL32581
Date:	10/16/95
Valuation:	1,340,000
Structure:	SFD
Bldg. Type:	VN
Use Code:	01
Type Permit:	1
No. Stories:	2
Address:	50 Beverly Park Wy
Owner:	50 Beverly Ventura

Permit #: LA43234
Date: 10/17/95
Valuation: 1,100,000
Structure: Hotel
Bldg. Type:
Use Code: 11
Type Permit: 3
No. Stories: 4
Address: 1328 S. Hope St.
Owner: El Pueblo CDC

Permit #: VN91159
Date: 10/18/95
Valuation: 6,160,000
Structure: 79 Unit Apt.
Bldg. Type:
Use Code: 05
Type Permit: 1
No. Stories: 3
Address: 960 W. 62nd Pl
Owner: Plaza Vermont

Permit #: LA43767
Date: 10/27/95
Valuation: 2,000,000
Structure: 84 Unit Apt.
Bldg. Type: V
Use Code: 05
Type Permit: 3
No. Stories: 3
Address: 5112 Sepulveda Bl
Owner: Arch Company

Permit #: LA43236
Date: 10/17/95
Valuation: 4,000,000
Structure: Museum
Bldg. Type: I
Use Code: 04
Type Permit: 3
No. Stories:
Address: 1200 Getty Center Dr.
Owner: The J. Paul Getty Trust

Permit #: LA43677
Date: 10/26/95
Valuation: 2,500,000
Structure: 72 Unit Condo
Bldg. Type:
Use Code: 35
Type Permit: 3
No. Stories: 3
Address: 14144 Dickens St.
Owner: Sherman Villas H.O.A.

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CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
400 CITY HALL
LOS ANGELES, CA 90012-4869
ARTHUR J. JOHNSON, JR.
GENERAL MANAGER
ARTHUR C. DEVINE
EXECUTIVE OFFICER

VOL 24

December 7, 1995

TO WHOM IT MAY CONCERN

MONTHLY BUILDING PERMITS W/VALUATIONS IN EXCESS OF 1 MILLION DOLLARS - NOVEMBER 1995

During the month of November 1995, the Department of Building and Safety issued 30 building permits with valuations in excess of $1,000,000. The highest of these was a $12,400,000 permit issued for a parking structure at 10170 Galaxy Way . These permits are listed below. Direct any questions to the General Analysis and Budget Services Section located in Room 424, City Hall, or by calling (213) 847-4100 between the hours of 7:30 am and 4:30 pm, Monday through Friday.

Permit #:	LA44006
Date:	11/02/95
Valuation:	3,000,000
Structure:	Cooling Structure
Bldg. Type:	1
Use Code:	23
Type Permit:	1
No. Stories:	
Address:	750 Eldridge St
Owner:	Port of LA

Permit #:	LA44010
Date:	11/02/95
Valuation:	1,980,000
Structure:	25 Unit Apt
Bldg. Type:	51
Use Code:	05
Type Permit:	1
No. Stories:	2
Address:	14825-33 Parthenia St
Owner:	Parthenia Hsng. Assoc.

Permit #:	LA44058
Date:	11/03/95
Valuation:	5,100,000
Structure:	Airport Term
Bldg. Type:	
Use Code:	03
Type Permit:	4
No. Stories:	3
Address:	700-25 World Way
Owner:	United Airlines

Permit #:	LA44169
Date:	11/07/95
Valuation:	9,250,000
Structure:	Convention Center
Bldg. Type:	
Use Code:	21
Type Permit:	3
No. Stories:	3
Address:	1301 S Figueroa St
Owner:	LA Convention Ctr.

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Permit #:	LA44203
Date:	11/07/95
Valuation:	1,860,000
Structure:	30 Unit Apt
Bldg. Type:	5
Use Code:	05
Type Permit:	1
No. Stories:	3
Address:	101 W 74Th St
Owner:	Casa & Beyond Shelter

Permit #:	LA44334
Date:	11/09/95
Valuation:	1,180,000
Structure:	Maintenance/Repair
Bldg. Type:	5N
Use Code:	23
Type Permit:	1
No. Stories:	1
Address:	614 Terminal Way
Owner:	LA City - Harbor Dept.

Permit #:	LA44349
Date:	11/09/95
Valuation:	2,550,000
Structure:	Gate House
Bldg. Type:	II-Hr
Use Code:	13
Type Permit:	1
No. Stories:	4
Address:	614 Terminal Way
Owner:	LA City - Harbor Dept

Permit #:	LA44312
Date:	11/09/95
Valuation:	1,400,000
Structure:	14 Unit Apt
Bldg. Type:	5 1 HR
Use Code:	05
Type Permit:	1
No. Stories:	2
Address:	4343 Ventura Cyn Ave
Owner:	VC 2, LP / Cal Star Eq.

Permit #:	LA44427
Date:	11/13/95
Valuation:	8,480,000
Structure:	158 Unit Apt
Bldg. Type:	5 1HR
Use Code:	05
Type Permit:	1
No. Stories:	3
Address:	9565 Reseda Bl
Owner:	Perriseam Dev

Permit #:	WL33322
Date:	11/13/95
Valuation:	1,000,000
Structure:	Single Family Dwl.
Bldg. Type:	5N
Use Code:	01
Type Permit:	1
No. Stories:	2
Address:	1354 Bella Oceano V
Owner:	Steve Hellberg

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Permit #: LA44554
Date: 11/15/95
Valuation: 4,700,000
Structure: Medical Office Build
Bldg. Type: 3 1HR
Use Code: 13
Type Permit: 1
No. Stories: 3
Address: 11600 Indian Hills Rd
Owner: Holy Cross Hospital

Permit #: VN926372
Date: 11/15/95
Valuation: 1,680,000
Structure: 21 Unit Apt
Bldg. Type:
Use Code: 05
Type Permit: 1
No. Stories: 2
Address: 11426 Calvert St
Owner: Curry-Riach Co

Permit #: LA44660
Date: 11/17/95
Valuation: 3,000,000
Structure: Med Office
Bldg. Type: 15
Use Code: 13
Type Permit: 1
No. Stories: 3
Address: 10801 Lindley Ave
Owner: Granada Hills Med Office

Permit #: LA44573
Date: 11/15/95
Valuation: 1,660,000
Structure: 30 Unit Apart
Bldg. Type: 5 1 HR
Use Code: 05
Type Permit: 1
No. Stories: 3
Address: 18557 Plummer St
Owner: Northridge Fontana Prp

Permit #: LA44597
Date: 11/16/95
Valuation: 1,260,000
Structure: Apt
Bldg. Type: 51
Use Code: 05
Type Permit: 3
No. Stories:
Address: 14290 Dickens St
Owner: Dickens St HOA

Permit #: LA44691
Date: 11/17/95
Valuation: 5,990,000
Structure: Parking
Bldg. Type: 1
Use Code: 08
Type Permit: 1
No. Stories: 4
Address: 3780 Wilshire Bl
Owner: Wiltern Assoc

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Permit #:	VN92842
Date:	11/17/95
Valuation:	1,080,000
Structure:	Warehouse
Bldg. Type:	3N
Use Code:	22
Type Permit:	1
No. Stories:	1
Address:	2060 E 7Th St
Owner:	Fred Kort

Permit #:	LA44722
Date:	11/20/95
Valuation:	2,200,000
Structure:	Manufacturing
Bldg. Type:	3 1HR
Use Code:	12
Type Permit:	1
No. Stories:	2
Address:	1701 S Santa Fe Ave
Owner:	Superb Partners

Permit #:	LA44740
Date:	11/21/95
Valuation:	1,010,000
Structure:	Retaining Wall
Bldg. Type:	
Use Code:	23
Type Permit:	1
No. Stories:	
Address:	11999 Chalon Rd
Owner:	Sister of St Joseph in CA, Inc

Permit #:	WL33528
Date:	11/17/95
Valuation:	1,000,000
Structure:	Single Family Dwl
Bldg. Type:	5N
Use Code:	01
Type Permit:	1
No. Stories:	
Address:	1844 Chastain Pkwy E
Owner:	Peter & Tina Calahan

Permit #:	LA44738
Date:	11/21/95
Valuation:	12,400,000
Structure:	Parking Structure
Bldg. Type:	1
Use Code:	08
Type Permit:	1
No. Stories:	
Address:	10170 Galaxy Way
Owner:	Twentieth Century Fox

Permit #:	LA44782
Date:	11/21/95
Valuation:	2,450,000
Structure:	Church
Bldg. Type:	3
Use Code:	06
Type Permit:	1
No. Stories:	1
Address:	9200 Owensmouth Av
Owner:	Lainer Investments

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Permit #:	LA44784
Date:	11/21/95
Valuation:	2,000,000
Structure:	Baggage Handling & Claim
Bldg. Type:	1
Use Code:	23
Type Permit:	3
No. Stories:	3
Address:	800 N Alameda St
Owner:	Catellus Dev Corp

Permit #:	LA44816
Date:	11/22/95
Valuation:	2,200,000
Structure:	Furniture Mart
Bldg. Type:	1
Use Code:	16
Type Permit:	3
No. Stories:	12
Address:	1933 S Broadway
Owner:	Prudential Realty

Permit #:	LA44826
Date:	11/22/95
Valuation:	2,600,000
Structure:	Stacker Support Structure
Bldg. Type:	2N
Use Code:	23
Type Permit:	1
No. Stories:	
Address:	750 Eldridge St
Owner:	Port of Los Angeles

Permit #:	LA44827
Date:	11/22/95
Valuation:	4,200,000
Structure:	Reclaim Tunnels
Bldg. Type:	
Use Code:	23
Type Permit:	1
No. Stories:	
Address:	750 Eldridge St
Owner:	Port of Los Angeles

Permit #:	LA44844
Date:	11/22/95
Valuation:	1,500,000
Structure:	Office
Bldg. Type:	1
Use Code:	13
Type Permit:	3
No. Stories:	22
Address:	15260 Ventura Bl
Owner:	The Mc Neil Group

Permit #:	LA44937
Date:	11/28/95
Valuation:	5,100,000
Structure:	Manufacturing
Bldg. Type:	2N
Use Code:	12
Type Permit:	4
No. Stories:	2
Address:	15800 Roscoe Bl
Owner:	Anheuser-Busch

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Permit #:	LA44945
Date:	11/28/95
Valuation:	1,500,000
Structure:	Police Station
Bldg. Type:	2N
Use Code:	14
Type Permit:	3
No. Stories:	4
Address:	7600 Broadway
Owner:	City of LA Contract Admin

Permit #:	LA44945
Date:	11/29/95
Valuation:	1,500,000
Structure:	Market
Bldg. Type:	5I
Use Code:	16
Type Permit:	4
No. Stories:	2
Address:	3800 W. M L King Jr.
Owner:	Maranatha Com. Chrch

VOL 24

0530

California Regional Water Quality Control Board

Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/~rwqcb4

Gray Davis
Governor

May 4, 2000

Ms. Elizabeth Jennings
Senior Staff Counsel
Office of Chief Counsel
State Water Resources Control Board
P. O. Box 100
Sacramento, CA 995812-0100

Dear Ms. Jennings:

ADMINISTRATIVE RECORD OF THE LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD – IN RE: THE CITIES OF BELLFLOWER, ET AL., CITY OF ARCADIA, AND WESTERN STATES PETROLEUM ASSOCIATION (REVIEW OF JANUARY 26, 2000, ACTION OF THE REGIONAL BOARD AND IT EXECUTIVE OFFICER PURSUANT TO ORDER NO. 96-054, PERMIT FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN LOS ANGELES COUNTY [NPDES NO. CAS614001]). [SWRCB/OCC FILES A-1280, A-1280(a) AND A-1280 (b)]

We are transmitting, herein, the pertinent Administrative Record and Administrative Record Index in response to the above named Petitions that are for review before the State Board. Regional Board Counsel Leon submitted an advance copy of the Administrative Record Index to you via e-mail on May 2, 2000.

Please note we reserve the right to introduce additional documents into the Administrative Record, that may have been inadvertently omitted at this time.

Should you have any questions or need more information, please call me at (213) 576 –6654 or Parvaneh Khayat at (213) 576 – 6740, or Regional Board Counsel, Jorge Leon at (916) 657-2428.

Sincerely,

Xavier Swamikarinu
Storm Water Program

Enclosure

cc: (Letter only) See mailing list

R0067607

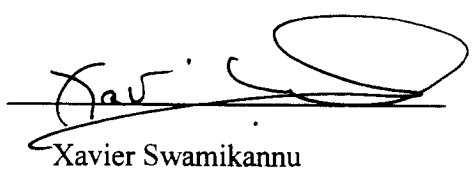
CERTIFICATION

State of California
County of Los Angeles

This is to certify that the enclosed materials, consisting of 14 volumes and 1000+, total pages including exhibits, constitute, to the best of my knowledge, a true and correct copy of the written administrative record and hearing tapes of the California Regional Water Quality Control Board, Los Angeles Region, in the matter of
Cities of Bellflower *et al.*, City of Arcadia, and Western State Petroleum Association

File No. SWRCB/OCC, A-1280, A-1280 (a), A-1280 (b)

Executed at 320 W. 4th Street, Los Angeles, in the County of Los Angeles,
This 4th day of May 2000.



(Name and title) Xavier Swamikannu
Acting Chief - Storm Water Program

Administrative Record: SWRCB/OCC Files A-1280, A-1280(a), A-1280 (b)

VOLUME 01

Doc. No.	Item	Date	Documents
	____	01/26/00	Binder for California Regional Water Quality Control Board, Los Angeles Region, 427th Regular Board Meeting, Including Item 11, SUSMP Mitigation Plans
	____	01/26/00	Agenda for California Regional Water Quality Control Board, Los Angeles Region, 427th Regular Board Meeting, Including Item 11, SUSMP Mitigation Plans
	1	01/26/00	Roll Call
	2	01/26/00	Order of Agenda
	3	01/26/00	Approval of Minutes of the Regular Board Meeting held December 9, 1999; and the Special Board Meeting held December 20, 1999
	4	01/26/00	Report of Nominating Committee and Election Officers
	5	01/26/00	Consideration of 2000 Board Meeting Schedule
	6	01/26/00	Board Member Ex Parte Communication Disclosure
	7	01/26/00	Uncontested Items Calendar
	8	01/26/00	Public Forum
	9	01/26/00	Item 9
	10	01/26/00	Item 10
	11	01/26/00	Item 11- Separate Binder
	12	01/26/00	Item 12
	13	01/26/00	Item 13
	14	01/26/00	Item 14
	15	01/26/00	Item 15
	16	01/26/00	Item 16
	17	01/26/00	Item 17
	18	01/26/00	Item 18
	19	01/26/00	Item 19
	20	01/26/00	Item 20
	21	01/26/00	Item 21

California Regional Water Quality Control Board

Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/~rwqcb4

Gray Davis
Governor

Notice of Public Meeting/Hearing

Serving Coastal Los Angeles & Ventura Counties

Wednesday, January 26, 2000 ***427th Regular Board Meeting***

9:00 a.m.

Meeting Location:

Main Courtroom #3
Richard H. Chambers Court of Appeals Building
125 S. Grand Avenue
Pasadena, California

Item 11 will be heard during the morning session. All enforcement actions will be heard during the afternoon following the lunch break.

Immediately following the Board Meeting, the Regional Board is celebrating their 50th Anniversary at the Doubletree Hotel in Pasadena.
Please contact Robyn Goodman, Exec. Asst. at 213/576-6613 for more information.

Agenda

Submittal of Written Material for Regional Board Consideration

To ensure that the Regional Board has the opportunity to fully study and consider written material, it is necessary to submit 15 copies at least five (5) days before the meeting. This will allow distribution of the material to the Board Members and appropriate staff in advance of the meeting. Pursuant to Title 23 California Code of Regulations Section 648.2, the Regional Board may refuse to admit written testimony into evidence unless the proponent can demonstrate why he or she was unable to submit the material on time or that compliance with the deadline would otherwise create a hardship. If any other party demonstrates prejudice resulting from admission of the written testimony, the Regional Board may refuse to admit it. If you are reading a statement at the meeting, please provide the Executive Assistant with a copy at the meeting.

The Board will recess for a 15-minute break at approximately 10:15 a.m. and recess for lunch at approximately 12:00 p.m. The meeting will reconvene at approximately 1:30 p.m.

Pledge of Allegiance.

1. Roll Call.
   [Robyn Goodman, 213/576-6613].....Board Members Present

2. Order of Agenda.....Board Direction
(The agenda items are numbered for identification purposes only and will not necessarily be considered in this order).

3. Approval of Regular Meeting Minutes of December 9, 1999 and December 20, 1999.
[Robyn Goodman, 576-6613].....Board Action

4. Report of Nominating Committee and Election of Officers.)
(The Nominating Committee will give a report and the Board will conduct an Election of Officers.
[Jorge Leon, 916/657-2428].....Board Action

5. Consideration of 2000 Board Meeting Schedule. *(The Board will be asked to adopt or revise the schedule of Board Meetings being considered for 2000.)*
[Robyn Goodman, 576-6613].....Board Action

6. Board Member Ex Parte Communication Disclosure.
[Jorge Leon, 916/657-2428].....Information/Discussion
(Board Members will identify any discussions they may have had requiring disclosure pursuant to Government Code Section 11430.40.)

7. Uncontested Items Calendar.....Board Action
(Items marked with an asterisk are expected to be routine and noncontroversial. The Board will be asked to approve these items at one time without discussion. If any interested party, Board Member, or staff person requests that an item be removed from the calendar, it will be taken up in the regular agenda order.)

8. Public Forum. (*Any person may address the Board regarding any matter within the Board's jurisdiction. This need not be related to any item on the agenda. Remarks will be limited to three (3) minutes.)*

WASTE DISCHARGE REQUIREMENTS

9. **Consideration of NPDES Permit Requirements – New, Renewal, Rescission**
(After a hearing, the Board will be asked to adopt or rescind the proposed permits for the following facilities.)

New

*9.1 Tosco Marketing Co. (Gasoline Service Stations), Ventura County
[James Tang, 576-6696].....CA0064360

Renewal

*9.2 Wheelabrator Norwalk Energy Co., Inc., Norwalk, [Jose Morales, 576-6665]...CA0059927
*9.3 Camrosa Water District (Camrosa Water Reclamation Facility), Camarillo
[V. Cuevas-Alpuche, 576-6662].....CA0059501

*9.4 Golden West Refining Co., Santa Fe Springs [Jose Morales, 576-6667].....CA0055115

Rescission

*9.5 Certified Alloy Products, Long Beach [Gary Schultz, 576-6665].....CA0059498
*9.6 Walnut Valley Water District, Walnut [Gary Schultz, 576-6665].....CA0062031

10. **Consideration of Non-NPDES Permit Requirements – New, Rescission** (*After a hearing, the Board will be asked to adopt or rescind the proposed requirements for the following facilities.)*

New

*10.1 Carrier Corporation (subsidiary United Technologies, Inc.), City of Industry [Dixon Oriola, 576-6803].....105.0036

Rescission

*10.2 Port of Los Angeles (Berths 118-120), Los Angeles [J. Michael Lyons, 576-6718].....98-053
*10.3 Port of Los Angeles (Berths 216-221), Los Angeles [J. Michael Lyons, 576-6718].....97-120
*10.4 Port of Los Angeles (Berth 191), Los Angeles [J. Michael Lyons, 576-6718].....97-079
*10.5 Port of Los Angeles (Berths 163-164), Los Angeles [J. Michael Lyons, 576-6718].....97-121
*10.6 Port of Los Angeles (Berths 121-126), Los Angeles [J. Michael Lyons, 576-6718].....97-138
*10.7 Port of Los Angeles (Berths 51-55), Los Angeles [J. Michael Lyons, 576-6718].....97-119
*10.8 Port of Los Angeles (Berths 97-102), Los Angeles [J. Michael Lyons, 576-6718].....96-022
*10.9 Port of Los Angeles (Stage 1, Pier 400), Los Angeles [J. Michael Lyons, 576-6718].....93-084
*10.10 B.P. Exploration & Oil Inc. (Refiners Marketing Co.), [David Hung, 576-6723].....94-085

STANDARD URBAN STORMWATER MITIGATION PLANS (SUSMP) PUBLIC HEARING

11. Report from staff and consideration of a Resolution regarding Standard Urban Stormwater Mitigation Plans (SUSMPs) which have been submitted to the Executive Officer pursuant to requirements of the Los Angeles County Municipal Stormwater Permit, Order No. 96-054. (*During a public hearing, staff will provide a report to the Board detailing the Executive Officer's intention to approve the SUSMP's with changes, and ask the Board to adopt a Resolution expressing the Regional Board's expectations regarding SUSMP approval).* [Xavier Swamikannu, 576-6654/Dennis Dickerson, 576-6605].....Board Action

ENFORCEMENT ISSUES

12. Consideration of Complaint No. 99-122 for Administrative Civil Liability (ACL) against Sun Coast Calamari for discharges to Port Hueneme Harbor in violation of sections 13264, 13376, and 13265 of the California Water Code. *(The Board will conduct a public hearing to receive evidence and testimony concerning the ACL issued in the amount of $19,900. Following the public hearing, the Board may take action to affirm, modify, or rescind the ACL.)*
[Tracy Patterson, 576-6661].....Board Action

13. Consideration of Waste Discharge Requirements (WDR) and a Time Schedule Order (TSO) for the County of Los Angeles, Department of Public Works, Trancas Water Pollution Control Plant, Malibu, under section 13263(e) of the California Water Code. *(The Board will conduct a public hearing to receive evidence and testimony concerning the WDR and TSO, requiring repair and upgrade of wastewater treatment facilities. Following the public hearing, the Board will be asked to adopt the WDR and TSO.)*
[Jay Das, 576-6784/Hugh Marley, 576-6687].....Board Action

13.1 Consideration of Waste Discharge Requirements
13.1 Consideration of a Time Schedule Order

14. Consideration of Complaint No. 99-009 for Administrative Civil Liability (ACL) against the Ojai Valley Sanitary District, for effluent violations under sections 13376 and 13377 of the California Water Code. *(The Board will conduct a public hearing to receive evidence and testimony concerning the ACL issued in the amount of $223,000. Following the public hearing, the Board may take action to affirm, modify, or rescind the ACL.)*
[Hugh Marley, 576-6687].....Board Action

15. Consideration of Complaint No. 99-097 for Administrative Civil Liability (ACL) against the Los Angeles Turf Club for a discharge violation under section 13260. *(The Board will conduct a public hearing to receive evidence and testimony concerning the ACL in the amount of $150,000. Following the public hearing, the Board may take action to affirm, modify, or rescind the ACL.)*
[Hugh Marley, 576-6687].....Board Action

OTHER BUSINESS

*16. Consideration of a Resolution in Support of the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000; and the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Act. *(The Board will be asked to adopt a resolution supporting both Bond measures.)* [Marianne Yamaguchi, 576-6614].....Board Action

INFORMATION ITEMS *(Please note that these items are for information only. There will be no voting or formal action taken by the Board on these items.)*

17. Briefing of SB 709. *(Staff will brief the Board on SB 709: The Clean Water Enforcement and Pollution Prevention Act of 1999, became effective on January 1, 2000.)*
[Marleigh Wood, Legal Counsel, 916/653-9317].....Information

18. Board Member Communications.....Information/Discussion
(The Board Members may discuss communications, correspondence, or other items of general interest relating to matters within the Board's jurisdiction.)

19. Executive Officer's Report.....Information/Discussion

20. Closed Session. .....By Board

At any time during the regular session, the Board may adjourn to a closed session to consider litigation, personnel matters, or to deliberate on a decision to be reached based upon evidence introduced in a hearing. Discussion of litigation is within the attorney-client privilege and may be held in closed session. Authority: Government Code Sections 11126(a)(d)(q).

21. Adjournment of Current Meeting. A Special Meeting is scheduled for January 31, 2000, at 1:00 p.m. at the Richard H. Chambers U.S. Court of Appeals Building, 125 S. Grand Avenue, Pasadena. Immediately following the adjournment of today's meeting, the Regional Board will celebrate their 50th Anniversary event at the Doubletree Hotel, Pasadena. Board members will be present during the event but no business will be conducted and no action will take place.

**

A copy of the complete agenda package is available for examination at the Regional Board Office during regular working hours. Questions about specific items on the agenda should be directed to the staff person whose name is listed with the item.

***

Material presented to the Board as part of testimony that is to be made part of the record must be left with the Board. This includes photographs, slides, charts, diagrams, etc. All Board files pertaining to the items on this Agenda are hereby made a part of the record submitted to the Regional Board by staff for its consideration prior to action on the related items.

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Pursuant to Water Code Section 13320, any aggrieved person may file a petition to seek review by the State Water Resources Control Board (SWRCB) of any action taken by the Regional Board. Such petition must be filed within 30 days of the action. Petitions must be sent to SWRCB, P.O. Box 100, 901 P St., Sacramento CA 95812.

*****

Our web site address is www.swrcb.ca.gov/~rwqcb4. The site can also be accessed through the State Water Resources Control Board's web site at www.swrcb.ca.gov., then clicking on "Interesting Links". Information currently available includes the Regional Board's meeting schedule, a list of the Regional Board members, a list of staff and phone numbers arranged by their work unit,, a copy of the Underground Storage Tank database and information relevant to the UST program, linkage to the Santa Monica Bay Restoration Project's home page, and links to other governmental agencies. If you need further information, please contact Jack Price at 213/576-6669.

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A listing of pending water quality certification applications currently on public notice pursuant to Section 401 of the Federal Clean Water Act may be obtained by calling Alex Fu at 213/576-6692.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region
Serving Coastal Los Angeles & Ventura Counties

320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Information: 213/576-6600
FAX: 213/576-6640
Website: www.swrcb.ca.gov/~ rwqcb4

Board Members	City of Residence	Appointment Catagory
H. David Nahai, Chairman	Los Angeles	Water Quality
Marilyn Lyon, Vice Chairperson	Rancho Palos Verdes	Municipal
Susan Cloke	Santa Monica	County Government
Jack J. Coe, Ph.D., P.E.	Camarillo	Water Supply
Fran B. Diamond	Pacific Palisades	Public Member
Robert L. Miller	Hidden Hills	Recreation, Fish & Wildlife
Timothy J. Shaheen	Northridge	Irrigated Agriculture
Vacant		Water Quality
Vacant		Industrial Water Use

Board Staff

Executive Office
Dennis A. Dickerson, Executive Officer
Deborah J. Smith, Assistant Executive Officer, Watershed Management Division
Dennis Dasker, Division Chief, Groundwater Protection Division
Robyn L. Goodman, Executive Assistant
Ronji R. Harris, Secretary
Pat Guokas, Regional Administrative Officer
Sonja Gettel, Associate Governmental Program Analyst
Karen Caeser, Ombudsperson, Public Information Officer
Jorge Leon, Senior Staff Counsel, State Water Resources Control Board, 901 P Street, Sacramento 95814

Groundwater Protection Division

Underground Tanks
David Bacharowski, Chief
Greg Kwey, San Gabriel River
Yue Rong, Ph.D., Los Angeles Coastal
Hubert Kang, Los Angeles River

Enforcement & Remediation
Wendy Phillips, Chief
Arthur G. Heath, Ph.D., SGSFV Cleanup
Rebecca Chou, Ph.D., Site Cleanup I
Rod Nelson, Landfills and Cleanup
Hugh Marley, Enforcement & Special Projects

Watershed Management Division

Watershed Regulatory
Albert Novak, Acting Chief
Winnie D. Jesena, Los Angeles Coastal
Wayne Chiou, Los Angeles Inland
Mark Pumford, Ventura Coastal
Albert Novak, Permit Coordinator

Regional Programs
Jonathan Bishop, Chief
Melinda Becker, Standards & TMDL
Raymond Jay, Nonpoint Source
Jack Price, Information Technology
Shirley Birosik, Watershed Coordinator

Coastal Programs

Santa Monica Bay Restoration Project (SMBRP)
Marianne Yamaguchi, Program Director

Bay Protection & Contaminated Sediments
Michael Lyons

REGIONAL BOARD STAFF MEMBERS

Khalid Abdullah
Leticia Aguilar
Mazhar Ali
Augustine Anijielo
Elsa Aquino
Rosario Aston
Jenny Au
Blythe Ponek-Bacharowski
Magdy L. Baiady
Nhan Bao
Maria Bambico
Dipak Bishnu
Alex Carlos
Chandra Cansler
Tori Chairez
Manjulika Chakrabarti
Jau Ren Chen, Ph.D.
Cathy Chang
John L. Chiang
Paul Cho
Rod Collins
Vilma Correa
A. Veronica Cuevas
Jaydeb Das
Elizabeth Erickson
Lucinda Flores
Kee Fong
Alex Fu
Juanita Gallegos
John Geroch
Su Han
Larry Harlan
Elijah Hill
H. Alan Hsu
Mercedes Hsu
GuiJun Hu
Jay Huang
David Hung
Carolyn Hunter-Horton
Sandra Kelley
Anthony Klecha
David Koo
Ahmad Lamaa
Kwangil Lee, Ph.D.
Wendy Liu
Carolyn Lopez
Yi Lu, Ph.D.
Joseph Luera
Stephanie McDonald
Gwendolyn Monroe
Jose M. Morales
Rebecca Nevarez
Ha D. Nguyen
Gay Norris
Dixon A. Oriola
Cassandra Owens
Himanshu Patel
Tracy Patterson
Martha Pinto
Dan Pirotton
Dan Radulescu
Peter Raftery
Dolores Renick
Theresa L. Rodgers
Thomas Sayles
Gary Schultz
Tom Shih
Thomas Siebels
Ejigu G. Solomon
Xavier Swammikannu, D.Env.
James Tang, Ph.D.
Emily Taylor
Thizar Tintut-Williams
Robert Tom
Weixing Tong, Ph.D.
Arman Toumari
Ana Townsend
Sam Unger
Carlos Urrunaga
Rick Vergets
Cody Walker
Guangyu Wang, Ph.D.
Rueen-Fang Wang, Ph.D.
Andrea Wen
Twila Willis-Hunter
Jimmie Woo
Marian Woo
Tracy Woods
Michael Yang
Wen Yang, Ph.D.
Aniela Zaskodna
Myriam Zech

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 1

SUBJECT: Roll Call

California Regional Water Quality Control Board
Los Angeles Region

January 26, 2000 – 427th Regular Board Meeting
Location: Holiday Inn Pasadena

9:00 a.m.

"The signing of this form is voluntary. .Any person may attend this meeting whether they sign this form or not."

****PLEASE PRINT LEGIBLY****

NAME	ORGANIZATION
NEAL SHAPIRO	City of Santa Monica
ROSS PISTONE	NEWHALL LAND
JANE NELSON	" "
MARK HARTMANN	VALENCIA
OMAIRA FATIMA	Valencia Co.
JERRY DAMKE	VALENCIA CO.
Chuck Heffernan	Valencia Company
Rose Collins	City of Long Beach
Thomas F. Morrison	BILO Foundation
Tony Nisich	city of Santa Clarita
Amelia Rafael	Santa Clarita
BRUCE FENG	City of Burbank.
Michael Fagan	Rose o Kindel
Efrem Joelson	Kaufman and Broad
PAUL HINKSTON	AEI CONSULTANTS
KEN SUSILO	PSOMAS
Scott Pomrehn	Lakewood
KAY TAHIR	WHITTIER / TECS
Charles Gale	BIA/SC
DAVID LENNON	LINDMARK ENGR
Jaggy Gamble	Las Virgenes MWD

R0067618

NAME	ORGANIZATION
Margaret M. Stewart	Garden Club of America
Craig Perkins	City of Santa Monica
STEVE LORISO	RKA CIVIL ENG. (WALNUT, LA PUENTE + LA HABRA)
Hazel Scotto	IWV
KEN CHAN	ASBURY ENV. SERV.
Jeff Endicott	Camp Dresser & McKee
STEVEN BRABAND	BIOSOLUTIONS INC.
RK Brown	Galstarwood HOA
ANDY IturriRIA	PACIFIC CORRUGATED
Anne Lombardo	City of Calabasas-
James Alamillo	Heal the Bay
PHILIP SIMMONS	AVALONBAY COMMUNITIES
Deirdre Sanders	TECS Environmental
Timothy Green	LASGRWshd Council
Wing Tam	City of Los Angeles - Stormwater Management
Conner Everts	Southern CA Watershed Alliance
Yvette Mullenaux	City of Pomona
Don Wolfe	LA County
Bob Warnock	Sierra Club L.A. River T.F.
Gary Lee Moore	City of Los Angeles
Michael Huls	DIAMOND BAR
MARK ABRAMSON	
BILL Pope	
Marcia Hanscom	Wetlands Action Network + Sierra Club
Ron Green	Sempra Energy
ALISTAIR MULLAR	JENSEN PRECAST
Lee Ezzes	HEAL THE BAY
Ross Clark	Coastal Commission
Terri Grant	LA County DPW

R0067619

NAME	ORGANIZATION
Andrea Walmsley	LA city
Julie Haffner	Richards, Watson & Gershon
Richard Lee Campbell	USDA - Natural Resource Conservation Service
BRAD MILLER	CITY OF GLENDORA
TERRY DIPPLE	LAS VIRGENES/MALIBU COG
Vicki Conway	LACSD

NAME	ORGANIZATION

California Regional Water Quality Control Board

Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, CA 90013
Phone (213) 576-6600 FAX (213) 576-6640

Gray Davis
Governor

TO: **Interested Parties**

FROM: **Dennis A. Dickerson**
Executive Officer

DATE: **January 21, 2000**

SUBJECT: **Procedure for Public Comment on January 26, 2000**

On January 26, 2000, the Los Angeles Regional Water Quality Control Board will consider the matter of Standard Urban Storm Water Mitigation Plans. This matter has been preceded by many opportunities for discussion including a formal workshop on August 10, 1999, a Board hearing on September 16, 1999, and many informal discussions with staff. An extensive written record has been received and provided to the Regional Board members.

The Standard Urban Storm Water Mitigation Plan item will be the principal item on the agenda and most of the Board meeting will be dedicated to hearing this matter. Approximately 3 hours will be dedicated to public comment. It is expected that many individuals will attend the meeting on January 26th. To accommodate as many speakers as possible in the limited time available, and to provide for as fair a distribution of the available time, the following protocol has been developed to guide the Regional Board in hearing public comment.

Speaker cards for the Standard Urban Storm Water Mitigation Plan item will be collected prior to the commencement of this item. Speakers should indicate on their card what position they are taking, i.e., in favor of the staff proposal or opposed.

All speakers will be limited to 3 minutes each.

A segment of time for speakers will be set aside immediately following the staff presentation for a statement in favor of or in opposition to the Staff's proposal before the Board. 30 minutes will be available for 10 speakers in favor and 30 minutes and 10 speakers in opposition. Questions from the Board will be held until the conclusion of each 30 minute segment. The Board will accept, at the beginning of the meeting, a list of 10 speakers from those in favor and a list 10 speakers from those in opposition who will use this time.

All other speakers will follow and will be alternated as to their position on the proposal to ensure that equal time is provided to each position.

Speakers will not be allowed to reserve their time for another speaker.

The Board Chair may, at his discretion, and if time permits, allow speakers who have already commented to add to their comments if any issues have arisen during the meeting that they wish to augment their statements to include.

California Regional Water Quality Control Board
Los Angeles Region

January 26, 2000 – 427th Regular Board Meeting
Location: Holiday Inn Pasadena

9:00 a.m.

"The signing of this form is voluntary. .Any person may attend this meeting whether they sign this form or not."

*******PLEASE PRINT LEGIBLY*******

NAME	ORGANIZATION
Jedediah Ireland	City of Agoura Hills
Leslie Mintz	Heal the Bay
Heather Lea Merenda	City of Calabasas
Richard Montevideo	EAC + Permittees
NEIL MILLER	CITY OF MANHATTAN BCH.
Ed Schroder	City of Signal Hill
Jon Claussen	CCA on behalf of Cal Restaurant Assoc.
Tak Fujii	Shea Homes
Ray Pearl	LA/Ventura BIA
Dee Zinke	LA/Ventura BIA
Robert Caldwell	URSGWC
JACQUELINE LAMBRICHTS	FRIENDS OF THE SAN GABRIEL RIVER
Carrie Mattingly	City of Port Hueneme
Sally Coleman	City Of Oxnard
Vicki Musgrove	Ventura Cnty FCD
RON WILKNISS	WSPA
Steve Fleischli	SM Baykeeper
David Beckman	NRDC
Heather Hoecherl	Heal the Bay
Mark Gold	HtB
LISA Boyle	HTB

R0067623

NAME	ORGANIZATION
Andy Lipkis	Tree people
John Kao	CNC Engineering
Nancy Froman	Rothman-Froman Communities
Bonnie Teaford	City of Burbank
Sylvia Glazer	City of Burbank
James Prunty	AGC of California
Richard Watson	Richard Watson's Associates
Arne Anselm	City of Thousand Oaks
Lisa Peskay Malmsten	City of Long Beach
Tom Leaney	City of Long Beach
Richard Harvey	Camrosa Water Dist
Christopher M Smith	Camrosa Water District
Louis Coulter	Aquatic Consulting
Peter Chiu	PLC & Associates
Brad Pierce	ERI
Kevin Wilson	Vernon
Ramy Awad	B&E Engineers
Wayne Kawamoto	Wheelabrator
Wes Lind	W.R. Lind Inc.
Jim Valentine	City of Pasadena
Tom Sloan	City of Burbank
Anne Schubert	City of Simi Valley
Todd Priest	Cal. Grocers. Assoc.
Tom Kennedy	Vernon
Alex Helperin	NRDC
Marvin Sachse	Beash Industries
Mark Smythe	RWQCB-8
Steven Penn	[illegible]
Erin Alvarez	City of Cerritos

R0067624

NAME	ORGANIZATION
LYNN L. JACOBS	VENTURA AFFORDABLE HOMES
Tim Piasky	LACDPW
MARK CHARO	CDS TECHNOLOGIES
BARRY FEBEY	CDS TECHNOLOGIES
[illegible] McGovern	Central Basin MWD
Margaret Clark	City of Rosemead
ARTURO CERVANTES	City of Vernon
Marilyn Leon	AG's office
Rufus C. Young, JR	CITY OF ALHAMBRA
" "	" " COMPTON
" "	" " LOMITA
" "	" " HAWTHORNE
" "	" " TORRANCE
" "	" " SANTA CLARITA
" "	" " INDUSTRY
" "	" " EL SEGUNDO
Eileen Ansari	City of Diamond Bar
Glen Yamamoto	Pacific Bay Homes
Elizabeth Whitman	Montgomery Watson
Wendy West	Montgomery Watson
CHARLES REDDEN	CITY OF COVINA
CARLOS D. SANTOS	CITY OF GLENDALE
Roy Hauser	IT/Emcon
Richard [illegible]	Calif Trout
Sheila Kennedy	JLH&A
Terry Miller	Valencia Co
Ron W. Pietsch	Ocean Imaging
Albert Novak	RWQCB
Jose M. Morales	RWQCB
Richard Burtt	Torrance

R0067625

NAME	ORGANIZATION
Rick Jones	Crosby, Mead, Benton & Assoc.
ARNOLD E. DICKER	CITY OF MALIBU
Donald Kirkland	Jensen Precast
Norman Berenowsky	City of Beverly Hills
Melanie Winter	FOLAR
Alix Gerosa	Heal the Bay
John Hendra	City of Venice
Lilly Acuña	Heal the Bay
Juan Acuña	Heal the Bay
Margo Morman	Resource Conservation District of the Santa Monica Mtns.
Sandy Brown	Sen. Tom Hayden
MORAD SEDRAK	City of LA
Jon Scanlon	Heal the Bay
Mark Smith	Charles Abbott Assoc.
Nicholas Conway	San Gabriel Valley Council of Governments
John Hunter	John L. Hunter & Assoc.
Peter Rajcevich	SR Consultants
Carrie Bluth	Ct. Coastal Comm.
Fred Rubin	LA Co Public Works
Bruce Barrows	Gateway Cities Council of Governments
Dan Rex	City of Pasadena
Juanita Reynolds	USEPA
Alexis Strauss	USEPA
Jeff Scott	SWRCB
Pamela Heimann	BIA-LACC
Dan Cristol	SCAG
Craig O'Rourke	Foster Wheeler Env. Corp.
Mike Kissel	CKE Restaurants
Laura P. Ibarra	City of Monterey Park

R0067626

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 2

SUBJECT: Order of Agenda

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 3

SUBJECT: Approval of Minutes of the Regular Meeting held on December 9, 1999; and the Special Board Meeting held on December 20, 1999.

This item will be submitted with the Addendum package mailed on January 21, 2000.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 4

SUBJECT: Report of Nominating Committee and Election of Officers.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 5

SUBJECT: Consideration of 2000 Board Meeting Schedule.

Los Angeles Regional Water Quality Control Board

2000 Board Meeting Calendar

DRAFT

Calendar for 2000

Unless specified otherwise, all Board Meetings will normally be held at the Richard H. Chambers U.S. Court of Appeals Building, 125 S. Grand Avenue, Pasadena, beginning at 9:00 a.m. The meeting locations are subject to change.

January 31	*(Special Meeting)*
March 2	
April 13	
May 25	Camarillo City Hall, 601 Carmen Dr.
June 29	
July 27	
August 31	
October 12	Camarillo City Hall, 601 Carmen Dr.
November 9	
December 7	
January 25, 2001	

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 6

SUBJECT: Board Member Ex Parte Communication Disclosure.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 7

SUBJECT: Uncontested Items Calendar.

DISCUSSION: Items marked with an asterisk on the agenda notice are expected to be routine and noncontroversial. The Board will be asked to approve these items at one time without discussion. If any interested party, Board member, or staff requests that an item be removed from the calendar, it will be taken up in the order shown.

RECOMMENDATION: Adopt the tentative Orders contained in the uncontested items calendar.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 8

SUBJECT: Public Forum

DISCUSSION: Any member of the public may address the Board relating to any matter within the Board's jurisdiction. This need not be related to any item on the agenda.

OPENING STATEMENT
NPDES - ITEM 9

THIS IS A PUBLIC HEARING TO CONSIDER ADOPTION BY THIS BOARD, IN ACCORDANCE WITH STATE AND FEDERAL LEGISLATION, OF NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS AND WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES TO NAVIGABLE WATERS OR TRIBUTARIES THERETO. THESE DISCHARGES ARE LISTED IN THE MEETING AGENDA. COPIES OF THE AGENDA HAVE BEEN MAILED TO ALL KNOWN INTERESTED PERSONS AND AGENCIES, AND ARE ALSO AVAILABLE AT THE REAR OF THE ROOM NEXT TO THE SIGN-IN SHEET.

A NOTICE OF THIS HEARING AND OF THE BOARD'S INTENT TO PRESCRIBE WASTE DISCHARGE REQUIREMENTS WAS PUBLISHED IN A DAILY NEWSPAPER OF GENERAL CIRCULATION IN THE GEOGRAPHICAL AREA OF THE DISCHARGE, AS PRESCRIBED BY LAW.

COPIES OF THE TENTATIVE ORDERS WERE SENT TO THE DISCHARGERS, THE ENVIRONMENTAL PROTECTION AGENCY, THE STATE WATER RESOURCES CONTROL BOARD, AND OTHER INTERESTED AGENCIES, PERSONS AND ORGANIZATIONS.

THE ORDER OF PRESENTATION OF TESTIMONY AT THIS HEARING WILL BE: BOARD STAFF, PUBLIC AGENCIES, OTHER INTERESTED AGENCIES AND GROUPS, AND THE DISCHARGER. ANYONE SO DESIRING WILL BE HEARD; IF YOU HAVEN'T FILLED OUT ONE OF THE CARDS LOCATED ON THE TABLE AT THE BACK OF THE ROOM, PLEASE RAISE YOUR HAND AND WE'LL GET A CARD TO YOU TO FILL OUT.

IT WILL BE APPRECIATED IF ALL PERSONS APPEARING BEFORE THE BOARD TODAY WILL LEAVE WRITTEN COPIES OF THEIR TESTIMONY. THE BOARD WILL CONSIDER ALL TESTIMONY; HOWEVER, IN THE INTEREST OF TIME, IT IS REQUESTED THAT ALL REPETITIVE AND REDUNDANT STATEMENTS BE AVOIDED.

MR. CHAIRMAN, WILL YOU NOW OPEN THE HEARING, PLEASE?

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 9

SUBJECT: WASTE DISCHARGE REQUIREMENTS CONSIDERATION OF NPDES REQUIREMENTS – NEW, RENEWAL, RESCISSION

DISCUSSION: In accordance with the Federal Clean Water Act, as amended, all waste discharges to navigable waterways, or tributaries thereto, require National Pollutant Discharge Elimination System (NPDES) permits.

The Regional Administrator of the Environmental Protection Agency (EPA) has waived the right to comment on, or object to, the reports of waste discharge and the tentative waste discharge requirements for "minor discharges". Minor discharges are generally defined as discharges from publicly-owned treatment works with a yearly average flow of 0.5 million gallons per day (mgd) or less, or from industrial sources with a yearly average flow of 0.1 mgd or less.

The minor discharges need to be regulated because, in the absence of requirements, they could cause water quality problems, either individually or because of cumulative effects with other discharges.

For the new cases, this is the first time they are being presented for Board consideration. For the renewal cases, staff has reviewed the applications and the past monitoring and technical reports submitted, and has inspected the facilities in the last six months. The attached summary sheets also include a discussion on the compliance history for these cases.

To save paper and space, the "Standard Provisions and General Monitoring and Reporting Requirements" have been included only in the first permit in your agenda folder. They are, however, part of each permit, and will be included with the final copies sent to each discharger and his respective mailing list. The "Attachment A, Storm Water Pollution Prevention Plan" has been included only with the first permit to which it applies. However, the Plan is also included in the other permits which have identified the plan's inclusion in their "REQUIREMENTS AND PROVISIONS" section and will be included with the final copies sent to the discharger and his respective mailing list.

A notice of this hearing and of the Board's intent to consider these tentative waste discharge requirements has been published or posted in the geographic area of the discharge, as required by law. The tentative requirements, when adopted, will also serve as a Federal Permit pursuant to the California Water Quality Control Act and Federal Clean Water Act.

RECOMMENDATION: The tentative Orders be adopted.

Item # 9.1

DISCHARGE REQUIREMENTS SUMMARY

Discharger/Facility: Tosco Marketing Company (Service Stations Ventura County)

Type/Location of Facility: Treated well purged water and decontamination water/Various Cities in Ventura County

Watershed/Subwatershed: Miscellaneous Coastal Watershed
or Groundwater Basin: Oxnard Plain

Case File #: CA0064360 **NPDES #:** CA0064360

Permit Status: New _x_ Renewal ___ Revision ___

Type of Discharge: Surface Water _x__ Groundwater ___ Land Disposal ___

If Surface Water: Inland X Ocean ___ Bay/Estuary ___

Frequency of Discharge: Continuous ___ Intermittent _x__
Estimated Frequency: minimum 4 times per year

Type of Waste/Volume of Discharge: purged groundwater, decontamination water associated with site assessment and remedial action activities/ up to 1,500 gpd per station. There are eight stations where discharge will take place.

Discharge Point/Receiving Water:
Outfall 001/ Oxnard Industrial Drain
002/ Oxnard Industrial Drain
003/ Hueneme Drain
Outfall 004/ Arundell Barranca
005/ Prince Barranca

Issues related to Discharge/Pollutants of Concern:
Total petroleum hydrocarbons (TPH) and volatile organic compounds.

Facility Improvements to Meet the Discharge Limits: None known.

Key Discharge Limits/Beneficial Uses Protected:
Key discharge limits include benzene, MTBE, and TPH./ wildlife habitat, industrial process and service supply, ground water recharge, contact and non-contact water recreation, warm and cold freashwater habitat, migration of aquatic organisms, spawning, reproduction, and/or early development.

Risk Levels Associated With Discharge Limits: Benzene risk based on 10^{-6} human health.

Wastewater Reuse Potential: None.

R0067639

MONITORING PROGRAM COST SUMMARY

Total Annual Monitoring Costs: $7,010.00

Change (+/-) vs. Existing Program: N/A

Justification for Changes: N/A

Monitoring Objectives/Estimated Annual Cost

Influent Monitoring: N/A

Effluent Monitoring: $7,010.00

Receiving Water/Groundwater Monitoring: N/A

Other Monitoring: N/A

Variable Monitoring Costs

Start-up Costs: **$** **Per**

Non-compliance Costs: **$** **Per**

Potential Changes to Monitoring Requirements/Effects on Costs: Sample collection frequency may be reduced by the Executive officer, as warranted by future data.

Item #: 9.2

DISCHARGE REQUIREMENTS SUMMARY

Discharger/Facility: Wheelabrator Norwalk Energy Co. Inc./same

Type/Location of Facility: Power Generation Plant/11500 Balsam Street, Norwalk, CA, Los Angeles County

Watershed/Subwatershed: San Gabriel River
or Groundwater Basin:

Case File #: **NPDES #:** CA0059927

Permit Status: **New**___ **Renewal** X **Revision**____

Type of Discharge: **Surface Water** X **Groundwater** __ **Land Disposal** _

If Surface Water: **Inland** X **Ocean** ___ **Bay /Estuary** ___

Frequency of Discharge: ___ **Continuous** x **Intermittent**
Estimated Frequency:depends on blowdown and cycles of cooling tower as well as storm events during wet season.

Type of Waste/Volume of Discharge: Cooling tower blowdown, demineralizer waste and stormwater runoff/117,700 gallons per day.

Discharge Point/Receiving Water/User: Outfall 001/Coyote Creek, tributary to the San Gabriel River.

Issues Related to Discharge/Pollutants of Concern: Volatile organics, metals/requires limits for volatile organic compounds and metals.

Facility Improvements Required to Meet Discharge Limits: N/A

Key Discharge Limits/Beneficial Uses Protected: Limits are based on California Department of Health Services Drinking Water Action Levels, National Recommended Water Quality Criteria, and best professional judgement (See attached limits comparison table)/groundwater recharge, water contact and non-contact recreation, warm freshwater habitat and wildlife habitat; and (within the estuary) industrial service supply, ocean commercial and sport fishing, preservation of rare and endangered species, marine habitat and saline water habitat.

Risk Levels Associated With Discharge Limits: Effluent limits for organics are for protection of aquatic habitat (10^{-5} risk level).

Wastewater Reuse Potential: No reuse potential due to intermittent flow .

MONITORING PROGRAM COST SUMMARY

Total Annual Monitoring Costs: $16,036.00

Change (+/-) Vs Existing Program: +$9,666.00

Justification for Changes: Wheelabrator will use city-supplied water as the influent to the cooling system and proposes to alternate the use of city-supplied water with reclaimed water from the Central Basin Municipal Water District. Consequently the monitoring program has being modified to reflect this change.

Monitoring Objectives/Estimated Annual Cost:

Influent Monitoring: None

Effluent Monitoring: Sampling (monthly, quarterly, semiannually and annually) to determine compliance with effluent limits/$16,036.00

Receiving Water/Groundwater Monitoring: N/A

Other Monitoring: None

Explanation of Variable Monitoring Costs:

Start-up Costs: **$** N/A **Per**

Non-compliance Costs: $ N/A **Per**

Potential Changes to Monitoring Requirements/Effect on Costs:

None

LIMITS COMPARISON TABLE

Wheelabrator Norwalk Energy Company Inc.
(NPDES Permit No. CA0059927)

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Reason for Change
		Monthly Ave.	Daily Max.	Monthly Ave.	Daily Max.	
Oil and grease	mg/L	10	15	10	15	No change
Suspended solids	mg/L	30	100	30	100	No change
$BOD_5 20^oC$	mg/L	20	60	20	30	Consistency with General Permit No. 98-055
Settleable solids	ml/L	0.1	0.3	0.1	0.3	No change
Turbidity	NTU	Not required	Not required	50	150	See Footnote [1] on Page 4
Sulfides	mg/L	Not required	Not required	Not required	1.0	See Footnote [1] on Page 4
Chromium (VI)	µg/L	Not required	Not required	11.43	16.29	See Footnote [1] on Page 4
Zinc	µg/L	Not required	Not required	121.70	122.70	See Footnote [1] on Page 4
Boron	mg/L	Not required	Not required	Not required	1.0	See Footnote [1] on Page 4

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R0067643

LIMITS COMPARISON TABLE (CONTINUED)

Wheelabrator Norwalk Energy Company Inc.
(NPDES Permit No. CA0059927)

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Reason for Change
		Monthly Ave.	Daily Max.	Monthly Ave.	Daily Max.	
Surfactants (as MBAS)	mg/L	Not required	Not required	Not required	0.5	See Footnote [1] on Page 4
Residual chlorine	mg/L	Not required	Not required	Not required	0.5	See Footnote [1] on Page 4
Phenols	µg/L	Not required	Not required	Not required	1,000	See Footnote [1] on Page 4
Phenolic compounds	µg/L	Not required	Not required	Not required	1.0	See Footnote [1] on Page 4
Benzene	µg/L	Not required	Not required	Not required	1.0	See Footnote [1] on Page 4
Toluene	µg/L	Not required	Not required	Not required	150	See Footnote [1] on Page 4
Xylene	µg/L	Not required	Not required	Not required	1750	See Footnote [1] on Page 4
Ethylene dibromide	µg/L	Not required	Not required	Not required	0.05	See Footnote [1] on Page 4
Ethylbenzene	µg/L	Not required	Not required	Not required	700	See Footnote [1] on Page 4
Carbon tetrachloride	µg/L	Not required	Not required	Not required	0.5	See Footnote [1] on Page 4
Tetrachloroethylene	µg/L	Not required	Not required	Not required	5.0	See Footnote [1] on Page 4
Trichloroethylene	µg/L	Not required	Not required	Not required	5.0	See Footnote [1] on Page 4

LIMITS COMPARISON TABLE (CONTINUED)

Wheelabrator Norwalk Energy Company Inc.
(NPDES Permit No. CA0059927)

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Reason for Change
		Monthly Ave.	Daily Max.	Monthly Ave.	Daily Max.	
1,1-dichloroethylene	µg/L	Not required	Not required	Not required	6.0	See Footnote [1] on Page 4
1,4-dichloroethylene	µg/L	Not required	Not required	Not required	5.0	See Footnote [1] on Page 4
1,1-dichloroethane	µg/L	Not required	Not required	Not required	5.0	See Footnote [1] on Page 4
1,2-dichloroethane	µg/L	Not required	Not required	Not required	0.5	See Footnote [1] on Page 4
Methyl Tertiary Butyl Ether (MTBE)	µg/L	Not required	Not required	Not required	13	See Footnote [1] on Page 4
Vinyl chloride	µg/L	Not required	Not required	Not required	0.5	See Footnote [1] on Page 4
Lindane	µg/L	Not required	Not required	0.08	0.2	See Footnote [1] on Page 4
Methylene chloride	µg/L	Not required	Not required	Not required	5	See Footnote [1] on Page 4
Chloroform	µg/L	Not required	Not required	Not required	100	See Footnote [1] on Page 4
Bromodichloromethane	µg/L	Not required	Not required	Not required	100	See Footnote [1] on Page 4
Arsenic	µg/L	Not required	Not required	Not required	50	See Footnote [1] on Page 4
Cadmium	µg/L	Not required	Not required	2.42	4.56	See Footnote [1] on Page 4
Copper	µg/L	Not required	Not required	9.38	13.54	See Footnote [1] on Page 4
Lead	µg/L	Not required	Not required	3.16	82.17	See Footnote [1] on Page 4

LIMITS COMPARISON TABLE (CONTINUED)

Wheelabrator Norwalk Energy Company Inc.
(NPDES Permit No. CA0059927)

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Reason for Change
		Monthly Ave.	Daily Max.	Monthly Ave.	Daily Max.	
Mercury	µg/L	Not required	Not required	0.906	1.65	See Footnote [1]
Selenium	µg/L	Not required	Not required	5.0	50	See Footnote [1]
Silver	µg/L	Not required	Not required	Not required	4.0	See Footnote [1]

[1] There is reasonable potential that waste stream may contain or carry the pollutants.

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R0067646

Item # 9.3

DISCHARGE REQUIREMENTS SUMMARY

Discharger/Facility: Camrosa Water District, Camrosa Water Reclamation Facility

Type/Location of Facility: POTW/ 1900 S. Lewis Road, Camarillo

Watershed/Subwatershed: Calleguas Creek Watershed
or Groundwater Basin:

Case File #: **NPDES #:** CA0059501

Permit Status: **New** ___ **Renewal** _X__ **Revision** ___

Type of Discharge: **Surface Water** _X__ **Groundwater** ___ **Land Disposal** ___

If Surface Water: **Inland** _X__ **Ocean** ___ **Bay/Estuary** ___

Frequency of Discharge: **Continuous** ___ **Intermittent** _X__

Estimated Frequency: Only discharge during heavy storm events, when land reclamation is not feasible or effective due to ground saturation.

Type of Waste/Volume of Discharge:
Tertiary treated wastewater/ Design capacity = 1.5 MGD; Average flow for 1998 = 1.318 mgd

Discharge Point/Receiving Water:
One outfall (001) discharges tertiary treated wastewater into Calleguas Creek.

Issues related to Discharge/Pollutants of Concern:
In the past, the limits for TDS, chloride, total suspended solids, coliform and nitrate-N have been violated. The plant has been operating much better since the plant upgrade.

Facility Improvements to Meet the Discharge Limits:
Since the plant was upgraded recently, there are no foreseen improvements at this time. The new plant went on line in April 1997. Among the improvements were the additional treatment processes of nitrification & denitrification, which reduce the amount of Nitrogen discharged in the effluent.

Key Discharge Limits/Beneficial Uses Protected:
Limits were set based on the Basin Plan, USEPA Gold Book, California Title 22, to protect human health, warm water habitat, municipal & domestic supply, and other beneficial uses in the receiving water.

Risk Levels Associated With Discharge Limits:
Trace metal risk levels are 1/100,000.

Wastewater Reuse Potential:
A portion of the treated effluent is reclaimed for farmland irrigation and is regulated under Order No. 95-059.

MONITORING PROGRAM COST SUMMARY

Total Annual Monitoring Costs: $87,585

Change (+/-) vs. Existing Program: (-) $32,518

Justification for Changes:
Changes were made to assess compliance with new Basin Plan objectives and EPA Gold Book objectives, to format the permit consistently with others in the watershed, and to reduce the frequency of monitoring for constituents that had a long history of consistent compliance.

Monitoring Objectives/Estimated Annual Cost

Influent Monitoring:
$ 4,400. To provide data to calculate BOD and Suspended solids removal efficiency.

Effluent Monitoring:
$60,213 (increase of $684)
To determine compliance with effluent limitations, and to protect Beneficial Uses.

Receiving Water/Groundwater Monitoring:
$11,486 (per station, one upstream & one downstream of discharge point)
To assess the impact to Calleguas Creek from POTW's discharge and from non-point sources, and protect the beneficial uses.

Other Monitoring:
The pretreatment program requires additional monitoring. We do not know what the discharger currently spends.

Variable Monitoring Costs

Since the POTW only discharges to surface water on an emergency basis, roughly three months per year, the actual cost of monitoring is closer to 1/4 the cost indicated above (i.e. $21,896).

Start-up Costs: $ **Per**

Non-compliance Costs: $ **Per**

Potential Changes to Monitoring Requirements/Effects on Costs:

Item #: 9.4

DISCHARGE REQUIREMENTS SUMMARY

Discharger/Facility: Golden West Refining Company/same

Type/Location of Facility: Former oil refinery currently being demolished for construction of light industrial buildings/13539 E. Foster Road, Santa Fe Springs, CA, Los Angeles County

Watershed/Subwatershed: San Gabriel River
or Groundwater Basin:

Case File #: **NPDES #:** CA0055115

Permit Status: New___ Renewal_X_ Revision____

Type of Discharge: Surface Water _X_ Groundwater __ Land Disposal _

If Surface Water: Inland _X_ Ocean ___ Bay /Estuary ___

Frequency of Discharge: ___ Continuous _x_ Intermittent
Estimated Frequency: depends on storm events during wet season.

Type of Waste/Volume of Discharge: Stormwater runoff/12.7 million gallons per day.

Discharge Point/Receiving Water/User: Outfall 001/Coyote Creek, tributary to the San Gabriel River.

Issues Related to Discharge/Pollutants of Concern: Volatile organics and metals/requires limits for volatile organic compounds and metals.

Facility Improvements Required to Meet Discharge Limits: N/A

Key Discharge Limits/Beneficial Uses Protected: Limits are based on Best Professional Judgment, National Recommended Water Quality Criteria, Basin Plan, and California Department of Health Services Drinking Water Action Levels (See attached limits comparison table)/groundwater recharge, water contact and non-contact recreation, warm freshwater habitat, cold freshwater habitat, and wildlife habitat; and (within the estuary) industrial service supply, ocean commercial and sport fishing, preservation of rare and endangered species, marine habitat and saline water habitat.

Risk Levels Associated With Discharge Limits: Effluent limits for organics are for protection of aquatic habitat (10^{-5} risk level).

Wastewater Reuse Potential: No reuse potential due to intermittent flow .

MONITORING PROGRAM COST SUMMARY

Total Annual Monitoring Costs: $5,850.00

Change (+/-) Vs Existing Program: +$2,200.00

Justification for Changes: Although Golden West Refining Company is no longer refining crude oil, there are some areas that are still in the dismantling process and the soil may still be contaminated; consequently the monitoring program has being modified to reflect this change.

Monitoring Objectives/Estimated Annual Cost:

Influent Monitoring: None

Effluent Monitoring: Sampling to determine compliance with effluent limits./$5,850.00

Receiving Water/Groundwater Monitoring: N/A

Other Monitoring: None

Explanation of Variable Monitoring Costs:

Start-up Costs: **$** N/A **Per**

Non-compliance Costs: $ N/A **Per**

Potential Changes to Monitoring Requirements/Effect on Costs:

None

Limits Comparison Table

Golden West Refining Company
(NPDES Permit No. CA0055115)

Constituent	Units	Existing Discharge Limit		New Discharge Limit		Reason for Change
		Monthly Ave.	Daily Max.	Monthly Ave.[2]	Daily Max.	
Oil and grease	mg/L	8	15	Not required	15	No change
Suspended solids	mg/L	21	33	Not required	33	No change
$BOD_5$20°C	mg/L	26	48	Not required	30	To be consistent with other similar permits and General permits.
Phenolic compounds	mg/L	0.17	0.35	Not required	0.001	To be consistent with other similar permits and General permits.
COD	mg/L	180	360	Not required	360	No change
Ethylbenzene	µg/L	Not required	Not required	Not required	700	See Footnote [1]
Benzene	µg/L	Not required	Not required	Not required	1.0	See Footnote [1]
Toluene	µg/L	Not required	Not required	Not required	150	See Footnote [1]
Xylene	µg/L	Not required	Not required	Not required	1750	See Footnote [1]
Arsenic	µg/L	Not required	Not required	Not required	50	See Footnote [1]
Cadmium	µg/L	Not required	Not required	Not required	4.6	See Footnote [1]
Copper	µg/L	Not required	Not required	Not required	13.6	See Footnote [1]
Lead	µg/L	Not required	Not required	Not required	82	See Footnote [1]
Mercury	µg/L	Not required	Not required	Not required	1.7	See Footnote [1]
Total chromium	µg/L	210	600	Not required	600	No change
Chromium (VI)	µg/L	28	62	Not required	16.3	See Footnote [1]
Selenium	µg/L	Not required	Not required	Not required	50	See Footnote [1]
Silver	µg/L	Not required	Not required	Not required	4.0	See Footnote [1]
Zinc	µg/L	Not required	Not required	Not required	123	See Footnote [1]

[1] There is reasonable potential that pollutants may be carried by storm water.
[2] Does not apply to storm water discharge.

9-16

R0067651

COMPLIANCE HISTORY
NPDES PERMIT

RENEWAL

CAMROSA WATER DISTRICT – Camrosa Water Reclamation Facility (CA0059501)

Discharger self-monitoring reports indicated the following:

Within the past six years, Camrosa Water District (CWD) Water Reclamation Facility (WRF) had violations of Total organic carbon, BOD, and Oil & grease on an almost quarterly basis; and occasional violations of the TDS and chloride limitations.

On April 13, 1998, the Regional Board adopted Order No. 98-027, which amended CWD CWRF's chloride daily maximum water quality objective requirement to 190 mg/L, until January 9, 2001, in acordance with Regional Board adopted Resolution No. 97-02, *Amendment to the Water Quality Control Plan to incorporate a Policy for Addressing Levels of Chloride in Discharges of Wastewaters*. CSD has been able to meet the 190 mg/L interim limit. In 1998, the weekly chloride concentrations of the final effluent ranged from 149 mg/L to 189 mg/L, and averaged 161 mg/L.

CSD has made modifications and upgrades to its wastewater treatment plant, to ensure consistent compliance with the Board's waste discharge requirements. The new facilities were placed in service in April 1997. Since the plant upgrade, the discharger has had significantly fewer violations. During 1998, the TDS load limit (in pounds per day) was exceeded once in February and the Nitrate-N load limit (lbs/day) and concentration limit (mg/L) were exceeded once in March. No other violations were noted.

9.1

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 00-XXX

NPDES NO. CA0064360

WASTE DISCHARGE REQUIREMENTS
for
TOSCO MARKETING COMPANY
(GASOLINE SERVICE STATIONS, VENTURA COUNTY)

The California Regional Water Quality Control Board, Los Angeles Region finds:

1. Tosco Marketing Company (Tosco) has filed a report of waste discharge and has applied for waste discharge requirements and a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastes to surface water.

2. Tosco owns and operates gasoline service stations in Ventura County. Tosco is responsible for the assessment and remediation of groundwater contamination, if any, caused by Tosco operations. Tosco has contracted with Environmental Resolutions, Inc., to perform groundwater treatment, monitoring, and sampling at its gasoline service stations in Ventura County.

3. Tosco proposes to discharge ground water purged from monitoring wells for sampling purposes and sampling equipment decontamination at a total of 14 gasoline stations. These stations are located throughout the Miscellaneous Coastal Watersheds as shown in Figure 1 (Vicinity Map). Treatment systems will be set up at 5 stations to treat on-site wastes and wastes transported from other stations. Table 1 lists the locations of the 5 stations. Table 2 shows the locations (including latitudes and longitudes) of the discharge points and receiving waters.

4. Tosco proposes the discharge of treated wastes (ground water and decontamination water) at a rate of up to 1,500 gallons per day per station. The discharge will generally be on a quarterly basis. The wastes will be treated through particulate filters and in a granular activated carbon adsorption system consisting of three canisters in series before discharge into storm drain systems. The storm drains flow to the Oxnard Industrial Drain, Hueneme Drain, Arundell Barranca, and Prince Barranca then to the Pacific Ocean, at points above the estuary.

5. Federal law stipulates that NPDES permits require the use of Best Available Technology (BAT) economically achievable to treat these wastes. GAC filters have been used extensively for clean up of contaminated groundwater, particularly for the removal of volatile organic compounds. These methods are currently considered to be the BAT economically achievable.

TENTATIVE

Figure 2 shows the flow diagram of the treatment system.

6. As proposed in the Report of Waste Discharge, the discharger will treat the wastes prior to discharge in an activated carbon adsorption system consisting of three 200 pound canisters of activated carbon connected in series. The first canister will be removed when breakthrough has been observed. The second canister will be rotated to the first position, the third canister will be rotated to the second position, and a fresh canister will be installed in the third position to ensure that breakthrough at the first and second canisters is captured before discharge.

7. The Board adopted a revised Water Quality Control Plan (Basin Plan) for the Coastal Watersheds of Los Angeles and Ventura Counties on June 13, 1994. The Basin Plan contains beneficial uses and water quality objectives for the coastal drainages flowing to the Pacific Ocean and the Oxnard Plain ground water basin.

8. The beneficial uses of the receiving waters are: municipal and domestic supply (potential); wildlife habitat, industrial process and service supply, agricultural, ground water recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, cold freshwater habitat, migration of aquatic organisms, and spawning, reproduction, and/or early development (intermittent beneficial use).

9. The 1996 State Water Resources Control Board's (SWRCB) Water Quality Assessment (WQA) identified the water quality conditions of water bodies in the state. Within the Miscellaneous Coastal Watershed, the coastal drainages are classified as impaired water bodies. Impaired waters do not support beneficial uses.

   Contaminants of concern at petroleum hydrocarbon cleanup sites are not expected to further impair the listed water bodies.

10. The issuance of waste discharge requirements for this discharge is exempt from provisions of chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389.

The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Board in a public hearing heard and considered all comments pertaining to the discharge and to the tentative requirements.

This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Clean Water Act, or amendments thereto, and shall take effect at the end of ten days from the date of its adoption, provided the Regional Administrator, EPA, has no objections.

TENTATIVE

IT IS HEREBY ORDERED that Tosco Marketing Company, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

I. EFFLUENT LIMITATIONS

A. Wastes discharged shall be limited to treated ground water, decontamination water, and waste water generated under assessment only, as proposed.

B. The discharge of an effluent from Discharge Serial No. 001 through No. 005 with constituents in excess of the following limits is prohibited:

Constituent	Units	Discharge Limitations Daily Maximum
Turbidity	NTU	150
Settleable solids	ml/L	0.3
Suspended solids	mg/L	150
Oil and grease	mg/L	15
$BOD_5$20°C	mg/L	30
Sulfides	mg/L	1.0
Benzene	µg/L	1.0
Toluene	µg/L	150
Xylene	µg/L	1750
Ethylbenzene	µg/L	700
Ethylene Dibromide	µg/L	0.05
Methyl Tertiary Butyl Ether	µg/L	13
Total Petroleum Hydrocarbons	µg/L	100

TENTATIVE

C. Acute Toxicity Limitation:

The acute toxicity of the effluent shall be such that the average survival in undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test producing less than 70% survival.

If the discharge consistently exceeds the acute toxicity limitation, a toxicity reduction evaluation (TRE) is required. The TRE shall include all reasonable steps to identify the sources of toxicity. Once the sources of toxicity are identified, the discharger shall take all reasonable steps necessary to reduce toxicity to the required level.

D. Receiving Water Limitations:

The discharge shall not cause the following to be present in receiving waters:

1. Toxic pollutants at concentrations that will bioaccumulate in aquatic life to levels that are harmful to aquatic life or human health;
2. Chemical substances in amounts that adversely affect any designated beneficial use;
3. Visible floating materials, including solids, liquids, foams, and scum;
4. Oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the receiving water or on objects in the water;
5. Suspended or settleable materials in concentrations that cause nuisance or adversely affect beneficial uses;
6. Taste or odor-producing substances in concentrations that alter the natural taste, odor, and/or color of fish, shellfish, or other edible aquatic resources; cause nuisance; or adversely affect beneficial uses;
7. Substances that result in increases of $BOD_5$20°C that adversely affect beneficial uses;
8. Concentrations of toxic substances that are toxic to, or cause detrimental physiological responses in, human, animal, or aquatic life.

TENTATIVE

II. REQUIREMENTS AND PROVISIONS

A. Discharge of wastes to any point other than specifically described in this order is prohibited and constitutes a violation thereof.

B. This Order includes the attached "Standard Provisions and General Monitoring and Reporting Requirements". If there is any conflict between provisions stated hereinbefore and attached "Standard Provisions", those provisions stated hereinbefore prevail.

C. This Order includes the attached Monitoring and Reporting Program. If there is conflict between provisions stated in the Monitoring and Reporting Program and the Standard Provisions, those provisions stated in the former prevail.

D. This Order may be modified, revoked and reissued or terminated in accordance with the provisions of 40 CFR Part 122.44, 122.62, 122.63, 122.64, 125.62, and 125.64.

E. Discharger authorized under this Order shall maintain a copy of this Order at the waste discharge facilities where it will be available at all times to operating personnel.

F. This Order neither exempts the discharger from compliance with any other laws, regulations, or ordinances that may be applicable, nor legalizes the waste disposal facilities.

G. The discharger shall allow the Regional Board and its authorized representatives entry to the premises to inspect and undertake any activity to determine compliance with this Order, or as otherwise authorized by the California water Code.

H. All applications, reports, or information submitted to the Regional Board shall be signed by a principal executive officer at least of the level of vice president or his duty authorized representative, if such representative is responsible for the overall operation of the facility from which discharge originates.

TENTATIVE

III. EXPIRATION DATE

This Order expires on December 20, 2004.

The discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on January 26, 2000.

DENNIS A. DICKERSON
Executive Officer

/JT

TENTATIVE

TABLE 1

FACILITY LOCATION

TOSCO GASOLINE STATION No.	FACILITY LOCATION	CITY	DISCHARGE OUTFALL SERIAL No.
3484	1400 S. Oxnard Blvd.	Oxnard	001
5572	341 W. Gonzales Road	Oxnard	002
4044	814 N. Ventura Road	Port Hueneme	003
6991	4210 E. Main Street	Ventura	004
1481	2292 Thompson Blvd.	Ventura	005

TENTATIVE

TABLE 2

OUTFALL LOCATION AND RECEIVING WATER

DISCHARGE OUTFALL SERIAL NO.	OUTFALL LOCATION	LATITUDE	LONGITUDE	RECEIVING WATER
001	~ 135' NW OF CORNER OF COMMERCIAL AVENUE & S. OXNARD BOULEVARD	34° 11' 09"	119° 10' 21"	OXNARD INDUSTRIAL DRAIN
002	~180' NE OF CORNER OF GONZALES ROAD & C Street	34° 13' 09"	119° 10' 49"	OXNARD INDUSTRIAL DRAIN
003	~ NE OF CORNER OF N. VENTURA ROAD & PLEASANT VALLEY ROAD	34° 09' 17"	119° 11' 43"	HUENEME DRAIN
004	~ 220' NW CORNER OF DONLON STREET & BESSEMER STREET	34° 15' 44"	119° 14' 08"	ARUNDELL BARRANCA
005	~ 130' NW CORNER OF SEAWARD AVENUE & THOMPSON BLVD.	34° 16' 24"	119° 15' 59"	PRINCE BARRANCA

9-26

TENTATIVE

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO.
for
TOSCO MARKETING COMPANY
(Gasoline Service Stations, Ventura County)
(CA0064360)

I. REPORTING REQUIREMENTS

The discharger shall implement this monitoring program on the effective date of this order. The first monitoring report under this program must be received by this Regional Board by April 15, 2000.

Monitoring reports shall be received by the dates in the following schedule:

Reporting Period	Report Due
January - March	April 15
April - June	July 15
July - September	October 15
October - December	January 15
Annual Report	March 1

If there is no discharge, the report shall so state.

II. EFFLUENT MONITORING REQUIREMENTS

A. A sampling station shall be established for each point of discharge and shall be located where representative samples of that effluent can be obtained. In the event that waste streams from sources are combined for treatment or discharge, representative sampling stations shall be at that place to ensure that the quantity of each pollutant or pollutant property attributable to each waste source regulated by effluent limitations can be determined.

B. The detection limits employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the discharger can demonstrate that a particular detection limit is not attainable and obtains approval for a higher detection limit from the Executive Officer. At least once a year, the discharger shall submit a list of the analytical methods employed for each test and associated laboratory quality assurance/quality control procedures.

TENTATIVE

C. This Regional Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.

D. Effluent Monitoring Program

Before the first discharge at each station, a representative sample must be taken and analyzed for all required constituents. The results must be in full compliance with Effluent Limitations I-B. prior to discharge.

The following shall constitute the effluent monitoring program for the final effluent at each of the five discharge points:

Constituent	Units	Type of Sample	Minimum Frequency of Analysis
Total waste flow	gal/day	----	once per discharge event
Temperature	°F	grab	once per discharge event
pH	pH units	grab	once per discharge event
BOD_5 20°C	mg/L	grab	once per discharge event
Turbidity	NTU	grab	once per discharge event
Oil and grease	mg/L	grab	once per discharge event
Settleable solids	mL/L	grab	once per discharge event
Suspended solids	mg/L	grab	once per discharge event
Total dissolved solids	mg/L	grab	once per discharge event
Chloride	mg/L	grab	once per discharge event
Sulfides	mg/L	grab	once per discharge event
Nitrogen (NO_3 - N + NO_2 - N)	mg/L	grab	once per discharge event
Benzene	µg/L	grab	once per discharge event
Toluene	µg/L	grab	once per discharge event
Ethylbenzene	µg/L	grab	once per discharge event
Xylene (total)	µg/L	grab	once per discharge event
Methyl Tertiary Butyl Ether (MTBE)	µg/L	grab	once per discharge event
Total Petroleum Hydrocarbons	µg/L	grab	once per discharge event
Toxicity – Acute[1/]	% survival	grab	annually[2/]

TENTATIVE

1/ By the method specified in "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" – September 1991, (EPA/600/4-90/027). Submission of bioassay results should include the information noted on page 70-73 of the "Methods". The fathead minnow (Pimephales Promelas) shall be used as the test species.

2/ Acute Toxicity test must be done for all five discharge locations. If the results of the toxicity test yields a survival of less than 90%, then the frequency of analyses shall increase to once per discharge until at least three test results have been obtained and full compliance with Effluent Limitations has been demonstrated, after which the frequency of analyses shall revert to annually. Results of toxicity tests shall be included in the first monitoring report following sampling.

III. HAULING REPORT

A statement shall be included in each quarterly monitoring report indicating the amount of solid and/or liquid waste associated with the discharge hauled from each gasoline service station. In addition, information regarding replacement of activated carbon canisters in the treatment system shall be provided.

Ordered by: _____
DENNIS A. DICKERSON
Executive Officer

Date: January 26, 2000

/JT

TENTATIVE

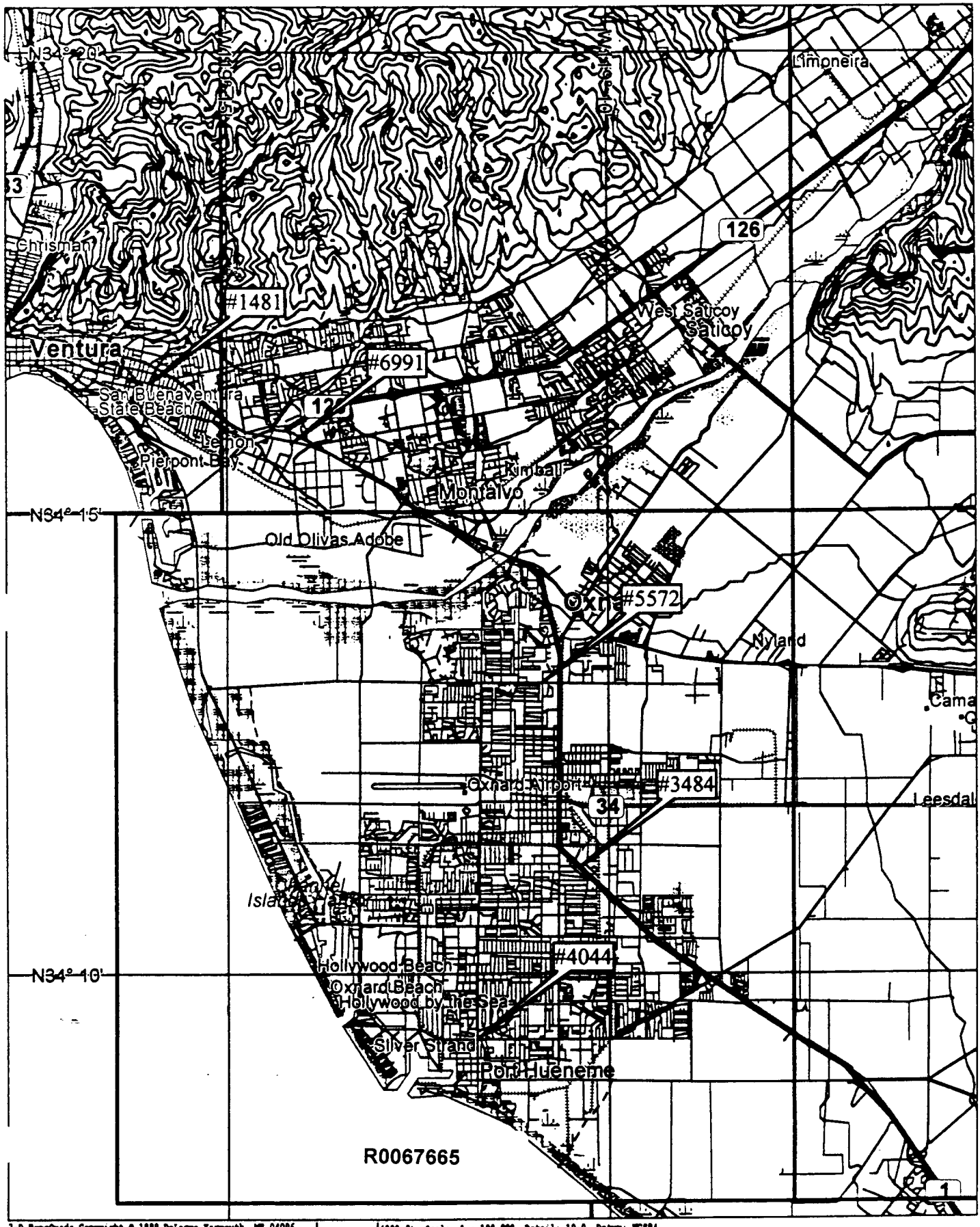
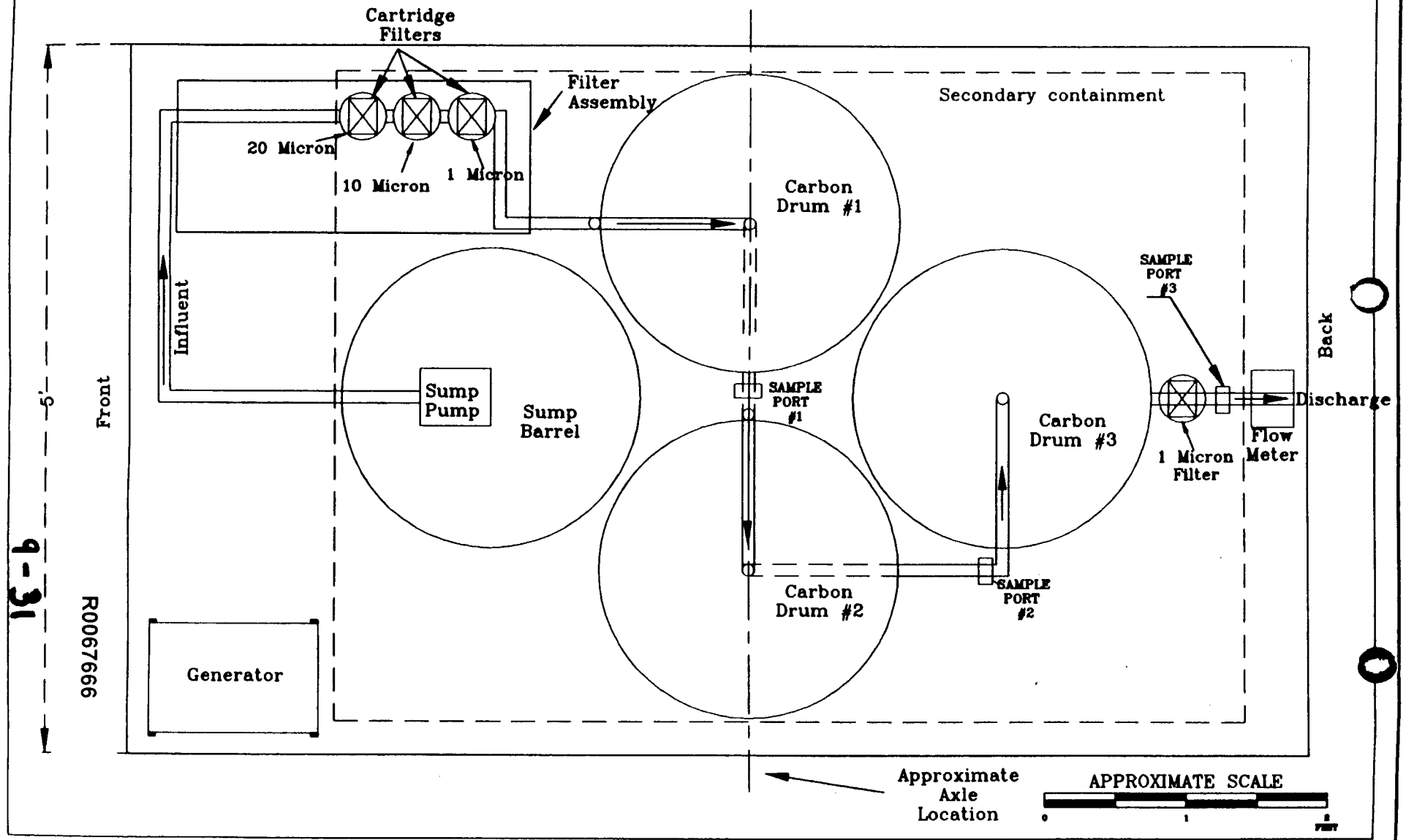


FIGURE 1 (VICINITY MAP) 9-30



FN PWT33

ERI ENVIRONMENTAL RESOLUTIONS, INC.

ENVIRONMENTAL RESOLUTIONS, INC.
20372 North Sea Circle
Lake Forest, California, 92630

PORTABLE WATER TREATMENT SYSTEM

DATE: 3/27/98

to: P-1

9.2

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER No. 00-XXX

NPDES No. CA0059927

WASTE DISCHARGE REQUIREMENTS
FOR
WHEELABRATOR NORWALK ENERGY COMPANY INC.
(Metropolitan State Hospital Cogeneration Plant)

The California Regional Water Quality Control Board, Los Angeles Region, (hereinafter Regional Board) finds:

1. Wheelabrator Norwalk Energy Company Inc. (Wheelabrator), discharges wastes under waste discharge requirements contained in order No. 93-037 adopted by this Board on June 14, 1993. This Order serves as a permit under the National Pollutant Discharge Elimination System (NPDES Permit No. CA0059927).

2. The Regional Board is implementing a Watershed Management Approach to address water quality protection in the Los Angeles Region. Pursuant to this Regional Board's watershed initiative framework, the San Gabriel River Watershed is the targeted watershed for the fiscal year 1999-2000. Accordingly, the Regional Board has been reviewing the Waste Discharge Requirements and NPDES permits for the facilities that discharge wastes to the San Gabriel River (including Wheelabrator). As a result of the review, this new Order is prepared to replace Order No. 93-037 adopted on June 14, 1993.

3. Wheelabrator operates the Metropolitan State Hospital Cogeneration Plant, a natural gas-fired cogeneration facility at 11500 Balsam Street, Norwalk, California. The plant can generate 696 megawatts per day of electricity for sale to Southern California Edison Company and also produces steam and chill water for sale to the Metropolitan State Hospital. This facility discharges up to 117,700 gallons per day of demineralizer waste, cooling tower blowdown and stormwater runoff into a storm drain (Discharge Serial No. 001) adjacent to the facility at Latitude 33° 15' 29" and Longitude 118° 04' 13", thence to the Coyote Creek, a tributary to the San Gabriel River, a water of the United States, above the estuary. See Figure 1 for location map.

4. Wheelabrator will use city-supplied water as the influent to the cooling system and proposes to alternate the use of city-supplied water with reclaimed water from the Central Basin Municipal Water District (CBMWD). The water from the San Jose Creek Water Reclamation Plant is the supply for the Rio Hondo Pumping Station, which in turn will serve the Wheelabrator facility. See Figure 2.

5. The cooling tower blowdown will be discharged directly from the closed-loop recirculation system to the storm drain without treatment. This waste stream may contain residual additives from water treatment chemicals added for pH control, disinfection, and corrosion and scaling control.

TENTATIVE

The demineralizer will purify municipal water, and wastes will be produced from regeneration of ion-exchange resin beds with acid and caustic solutions. The wastes will be collected, mixed, and neutralized in a neutralization tank equipped with devices for monitoring pH and automatic addition of acid or caustic.

The treated demineralizer wastes and cooling tower blowdown will combine at an interceptor before discharge into the storm drain.

Discharges of stormwater runoff (approximately 11,600 gallons per day) are from the water treatment area including sulfuric acid and sodium hydroxide storage tanks, the demineralizer unit, and the neutralization tank for the demineralizer wastes. The water treatment area is contained and allows stormwater to accumulate until the volume increases to a point that requires discharge. Before discharge, the stormwater will be sampled, tested for pH, and if necessary will be neutralized.

6. All other industrial and sanitary waste waters are discharged into the community sewer system.

7. The Environmental Protection Agency (EPA) promulgated Effluent Guidelines and Standards for the "Steam Electric Power Generating Point Source Category" on November 19, 1982. These regulations became effective on January 3, 1983, and prescribe effluent limitation guidelines for various inplant waste streams.

8. On June 13, 1994, this Regional Board adopted a revised Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan). The Basin Plan contains beneficial uses and water quality objectives for the Coyote Creek and San Gabriel River.

9. The beneficial uses of the receiving waters are:

   Groundwater recharge, water contact and non-contact recreation, warm freshwater and wildlife habitats; and (within the estuary) industrial service supply, ocean commercial and sport fishing, preservation of rare and endangered species, marine habitat and saline water habitat.

   The requirements in this Order are intended to protect designated beneficial uses and enhance the water quality of the watershed.

10. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389.

The Regional Board has notified the discharger and interested agencies and persons of its intent to prescribe the waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

TENTATIVE

9-34-A

This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Clean Water Act, or amendments thereto, and shall take effect at the end of ten days from the date of its adoption, provided that the Regional Administrator of the U.S. Environmental Protection Agency has no objections.

IT IS HEREBY ORDERED that Wheelabrator Norwalk Energy Company Inc., in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. EFFLUENT LIMITATIONS

1. Wastes discharged shall be limited to cooling tower blowdown, demineralizer wastes, and storm water runoff only, as proposed.

2. The discharge of an effluent from Discharge Serial No. 001 (combined cooling tower blowdown using city supplied-water, demineralizer waste, and storm water runoff) with constituents in excess of the following limits is prohibited:

Constituents	Units	Discharge Limitations Monthly Average	Daily Maximum
Total suspended solids	mg/L lbs/day[1]	30 29.5	100 98
Settleable solids[2]	ml/L	0.1	0.3
BOD_5 20°C	mg/L lbs/day[1]	20 19.6	30 29.5
Oil and grease	mg/L lbs/day[1]	10 9.8	15 14.7
Turbidity[2]	NTU	50	150
Sulfides	mg/L	----	1.0
Surfactants (as MBAS)[2]	mg/L	----	0.5
Residual chlorine[2]	mg/L	----	0.1

[1] Based on the maximum discharge flow rate of 117,700 gallons per day.
[2] Not applicable to discharge containing rainfall during or immediately after periods of rainfall.

TENTATIVE

3. The discharge of an effluent from Discharge Serial No. 001 (combined cooling tower blowdown using reclaimed water, demineralizer waste, and storm water runoff) with constituents in excess of the following limits is prohibited:

Constituents	Units	Discharge Limitations Monthly Average	Daily Maximum
Total suspended solids	mg/L lbs/day[1]	30 29.5	100 98
Settleable solids[2]	ml/L	0.1	0.3
$BOD_5$20°C	mg/L lbs/day[1]	20 19.6	30 29.5
Oil and grease	mg/L lbs/day[1]	10 9.8	15 14.7
Turbidity[2]	NTU	50	150
Sulfides	mg/L	----	1.0
Chromium (VI)	µg/L	11.43[3]	16.29[3]
Zinc	µg/L	121.70[3]	122.70[3]
Surfactants (as MBAS)[2]	mg/L	----	0.5
Residual chlorine[2]	mg/L	----	0.1
Phenol	µg/L	----	1.000
Phenolic compounds	µg/L	----	1.0
Benzene	µg/L	----	1.0
Toluene	µg/L	----	150
Xylene	µg/L	----	1750
Ethylene dibromide	µg/L	----	0.05
Ethylbenzene	µg/L	----	700
Carbon tetrachloride	µg/L	----	0.5

[1] Based on the maximum discharge flow rate of 117,700 gallons per day.
[2] Not applicable to discharge containing rainfall during or immediately after periods of rainfall.
[3] Expressed as total recoverable metals.

TENTATIVE

Constituents	Units	Discharge Limitations Monthly Average	Daily Maximum
Tetrachloroethylene	µg/L	----	5.0
Trichloroethylene	µg/L	----	5.0
1,1-dichloroethylene	µg/L	----	6.0
1,4-dichlorobenzene	µg/L	----	5.0
1,1-dichloroethane	µg/L	----	5.0
1,2-dichloroethane	µg/L	----	0.5
Methyl Tertiary Butyl Ether (MTBE)	µg/L	----	13
Vinyl chloride	µg/L	----	0.5
Lindane	µg/L	0.08	0.2
Methylene chloride	µg/L	----	5
Chloroform	µg/L	----	100
Bromodichloromethane	µg/L	----	100
Arsenic	µg/L	----	50[3]
Cadmium	µg/L	2.42[3]	4.56[3]
Copper	µg/L	9.38[3]	13.54[3]
Lead	µg/L	3.16[3]	82.17[3]
Mercury	µg/L	0.906[3]	1.65[3]
Selenium	µg/L	5.0[3]	50[3]
Silver	µg/L	----	4.0[3]

[3] Expressed as total recoverable metals.

4. The pH of wastes discharged shall at all times be within the range of 6.5 to 8.5.

5. The temperature of the wastes discharged shall not exceed 80°F.

6. The acute toxicity of the effluent shall be such that the average survival in undiluted effluent for any three (3) consecutive 96-hour static or continuous flow

TENTATIVE

bioassay tests shall be at least 90%, with no single test producing less than 70% survival.

If the acute toxicity limitation is violated three consecutive months, the Discharger shall conduct a toxicity identification evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

B. EFFLUENT LIMITATIONS FOR INPLANT WASTE STREAMS

The discharge of demineralizer wastes and cooling tower blowdown with constituents in excess of the following limits is prohibited:

Constituents	Units	Discharge Limitations Monthly Average	Daily Maximum
Total suspended solids	mg/L	30	100
Oil and grease	mg/L	10	15
Total residual oxidant	mg/L	0.2	0.5
Total chromium	mg/L	0.05	0.05
Total zinc	mg/L	1.0	1.0

C. NARRATIVE WATER QUALITY LIMITATIONS

1. The wastes discharged shall not degrade surface water communities and populations, including vertebrate, invertebrate and plant species.

2. The wastes discharged shall not produce concentrations of toxic substances in the receiving waters that are toxic to or produce detrimental physiological responses in human, animal or aquatic life.

3. The wastes discharged shall not result in problems due to breeding of mosquitoes, gnats, black flies, midges or other pests.

4. The wastes discharged shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

5. The wastes discharged shall not cause any increase in turbidity to the extent that such an increase causes nuisance or adversely affects beneficial uses.

D. REQUIREMENTS AND PROVISIONS

1. The discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management programs

TENTATIVE

developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

2. This order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 CFR, Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Cause for taking such action includes, but is not limited to: failure to comply with any condition of this order and permit, endangerment to human health or the environment resulting from the permitted activity, or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of order adoption and permit issuance.

   The filing of a request by the discharger for an Order and permit modification, revocation and issuance, or termination; or a notification of planned changes or anticipated noncompliance does not stay any conditions of this Order and permit.

3. This Order may also be modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed protection management approach.

4. This Order includes the attached "Standard Provisions and General Monitoring and Reporting Requirements" ("Standard Provisions" Attachment N). If there is any conflict between provisions stated hereinbefore and the attached "Standard Provisions and General Monitoring and Reporting Requirements," those provisions stated hereinbefore prevail.

5. The discharger must develop and implement a Storm Water Pollution Prevention Plan in accordance with Attachment A: Page 11, Section A, Storm Water Pollution Prevention Plan and submit to the Board within 90 days from the effective date of this order.

E. EXPIRATION DATE

This order expires on December 10, 2005.

The discharger must file a Report of Waste Discharge in accordance with Title 23, California Codes of Regulations, not later than 180 days in advance of the expiration date as application for issuance of new waste discharge requirements.

TENTATIVE

F. RESCISSION

Except for enforcement purposes, Order No. 93-037, adopted by this Board on June 14, 1993 is hereby rescinded.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on January 26, 2000.

Dennis A. Dickerson
Executive Officer

/JMM

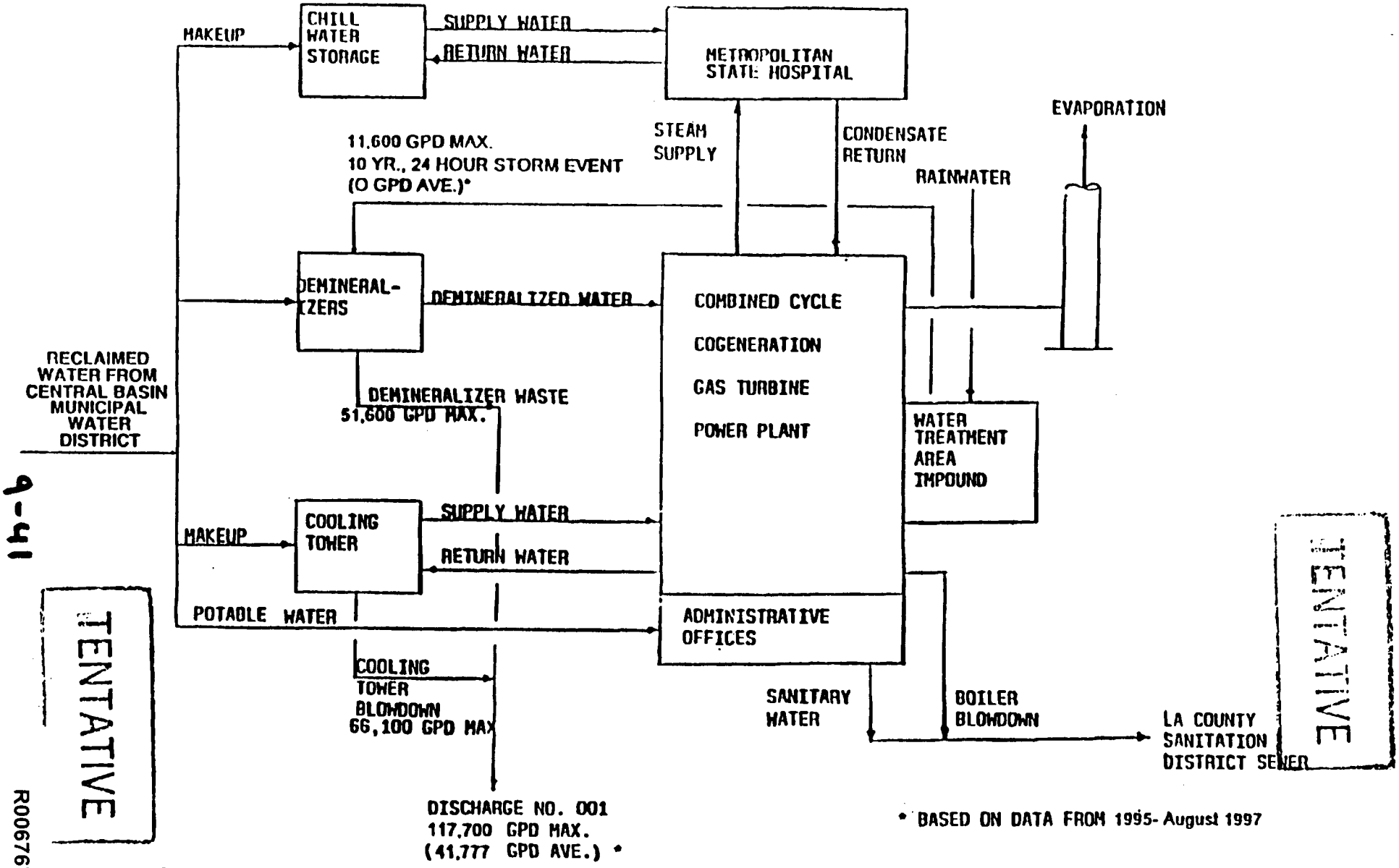
TENTATIVE

LOCATION MAP

FIGURE 1

WHEELABRATOR NORWALK ENERGY COMPANY INC.
METROPOLITAN STATE HOSPITAL COGENERATIONPLANT
11500 BALSAM STREET
NORWALK, LOS ANGELES COUNTY, CALIFORNIA

R0067676



* BASED ON DATA FROM 1995- August 1997

SCHEMATIC OF WATER FLOW

WHEELABRATOR NORWALK ENERGY COMPANY INC.
METROPOLITAN STATE HOSPITAL COGENERATION PLANT
11500 BALSAM STREET
NORWALK, LOS ANGELES COUNTY, CALIFORNIA

FIGURE 2

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM No. CI-6767
for
WHEELABRATOR NORWALK ENERGY COMPANY, INC.
(Metropolitan State Hospital Cogeneration Plant)
(CA0059927)

I. REPORTING REQUIREMENTS

A. The discharger shall implement this monitoring program on the effective date of this Order. The first monitoring report under this program shall be received by April 15, 2000.

Monitoring reports shall be submitted by the dates in the following schedule:

Reporting Period	Report Due
January - March	April 15
April - June	July 15
July - September	October 15
October - December	January 15
Annual	March 1

B. If no discharge occurs during any monitoring period, the report shall so state.

C. The monitoring reports shall specify the type of water discharged to Discharge Serial No. 001. If the discharger starts to use reclaimed water at any given time, the monitoring frequency of analysis shall be conducted according to Section III.B.

D. Laboratory analyses - all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services Environmental Laboratory Accreditation Program (ELAP). A copy of laboratory certification shall be provided each time a new and/or renewal is obtained from ELAP.

E. For every item where the requirements are not met, Wheelabrator shall submit a statement of the cause(s) and actions undertaken or proposed which will bring the discharge into full compliance with waste discharge requirements at the earliest possible time, and submit a timetable for implementation of these actions.

F. By March 1 of each year, Wheelabrator shall submit an annual report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, Wheelabrator shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with waste discharge requirements.

TENTATIVE

II. MONITORING REQUIREMENTS

A. Sampling station(s) shall be established at the discharge point and shall be located where representative samples of the effluent can be obtained. Provisions shall be made to enable visual inspections before discharge. In the event of presence of oil sheen, debris, and/or other objectionable materials or odors, discharge shall not be commenced before compliance with the requirements is ascertained. Any visual observation shall be included in the monitoring report.

B. Quarterly monitoring shall be performed during the months February, May, August and November. Annual monitoring shall be performed during the month of January.

C. If any result of any analysis exceeds the effluent limitations, the frequency of analysis shall be increased to weekly within one week of knowledge of the test result. Weekly testing shall continue for at least 4 consecutive weeks until full compliance with the discharge limitations has been demonstrated, after which the frequency shall revert to as previously designated.

D. All analyses shall include the chain of custody (including but not limited to date and time of sampling, date of analyses, name of person who performed the analyses), QA/QC, method of analysis and detection limits, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.

E. The detection limits employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the discharger can demonstrate that a particular detection limit is not attainable and obtains approval for a higher detection limit from the Executive Officer. At least once a year, the discharger shall submit a list of the analytical methods employed for each test and associated laboratory quality assurance/quality control procedures.

III. EFFLUENT MONITORING

A. The following shall constitute the effluent monitoring program for Discharge Serial No. 001 using city-supplied water:

TENTATIVE

Constituents	Units	Type of Sample	Minimum[1] Frequency of Analysis
pH	pH units	grab	daily
Total waste flow	gal/day	-----	daily
Temperature	°F	grab	daily
Residual chlorine[2]	mg/L	grab	monthly
Suspended solids	mg/L	grab	monthly
Settleable solids	ml/L	grab	monthly
Oil and grease	mg/L	grab	monthly
$BOD_5 20°C$	mg/L	grab	monthly
Turbidity	NTU	grab	monthly
Sulfides	mg/L	grab	monthly
Surfactants (MBAS)	mg/L	grab	monthly
Acute Toxicity[3]	%Survival	grab	annually
Other priority pollutants (See attached list)	µg/L	grab	annually

B. The following shall constitute the effluent monitoring program for Discharge Serial No. 001 using reclaimed water:

Constituents	Units	Type of Sample	Minimum[1] Frequency of Analysis
pH	pH units	grab	daily
Total waste flow	gal/day	-----	daily
Temperature	°F	grab	daily
Residual chlorine[2]	mg/L	grab	monthly
Suspended solids	mg/L	grab	monthly
Settleable solids	ml/L	grab	monthly
Oil and grease	mg/L	grab	monthly
$BOD_5 20°C$	mg/L	grab	monthly
Turbidity	NTU	grab	monthly
Sulfides	mg/L	grab	monthly
Surfactants (MBAS)	mg/L	grab	monthly
Arsenic	µg/L	grab	monthly
Cadmium	µg/L	grab	monthly
Chromium	µg/L	grab	monthly
Copper	µg/L	grab	monthly
Lead	µg/L	grab	monthly

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Constituents	Units	Type of Sample	Minimum[1] Frequency of Analysis
Mercury	µg/L	grab	monthly
Selenium	µg/L	grab	monthly
Silver	µg/L	grab	monthly
Zinc	µg/L	grab	monthly
Phenol	µg/L	grab	quarterly
Phenolic compounds	µg/L	grab	quarterly
Benzene	µg/L	grab	quarterly
Toluene	µg/L	grab	quarterly
Xylene	µg/L	grab	quarterly
Ethylene dibromide	µg/L	grab	quarterly
Ethylbenzene	µg/L	grab	quarterly
Carbon tetrachloride	µg/L	grab	quarterly
Tetrachloroethylene	µg/L	grab	quarterly
Trichloroethylene	µg/L	grab	quarterly
1,1-dichloroethylene	µg/L	grab	quarterly
1,1-dichloroethane	µg/L	grab	quarterly
1,2-dichloroethane	µg/L	grab	quarterly
Lindane	µg/L	grab	quarterly
Methylene chloride	µg/L	grab	quarterly
Chloroform	µg/L	grab	quarterly
Bromodichloromethane	µg/L	grab	quarterly
1,4-dichlorobenzene	µg/L	grab	quarterly
Methyl Tertiary Butyl Ether	µg/L	grab	quarterly
Vinyl chloride	µg/L	grab	quarterly
Acute Toxicity[3]	%Survival	grab	annually
Other priority pollutants (See attached list)	µg/L	grab	annually

[1] During the wet weather, stormwater runoff shall also be monitored at the same frequency.

[2] If no chlorine is added, the report shall so state.

[3] By the method specified in "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" - September 1991, (EPA/600/4-90/027). Submission of bioassay results should include the information noted on pages 70-73 of the "Methods". The fathead minnow (Pimephales promelas) shall be used as the test species.

If the results of the toxicity test yields a survival of less than 90%, then the frequency of analyses shall increase to monthly until at least three test results have been obtained and full compliance with Effluent Limitations has been demonstrated, after which the frequency of analyses shall revert to annually. Results of toxicity tests shall be included in the first monitoring report following sampling.

TENTATIVE

IV. INPLANT WASTES STREAMS MONITORING

Constituents	Units	Type of Sample	Minimum Frequency of Analysis
Waste flow	gal/day	----	daily
Total suspended solids	mg/L	grab	monthly
Oil & grease	mg/L	grab	monthly
Total residual oxidant	mg/L	grab	monthly
Total chromium	mg/L	grab	monthly
Total zinc	mg/L	grab	monthly

V. STORM WATER POLLUTION PREVENTION PLAN

The monitoring program shall also document the elimination or reduction of specific pollutants, resulting from implementation of Best Management Practices (BMPs).

Ordered by:

Dennis A. Dickerson
Executive Officer

Date: January 26, 2000

TENTATIVE

PRIORITY POLLUTANTS

Metals

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

Miscellaneous

Cyanide
Asbestos (only if specifically required)

Pesticides & PCBs

Aldrin
Chlordane
Dieldrin
4,4'-DDT
4,4'-DDE
4,4'-DDD
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC
Toxaphene
PCB 1016
PCB 1221
PCB 1232
PCB 1242
PCB 1248
PCB 1254
PCB 1260

Base/Neutral Extractibles

Acenaphthene
Benzidine
1,2,4-trichlorobenzene
Hexachlorobenzene
Hexachloroethane
Bis(2-chloroethyl) ether
2-chloronaphthalene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3'-dichlorobenzidine
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
Fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
Bis(2-chloroisopropyl) ether
Bis(2-chloroethoxy) methane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
N-nitrosodiphenylamine
Bis (2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
Benzo(a) anthracene
Benzo(a) pyrene
Benzo(b) fluoranthene
Benzo(k) fluoranthene
Chrysene
Acenaphthylene
Anthracene
1,12-benzoperylene
Fluorene
Phenanthrene
1,2,5,6-dibenzanthracene
Indeno (1,2,3-cd) pyrene
Pyrene
TCDD

Acid Extractibles

2,4,6-trichlorophenol
P-chloro-m-cresol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
Pentachlorophenol
Phenol

Volatile Organics

Acrolein
Acrylonitrile
Benzene
Carbon tetrachloride
Chlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
Chloroethane
Chloroform
1,1-dichloroethylene
1,2-trans-dichloroethylene
1,2-dichloropropane
1,2-dichloropropylene
Ethylbenzene
Methylene chloride
Methyl chloride
Methyl bromide
Bromoform
Bromodichloromethane
Dibromochloromethane
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride
2-chloroethyl vinyl ether
Xylene

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vbc 7/6/99

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9.3

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

320 West 4th Street, Suite 200, Los Angeles

FACT SHEET
WASTE DISCHARGE REQUIREMENTS
FOR
CAMROSA WATER DISTRICT
(Camrosa Water Reclamation Facility)

NPDES NO. CA0059501
Public Notice No.: 99-083

REVISED TENTATIVE

I. INTRODUCTION

The Camrosa Water District (hereinafter CWD or Discharger), discharges municipal and industrial wastewater from the Camrosa Water Reclamation Facility (CWRF) under waste discharge requirements contained in Order No. 93-053 (NPDES No. CA0059501) adopted by this Regional Board on September 27, 1993.

CWD has filed a Report of Waste Discharge (ROWD) and has applied for renewal of its waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permit.

FACILITY MAILING ADDRESS	FACILITY LOCATION
7385 Santa Rosa Road	1900 S. Lewis Road
Camarillo, CA 93012	Camarillo, CA 93012
	Contact: Christopher M. Smith, (805) 482-4677

The proposed waste discharge requirements and NPDES Permit will expire on December 10, 2003.

II. DESCRIPTION OF FACILITY

CWD operates the CWRF, located at 1900 Lewis Road, Camarillo, California. CWRF is a tertiary wastewater treatment plant with a design capacity of 1.5 million gallons per day (mgd). Treatment consists of a bar screen, headworks lift station, Eimco© Carousel denitIR© extended aeration system, anoxic denitrification, secondary clarification, Parkson upflow sand filtration, chlorination, and impoundment for reclamation. Biosolids from the secondary clarifiers are impounded, dried in sludge drying beds at the plant, and transported to a land application project in Kern County to be used for soil reclamation.

III. DESCRIPTION OF DISCHARGE

Tertiary treated effluent is discharged to Calleguas Creek, through Discharge Serial No. 001 (Latitude 34°10'53", Longitude 119°01'43"), only during rainy periods, when land

reclamation is not feasible or effective due to ground saturation. Calleguas Creek is tributary to Mugu Lagoon, and is part of the Calleguas Creek Watershed Management Area. Treated effluent is normally discharged into four storage ponds prior to reclamation under separate Waste Discharge Requirements contained in Order No. 95-059. Under these requirements, treated wastewater is reclaimed and used for irrigation of various food crops.

The ROWD describes the 1998 discharge as follows:

Constituent	Unit	Annual Average	Lowest Monthly Avg.	Highest Monthly Avg.
Total dissolved solids	mg/L	850	750	950
Suspended solids	mg/L	1	0.5	4
Settleable solids	ml/L	< 0.1	< 0.1	< 0.1
Nitrate-N	mg/L	4	2	6
Nitrite-N	mg/L	0.01	0.01	0.01
Ammonia-N	mg/L	< 0.1	< 0.1	< 0.1

IV. BASIS FOR THE PROPOSED WASTE DISCHARGE REQUIREMENTS

A. BENEFICIAL USES

Receiving Surface Waters are:

(Calleguas Creek - Hydro Unit 403.11)
- potential: municipal and domestic supply;
- existing: agricultural supply, groundwater recharge, freshwater replenishment, contact and non-contact water recreation, warm freshwater habitat, cold freshwater habitat, wildlife habitat, rare, threatened or endangered species, and wetland habitat;

(Calleguas Creek Estuary - Hydro Unit 403.11)
- potential: navigation, water contact recreation;
- existing: non-contact water recreation, commercial and sport fishing, estuarine habitat, wildlife habitat, rare, threatened or endangered species, migration of aquatic organisms, spawning, reproduction, and/or early development, and wetland habitat;

(Mugu Lagoon - Hydro Unit 403.11)
- potential: water contact recreation;
- existing: navigation, non-contact water recreation, commercial and sport fishing, estuarine habitat, marine habitat, wildlife habitat, preservation of biological habitats, rare, threatened or endangered species, migration of aquatic organisms, spawning, reproduction, and/or early development, shellfish harvesting, and wetland habitat.

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B. WATER QUALITY IN CALLEGUAS CREEK WATERSHED

The 1998 State Water Resources Control Board's (SWRCB) Water Quality Assessment (WQA) identified the water quality conditions of water bodies in the state. Within the Calleguas Creek Watershed the following water bodies are classified as impaired waterbodies, and are listed on the 1998 303(d) List: Mugu Lagoon, tributaries from duck ponds to Mugu Lagoon, Calleguas Creek (Reaches 1 through 3), Revolon Slough and Beardsley Channel/Wash, Conejo Creek, Arroyo Conejo, Arroyo Conejo North Fork, Arroyo Las Posas, and Arroyo Simi. Impaired waters do not support beneficial uses.

Water quality problems associated with this watershed are: algae, ammonia, boron, chloride, metals, nitrogen, nitrate and nitrite, pesticides, low dissolved oxygen, PCBs, sediment toxicity, sedimentation, sulfate, total dissolved solids (TDS), and trash. Known and/or suspected pollution sources include: urban and agricultural runoff, septic tanks, abandoned wells, seawater intrusion, mining operations, and storm water.

C. STATUTES, RULES, AND REGULATIONS APPLICABLE TO DISCHARGE:

1. Section 301(b)(1)(B) of the Clean Water Act requires publicly owned treatment works (POTWs) to meet effluent limitations based upon secondary treatment.

2. Effluent limitations, national standards of performance, toxic and pretreatment effluent standards, established pursuant to Section 208(b), 301, 302, 303(d), 304, 306, 307, and 405 of the Federal Clean Water Act (CWA) and amendments thereto.

3. CWA 402 and 40 CFR Parts 122, 123, and 124 regulations, (and therefore State Board Order Nos. 91-13-DWQ and 92-12-DWQ), for storm water discharges.

4. CWA Section 303(d)(4) and CWA Section 402(o)(2), USEPA Antibacksliding Policy.

5. Section 176(c) of the Clean Air Act requires POTWs to conform to the State Implementation Plan which places limitations on anticipated growth and emissions.

6. 40 CFR Part 133 Secondary Treatment Regulations.

7. 40 CFR Part 304 regulations for implementation of USEPA's water quality-based limitations for toxic pollutants.

8. 40 CFR Part 403 regulations for the development and implementation of industrial wastewater pretreatment program.

9. Division 7 of the California Water Code is applicable to discharges to navigable water and tributaries thereto.

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10. Wastewater Reclamation Criteria (Title 22, Division 4, California Code of Regulations).

11. California Drinking Water Standards (California Domestic Water Quality and Monitoring Regulations, Title 22, California Code of Regulations).

12. State Water Resources Control Board Thermal Plan (revised September 18, 1975).

13. State Water Resources Control Board Resolution No. 68-16, (adopted on October 28, 1968), and USEPA 40 CFR 131.2, "Antidegradation Policies."

14. State Water Resources Control Board Resolution No. 77-1, Policy with Respect to Water Reclamation in California (Adopted January 6, 1977).

15. Los Angeles Regional Board Resolution No. 97-02, "Amendment to the Water Quality Control Plan to incorporate a Policy for Addressing Levels of Chloride in Discharges of Wastewaters," adopted January 27, 1997. This Basin Plan amendment was adopted by the State Water Resources Control Board (Resolution No. 97-094) and by the Office of Administrative Law on January 9, 1998.

16. Water quality objectives for surface water and groundwater recharge are followed, according to the Water Quality Control Plan (Basin Plan) for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted June 13, 1994.

D. SPECIFIC RATIONALES FOR EACH OF THE NUMERICAL EFFLUENT LIMITATIONS:

1. The following pollutants are in the current permit (Order No. 93-053) and the numerical limitations are taken from:
   1/ 40 CFR Part 133;
   2/ The Basin Plan;
   3/ The Thermal Plan;
   4/ National Toxics Rule;
   5/ EPA Gold Book (National Recommended Water Quality Criteria) ; or,
   6/ MCL.

a. Conventional and nonconventional pollutants:

		DISCHARGE limitations		
Constituents	Units	30-Day Average	7-Day Average	Daily Maximum
pH	pH units	(within the range of 6 - 9) [1/]		
Settleable solids	ml/L	0.1 [2/]	----	0.3 [2/]
BOD_5 (20°C)	mg/L	30 [1/]	45 [1/]	---

Constituents	Units	30-Day Average	7-Day Average	Daily Maximum
Suspended solids	mg/L	30 [1/]	45 [1/]	---
Temperature	° F	----	----	100 [3/]
Oil and grease	mg/L	10 [2/]	----	15 [2/]
Total dissolved solids	mg/L	----	----	850 [1/]
Sulfate	mg/L	----	----	250 [2/]
Chloride	mg/L	----	----	190 [2/] *
Boron	mg/L	----	----	1.0 [2/]
Fluoride	mg/L	----	----	1.2 [2/]
Total residual chlorine	mg/L	----	----	0.1 [2/]
NO_3-N + NO_2-N	mg/L	----	----	10 [2/]
Coliform	MPN/100 mL	----	----	2.2 [2/]
Turbidity	NTU	----	----	5 [2/]
Acute toxicity	% Survival	----	----	90 [2/]
Radioactivity	pCi/L	(Title 22, CCR, Ch. 15, Art.5)		

* The Instantaneous Maximum chloride limitation of 150 mg/L shall apply after January 9, 2001, when the interim limitation of 190 mg/L expires.

b. Toxic pollutants:

		Discharge Limitations		
Constituent	Units	Instantaneous Maximum	Daily Average	30-Day Average
Arsenic	µg/L	----	—	50 [2/]
Cadmium	µg/L	a [5/]	a [5/]	----
Chromium (VI)[7/]	µg/L	16 [5/]	11 [5/]	----
Copper	mg/L	b [5/]	b [5/]	----
Lead	µg/L	c [5/]	c [5/]	2.5 [5/]

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Constituent	Units	Instantaneous Maximum	Daily Average	30-Day Average
Mercury	µg/L	----	----	2 [2/]
Nickel	µg/L	d [5/]	d [5/]	----
Selenium	µg/L	---	5 [5/]	----
Silver	µg/L	e [5/]	e [5/]	----
Zinc	µg/L	f [5/]	f [5/]	----
Endrin	µg/L	----	----	0.8 [5/]
Chlordane	µg/L	2.4 [5/]	0.0043 [5/]	0.002 [5/]
Toxaphene	µg/L	0.73 [5/]	0.0002 [5/]	----
Dieldrin	µg/L	----	----	0.00014 [5/]
Endosulfan	µg/L	0.22 [5/]	0.056 [5/]	----
Heptachlor	µg/L	0.52 [5/]	0.0038 [5/]	----
Hexachlorocyclohexane				
alpha	µg/L	----	----	0.0039 [4/]
beta	µg/L	----	----	0.014 [4/]
gamma	µg/L	----	----	0.019 [2/]
Halomethanes	µg/L	----	----	100 [6/]
Chloroform	µg/L	----	----	5.7 [5/]
Heptachlor epoxide	µg/L	0.52 [5/]	0.0038 [5/]	----
Phenol	µg/L	----	----	300 [5/]
Toluene	µg/L	----	----	150 [2/]
Aldrin	µg/L	----	----	3 [5/]
PAHs	µg/L	----	----	0.0028 [5/]
DDT	µg/L	----	----	0.00059 [5/]
Polychlorinated biphenyls (PCBs)	µg/L	----	----	0.014 [5/]

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a/ The Daily Average limitation for Cadmium = e[0.7852 ln(Hardness) – 2.715] and the Instantaneous maximum = e[1.128 ln(Hardness) - 3.687], where Hardness is expressed as mg/L of $CaCo_3$.

b/ The Daily Average limitation for Copper = e[0.8545 ln(Hardness) - 1.702] and the Instantaneous maximum = e[0.9422 ln(Hardness) - 1.700] , where Hardness is expressed as mg/L of $CaCo_3$.

c/ The Daily Average limitation for Lead = e[1.273 ln(Hardness) - 4.705] and the Instantaneous maximum = e[1.273 ln(Hardness) - 1.460], where Hardness is expressed as mg/L of $CaCo_3$.

d/ The Daily Average limitation for Nickel = e[0.8460 ln(Hardness) + 0.0584] and the Instantaneous maximum = e[0.846 ln(Hardness) + 2.255], where Hardness is expressed as mg/L of $CaCo_3$.

e/ The Daily Average limitation for Silver = e[1.72 ln(Hardness) - 6.52], where Hardness is expressed as mg/L of $CaCo_3$.

f/ The Daily Average limitation for Zinc = e[0.8473 ln(Hardness) + 0.884] and the Instantaneous maximum = e[0.8473 ln(Hardness) + 0.884], where Hardness is expressed as mg/L of $CaCo_3$.

2. The following pollutant is being added to the current permit and the limitation is taken from the Basin Plan.

Constituent	Units	30-Day Average	7-Day Average	Daily Maximum
Detergents (as MBAS)	mg/L	----	----	0.5 [2/]

E. SPECIFIC RATIONALES FOR EACH OF THE NUMERICAL RECEIVING WATER LIMITATIONS

Receiving water requirements are based on 40 CFR Part 122.44 (Establishing limitations, standards, and other permit conditions) and California Water Code (CWC) Section 12363 (Prescribing requirements, considerations, effect of); CWC Section 13267 (Investigation, monitoring, and inspections); CWC Section 13377 (Permits to comply with Federal Acts); and CWC Section 13383 (Monitoring., Inspection, entry, reporting, and record keeping requirements).

The numerical limitation for temperature is based on the Basin Plan and the Thermal Plan.

The numerical limitations for pH, ammonia, and fecal coliform are based on the Basin Plan.

Ammonia limitations are being added to the current permit. The Discharger will have up to 8 years following the adoption of the Basin Plan (i) to make the necessary adjustments/ improvements to meet these objectives; or (ii) to conduct studies leading to an approved, less restrictive, site specific objective for unionized ammonia.

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V. MONITORING

A. INFLUENT MONITORING

The following pollutants are in the proposed tentative Influent Monitoring Program (Order No. 00-XXX):

Constituent	Minimum Frequency of Analysis	Current MRP
Flow	daily	not required
Suspended solids	weekly	same
BOD_5 (20°C)	weekly	same
Chloride	monthly	not required

Additionally, all monitoring under the approved pretreatment program, as previously submitted to this Regional Board, shall remain in force. Priority pollutants not listed in the influent monitoring program shall be monitored according to the previously submitted and approved pretreatment program. Those results shall be reported in the annual report.

B. EFFLUENT MONITORING

The following pollutants are in the proposed tentative Effluent Monitoring Program (Order No. 00-XXX):

Constituent	Minimum Frequency of Analysis	Current MRP
Total waste flow	daily	same
Turbidity	daily	same
Total residual chlorine	daily	same
Total coliform	daily	same
Fecal coliform	daily	not required
pH	daily	same
Temperature	weekly	same
Settleable solids	weekly	same
Suspended solids	weekly	same
BOD_5 (20°C)	weekly	same
Dissolved oxygen	weekly	not required
Total dissolved solids	weekly	same
Sulfate	weekly	same
Chloride	weekly	same
Hardness	monthly	same
Oil and grease	monthly	weekly (more freq.)
Ammonia nitrogen	weekly	same
Nitrate nitrogen	weekly	same
Nitrite nitrogen	weekly	same
Organic nitrogen	weekly	not required
Total nitrogen	weekly	not required

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Constituent	Minimum Frequency of Analysis	Current MRP
Total kjeldahl nitrogen(TKN)	weekly	not required
Total phosphate	weekly	not required
Boron	monthly	weekly (more freq.)
Fluoride	quarterly	same
Surfactants (anionic, cationic, and nonionic)	quarterly	same
Cyanide	quarterly	same
Phenols	quarterly	same
Aldrin	quarterly	same
Arsenic	quarterly	same
Cadmium	quarterly	same
Chlordane	quarterly	same
Chloroform	quarterly	same
Chromium(VI)	quarterly	same
Copper	quarterly	same
Lead	quarterly	annually
Mercury	quarterly	annually
Nickel	quarterly	annually
Selenium	quarterly	annually
Silver	quarterly	annually
Zinc	quarterly	annually
DDT	quarterly	same
Chronic toxicity	quarterly	same
Acute Toxicity	quarterly	same
Benzene	annually	quarterly
1,2-dichlorobenzene	quarterly	same
1,3-dichlorobenzene	quarterly	same
1,4-dichlorobenzene	quarterly	same
Dieldrin	annually	same
Endosulfan	annually	same
Endrin	annually	same
Fluoranthene	annually	same
Halomethanes	annually	same
Heptachlor	annually	same
Heptachlorepoxide	annually	same
Hexachlorobenzene	annually	same
Hexachlorocyclohexane		
alpha	annually	same
beta	annually	same
gamma (Lindane)	annually	same
Polyaromatic hydrocarbons (PAHs)	annually	same
Polychlorinated biphenyls (PCBs)	annually	same
Pentachlorophenol	annually	same
Toluene	annually	same
Toxaphene	annually	same
Tributyltin	annually	same

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Constituent	Minimum Frequency of Analysis	Current MRP
Tetrachlorodibenzo-p-dioxin (TCDD) equivalents	annually	same
2,4,6-trichlorophenol	annually	same
Radioactivity	annually	same

C. RECEIVING WATER MONITORING PROGRAM

The current MRP lists these as the receiving water monitoring stations:

Station No.	Description
R-1	Calleguas Creek, about 91.5 meters (300 feet) upstream from the discharge.
R-2	Calleguas Creek, about 91.5 meters (300 feet) downstream from the discharge.
R-3	Calleguas Creek, about 30.5 meters (100 feet) downstream from the discharge.

CWD is one of the Dischargers participating in conducting the Calleguas Creek Characterization Study (CCCS) Surface Water Element (SWE)& Groundwater Element (GWE). The SWE consisted of 15 surface water monitoring locations and 8 source monitoring locations. CWD was responsible for sampling the following stations for one year:

Station	Location Description
D	Camrosa Water Reclamation Facility Discharge point
#6	Calleguas Creek below Camrosa Water Reclamation Facility, at Camarillo Drive (Downstream of the discharge point)
#7	Calleguas Creek above Mugu Lagoon
#14	Ag drain at Calleguas Creek
#15	Mugu Lagoon

Under the CCCS SWE, General water quality constituents were monitored monthly, metals and organics quarterly, and toxicity bi-monthly.

CWD no longer has access to stations SWE-7, SWE-14, and SWE-15. CWD was given temporary access to the Navy base for the duration of the CCCS SWE monitoring. The following pollutants are in the proposed tentative Receiving Water Monitoring Program (Order No. 00-XXX), for Stations R-1 and SWE-6:

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Constituent	Min. Frequency of Analysis	Current MRP
Flow	monthly	same (1 station reqd.)
Temperature	monthly	same
pH	monthly	same
BOD_5 (20°C)	monthly	not required
Dissolved oxygen	monthly	same
Chloride	monthly	not required
Turbidity	monthly	not required
Residual chlorine	monthly	same
Total coliform	monthly	same
Fecal coliform	monthly	not required
Settleable solids	monthly	not required
Nitrate nitrogen	monthly	same
Nitrite nitrogen	monthly	same
Ammonia nitrogen	monthly	same
Organic nitrogen	monthly	not required
Total kjeldahl nitrogen(TKN)	monthly	not required
Total nitrogen	monthly	not required
Total surfactants	quarterly	not required
Total phosphate	quarterly	monthly (more freq.)
Suspended solids	quarterly	not required
Total dissolved solids	quarterly	not required
Oil and grease	quarterly	not required
Sulfate	quarterly	not required
Boron	quarterly	not required
Hardness	quarterly	not required
Chronic toxicity	quarterly	not required
Arsenic	semi-annually	not required
Cadmium	semi-annually	not required
Chromium	semi-annually	not required
Copper	semi-annually	not required
Nickel	semi-annually	not required
Lead	semi-annually	not required
Zinc	semi-annually	not required
Chlorinated pesticides	semi-annually	not required
N and P pesticides	semi-annually	not required
Base, neutral, & acid extractable (BNA)	semi-annually	not required
Total petroleum hydrocarbon (TPH)	semi-annually	not required

VI. WRITTEN COMMENTS

Interested persons are invited to submit written comments upon these tentative Waste Discharge Requirements. Comments should be submitted either in person, or by mail to:

REVISED TENTATIVE

Veronica Cuevas-Alpuche
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Written comments regarding the tentative Order must be received at the Regional Board office by the close of business on January 7, 2000, in order to be evaluated by Board staff and included in the Board's agenda folder. Comments received after that date will be provided, ex agenda, to the Board for consideration, but may result in delay of the tentative Order.

VII. PUBLIC HEARING

The proposed Waste Discharge Requirements will be considered by the Regional Board at a public hearing to be held on December 9, 1999, at the Camarillo City Hall, City Council Chambers, 601 Carmen Drive, Camarillo, CA at 9:00 A.M..

VIII. WASTE DISCHARGE REQUIREMENTS APPEALS

Any person may petition State Water Resources Control Board to review the decision of the Regional Board regarding the final Waste Discharge Requirements. A petition must be made within 30 days of the Regional Board public hearing.

IX. ADDITIONAL INFORMATION

The application, related documents, tentative effluent limitations and special conditions, comments received, and other information are on file and may be inspected at 320 West 4th Street, Suite 200, Los Angeles, CA 90013, at any time between 8:30 AM and 4:45 PM, Monday through Friday by calling (213) 576-6600.

X. REGISTER OF INTERESTED PERSONS

Any person interested in this particular application or NPDES permit may leave their name, address, and phone number with the Board as a part of the Board's file.

REVISED TENTATIVE

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 00-XXX

NPDES NO. CA0059501

WASTE DISCHARGE REQUIREMENTS FOR CAMROSA WATER DISTRICT (Camrosa Water Reclamation Facility)

REVISED TENTATIVE

The California Regional Water Quality Control Board (RWQCB), Los Angeles Region (Regional Board), finds:

1. Camrosa Water District (hereinafter CWD or Discharger) discharges municipal and industrial wastewater from the Camrosa Water Reclamation Facility (CWRF) under waste discharge requirements contained in Order No. 93-053 (NPDES No. CA0059501) adopted by this Regional Board on September 27, 1993.

2. CWD has filed a Report of Waste Discharge (ROWD) and has applied for renewal of its waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permit.

3. CWD operates the CWRF, located at 1900 Lewis Road, Camarillo, California. In 1995, CWD began upgrading the secondary wastewater treatment plant. In April 1997, the upgrade was completed and the new tertiary wastewater treatment plant was put on line. CWRF has a design capacity of 1.5 million gallons per day (mgd), and a treatment system consisting of: a bar screen, headworks lift station, Eimco© Carousel denitIR© extended aeration system, anoxic denitrification, secondary clarification, Parkson upflow sand filtration, chlorination, and impoundment for reclamation. Biosolids from the secondary clarifiers are impounded, dried in sludge drying beds at the plant, and transported to a land application project in Kern County to be used for soil reclamation. CWD submitted a Classification Certification Form, to the State Water Resources Control Board (SWRCB), so that the CWRF can be certified as a tertiary wastewater treatment plant. Their certification is pending SWRCB approval.

   Figures 1 and 2 show the location of the plant and the schematic of wastewater flow.

4. Treated effluent is typically reclaimed and used for irrigation of various food crops, while any unused effluent is discharged into four storage ponds under separate Waste Discharge Requirements contained in Order No. 95-059. The discharge of treated effluent to surface water occurs during rainy periods only, when there is little or no demand for irrigation water and the storage ponds are at or nearing their storage capacity. Treated effluent from the storage ponds, which has a detention time prior to

discharge of at least 50 days, is discharged to Calleguas Creek, through Discharge Serial No. 001 (Latitude 34°10'53", Longitude 119°01'43"). Calleguas Creek is tributary to Mugu Lagoon, and is part of the Calleguas Creek Watershed Management Area.

3. The ROWD describes the 1998 discharge as follows:

Constituent	Unit	Annual Average	Lowest Monthly Avg.	Highest Monthly Avg.
Total dissolved solids	mg/L	850	750	950
Suspended solids	mg/L	1	0.5	4
Settleable solids	ml/L	< 0.1	< 0.1	< 0.1
Nitrate-N	mg/L	4	2	6
Nitrite-N	mg/L	0.01	0.01	0.01
Ammonia-N	mg/L	< 0.1	< 0.1	< 0.1

6. The Regional Board has classified this discharge as a significant discharge, since it has a Threat to Water Quality of Category 2 and Complexity rating of B, or a combined rating of 2-B.

7. The Board adopted a revised Water Quality Control Plan (Basin Plan) for the Coastal Watersheds of Los Angeles and Ventura Counties on June 13, 1994. The plan contains beneficial uses and water quality objectives for Calleguas Creek and its tributaries, and for the Ventura Central ground water basin.

8. The beneficial uses of the receiving waters are:

(Calleguas Creek - Hydro Unit 403.11)
- potential: municipal and domestic supply;
- existing: agricultural supply, groundwater recharge, freshwater replenishment, contact and non-contact water recreation, warm freshwater habitat, cold freshwater habitat, wildlife habitat, rare, threatened or endangered species, and wetland habitat;

(Calleguas Creek Estuary - Hydro Unit 403.11)
- potential: navigation, water contact recreation;
- existing: non-contact water recreation, commercial and sport fishing, estuarine habitat, wildlife habitat, rare, threatened or endangered species, migration of aquatic organisms, spawning, reproduction, and/or early development, and wetland habitat;

(Mugu Lagoon - Hydro Unit 403.11)
- potential: water contact recreation;
- existing: navigation, non-contact water recreation, commercial and sport fishing, estuarine habitat, marine habitat, wildlife habitat, preservation of biological habitats, rare, threatened or endangered species, migration of aquatic organisms, spawning, reproduction, and/or early development, shellfish harvesting, and wetland habitat.

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9. Effluent limitations, national standards of performance, and toxic and pretreatment effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306 and 307 of the Federal Clean Water Act and amendments thereto, are applicable to the discharges to navigable waters and tributaries thereto.

10. The 1998 SWRCB Water Quality Assessment (WQA) identified the water quality conditions of water bodies in the state. Within the Calleguas Creek Watershed the following water bodies are classified as impaired waterbodies, and are listed on the 1998 California 303(d) List and TMDL Schedule: Mugu Lagoon, tributaries from duck ponds to Mugu Lagoon, Calleguas Creek (Reaches 1 through 3), Revolon Slough and Beardsley Channel/Wash, Conejo Creek, Arroyo Conejo, Arroyo Conejo North Fork, Arroyo Las Posas, and Arroyo Simi. Impaired waters do not meet water quality objectives.

    Water quality problems associated with this watershed are: algae, ammonia, boron, chloride, metals, nitrogen, nitrate and nitrite, pesticides, low dissolved oxygen, PCBs, sediment toxicity, sedimentation, sulfate, total dissolved solids (TDS), and trash. Known and/or suspected pollution sources include: urban and agricultural runoff, septic tanks, abandoned wells, seawater intrusion, mining operations, and storm water.

11. On March 26, 1990, the Board adopted Resolution No. 90-004, "Effects of Drought Induced Water Supply Changes and Water Conservation Measures on Compliance with Waste Discharge Requirements within the Los Angeles Region." This resolution, commonly referred to as the Drought Policy, was intended to provide short-term and temporary relief to publicly owned treatment works (POTWs) who were unable to comply with limits for chloride due to the effects of drought on chloride levels in supply waters imported into the Region.

    On January 27, 1997, the Regional Board adopted Resolution No. 97-02, Amendment to the Water Quality Control Plan to incorporate a Policy for Addressing Levels of Chloride in Discharges of Wastewaters." This Basin Plan amendment was adopted by the State Water Resources Control Board (Resolution No. 97-094) and by the Office of Administrative Law on January 9, 1998. Resolution No. 97-02 revised water quality objectives for certain surface waters. However, due to concerns about the potential future impacts to agricultural resources in Ventura County, the Resolution granted a three-year variance for interim relief to the POTW Dischargers in the Santa Clara River Watershed and the Calleguas Creek Watersheds, until the water quality standards issue is resolved.

    On April 13, 1998, the Regional Board adopted Order No. 98-027, which temporarily amended CWD CWRF's chloride daily maximum effluent limit to 190 mg/L. This interim limit will expire on January 9, 2001, or whenever the water quality objective is revised (if ever), whichever is sooner.

    In 1998, CWD discharged treated effluent to surface waters only during the months of February and March. During that time, weekly chloride concentrations of the final effluent ranged from 149 mg/L to 189 mg/L, and averaged 161 mg/L. The daily maximum chloride limitation in Order No. 93-053 was 150 mg/L.

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12. There is public contact in the downstream areas; hence, the quality of treated effluent discharged to Calleguas Creek and its tributaries must be such that no health hazard is created.

13. CWD has filed a Notice of Intent (NOI) and has implemented a Storm Water Pollution Prevention Plan (SWPPP), to comply with the general NPDES permit for stormwater discharges associated with industrial activity. Those storm water requirements shall be incorporated into this Order.

14. Pursuant to 40 CFR Part 403, the CWD has developed and implemented a USEPA approved industrial wastewater pretreatment program.

15. The requirements contained in this Order are based on the Basin Plan, USEPA National Recommended Water Quality Criteria, other Federal and State plans, policies, guidelines, and best engineering judgement, and, as they are met, will be in conformance with the goals of the aforementioned water quality control plans and will protect and maintain existing beneficial uses of the receiving water.

16. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) in accordance with Water Code Section 13389.

The Regional Board has notified the Discharger and interested agencies and persons of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Clean Water Act or amendments thereto, and shall take effect at the end of ten days from the date of its adoption, provided the Regional Administrator, USEPA, has no objections.

IT IS HEREBY ORDERED that Camrosa Water District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

I. DISCHARGE LIMITATIONS

A. Effluent Limitations

1. Waste discharged shall be limited to treated municipal wastewater only, as proposed.

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2. The discharge of an effluent from Discharge Serial No. 001 with constituents in excess of the following limits is prohibited:

a. Conventional and nonconventional pollutants:

		Discharge Limitations		
Constituents	Units	30-Day Average [1/]	7-Day Average [1/]	Daily Maximum [2/]
Settleable solids	ml/L	0.1	----	0.3
BOD_5 (20°C)	mg/L	30	45	---
	lbs/day[3/]	375	563	---
Suspended solids	mg/L	30	45	---
	lbs/day[3/]	375	563	---
Oil and grease	mg/L	10	----	15
	lbs/day[3/]	125	----	187
Total dissolved solids	mg/L	----	----	850
	lbs/day[3/]	----	----	10633
Sulfate	mg/L	----	----	250
	lbs/day[3/]	----	----	3127
Chloride	mg/L	----	----	190 [4/]
	lbs/day[3/]	----	----	2377
Boron	mg/L	----	----	1.0
	lbs/day[3/]	----	----	12.5
Fluoride	mg/L	----	----	1.2
	lbs/day[3/]	----	----	15
Total residual chlorine	mg/L	----	----	0.1
	lbs/day	----	----	1.25
Detergents (as MBAS)	mg/L	----	----	0.5
	lbs/day[3/]	----	----	6.25
Nitrate-nitrogen plus Nitrite-nitrogen	mg/L	----	----	10
	lbs/day[3/]	----	----	125

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1/ As defined in Standard Provisions, Attachment N.

2/ Except for grab samples, the daily maximum effluent concentration limit shall apply to flow-weighted 24-hour composite samples.

3/ Based on the plant design flow rate of 1.5 mgd. During events such as storms in which the flow exceeds the design capacity, the mass discharge rate limitations will be tabulated using the concentration limits and the actual flow rates.

4/ The Instantaneous Maximum chloride limitation of 150 mg/L shall apply after January 9, 2001, when the interim limitation of 190 mg/L expires.

b. Toxic pollutants:

		Discharge Limitations		
Constituent	Units	Instantaneous Maximum	Daily Average 5/	30-Day Average
Arsenic	µg/L	----	----	50 6/
Cadmium	µg/L	a	a	----
Chromium (VI) 7/	µg/L	16 6/	11	----
Copper	mg/L	b	b	----
Lead	µg/L	c	c	2.5
Mercury	µg/L	----	----	2
Nickel	µg/L	d	d	----
Selenium	µg/L	---	5	----
Silver	µg/L	e	e	----
Zinc	µg/L	f	f	----
Endrin 8/	µg/L	----	----	0.8
Chlordane	µg/L	2.4	0.0043	0.002
Toxaphene	µg/L	0.73	0.0002	----
Dieldrin	µg/L	----	----	0.00014
Endosulfan	µg/L	0.22	0.056	----
Heptachlor	µg/L	0.52	0.0038	----

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Constituent	Units	Discharge Limitations Instantaneous Maximum	Daily Average 5/	30-Day Average
Hexachlorocyclohexane				
alpha	µg/L	----	----	0.0039
beta	µg/L	----	----	0.014
gamma	µg/L	----	----	0.019
Halomethanes 9/	µg/L	----	----	100
Chloroform	µg/L	----	----	5.7
Heptachlor epoxide	µg/L	0.52	0.0038	----
Phenol	µg/L	----	----	300
Toluene	µg/L	----	----	150
Aldrin	µg/L	----	----	3
Polyaromatic hydrocarbon (PAHs)	µg/L	----	----	0.0028
DDT	µg/L	----	----	0.00059
Polychlorinated biphenyls (PCBs)	µg/L	----	----	0.014

5/ Compliance may be determined from a single analysis or from the average of the initial analysis and three additional analyses taken one week apart once the results of the initial analysis are obtained.

6/ Based on total recoverable metals. These limits may be modified to total dissolved metals if the Discharger requests and has conducted a study on the water-effect ratio (WER) according to USEPA guidance document and/or state protocols, if applicable.

7/ The Discharger may, at his option, meet this limitation as total chromium.

8/ ENDRIN shall mean the sum of endrin and endrin aldehyde.

9/ HALOMETHANES shall mean the sum of bromoform, chloroform, bromomethane, chloromethane, chlorodibromomethane, and dichlorobromomethane.

a/ The Daily Average limitation for Cadmium = e[0.7852 ln(Hardness) – 2.715] and the Instantaneous maximum = e[1.128 ln(Hardness) - 3.687], where Hardness is expressed as mg/L of $CaCo_3$.

b/ The Daily Average limitation for Copper = e[0.8545 ln(Hardness) - 1.702] and the Instantaneous maximum = e[0.9422 ln(Hardness) - 1.700] , where Hardness is expressed as mg/L of $CaCo_3$.

c/ The Daily Average limitation for Lead = e[1.273 ln(Hardness) - 4.705] and the Instantaneous maximum = e[1.273 ln(Hardness) - 1.460], where Hardness is expressed as mg/L of $CaCo_3$.

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d/ The Daily Average limitation for Nickel = e[0.8460 ln(Hardness) + 0.0584] and the Instantaneous maximum = e[0.846 ln(Hardness) + 2.255], where Hardness is expressed as mg/L of $CaCo_3$.

e/ The Daily Average limitation for Silver = e[1.72 ln(Hardness) - 6.52], where Hardness is expressed as mg/L of $CaCo_3$.

f/ The Daily Average limitation for Zinc = e[0.8473 ln(Hardness) + 0.884] and the Instantaneous maximum = e[0.8473 ln(Hardness) + 0.884], where Hardness is expressed as mg/L of $CaCo_3$.

3. Radioactivity of the wastes discharged shall not exceed the limits specified in Title 22, Chapter 15, Article 5, Section 64443, of the California Code of Regulations, or subsequent revisions.

4. The arithmetic mean of BOD_5 (20°C) and suspended solids values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same time during the same period.

5. The wastes discharged to water courses shall at all times be adequately disinfected. For the purpose of this requirement, the wastes shall be considered adequately disinfected if the median number of coliform organisms at some point in the treatment process does not exceed 2.2 per 100 milliliters, and the number of coliform organisms does not exceed 23 per 100 milliliters in more than one sample within any 30-day period. The median value shall be determined from the bacteriological results of the last seven (7) days for which analyses have been completed. Samples shall be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and the disinfection processes.

6. The wastes discharged to water courses shall have received treatment equivalent to that of filtered wastewater. Filtered wastewater means oxidized and coagulated wastewater which has been passed through natural undisturbed soils or filter media, such as sand or diatomaceous earth, so that the turbidity of the filtered wastewater does not exceed (a) a daily average of 2 Nephelometric turbidity units (NTU's), (b) and does not exceed 5 NTU's more than 5 percent of the time (72 minutes) during any 24 hour period.

   "Oxidized wastewater" means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen. "Coagulated wastewater" means oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream of a filter by the addition of suitable floc-forming chemicals.

7. Acute Toxicity Limitation:

   a. The acute toxicity of the effluent shall be such that the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or

continuous flow bioassay tests shall be at least 90%, with no single test less than 70% survival.

b. If the discharge consistently exceeds the acute toxicity limitation, a toxicity investigation evaluation (TIE) is required. The TIE shall include all reasonable steps to identify the source(s) of toxicity. Once the source of toxicity is identified, the Discharger shall take all reasonable steps necessary to reduce toxicity to the required level.

II. RECEIVING WATER REQUIREMENTS

A. Receiving Water Limitations

1. The temperature of the receiving water at any time or place and within any given 24-hour period shall not be increased by more than 5°F (or above 70°F if the ambient receiving water temperature is less than 60°F) as a result of the waste discharged.

2. The pH of the receiving water shall not be depressed below 6.5 or raised above 8.5 as a result of wastes discharged. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of wastes discharged.

3. The dissolved oxygen in the receiving water shall not be depressed below 5 mg/L as a result of the wastes discharged.

4. The wastes discharged shall not contain substances that result in increases in the BOD which adversely affect beneficial uses of the receiving water.

5. The wastes discharged shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses of the receiving waters.

6. The wastes discharged shall not cause the receiving waters to contain any substance in concentrations that adversely affect any designated beneficial use.

7. The wastes discharged shall not degrade surface water communities and populations, including vertebrate, invertebrate, and plant species.

8. The wastes discharged shall not result in problems due to breeding of mosquitos, gnats, black flies, midges, or other pests.

9. The wastes discharged shall not result in visible floating particulates, foams, and oil and grease in the receiving water.

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10. The wastes discharged shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses of the receiving waters. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life.

11. The wastes discharged shall not alter the natural taste, odor, and color of fish, shellfish, or other surface water resources used for human consumption.

12. In order to protect aquatic life, ammonia in receiving water shall not exceed concentrations specified in Tables 3-2 and 3-4 of the Basin Plan (Attachment 2) as a result of the wastes discharged, subject to the following conditions:

    The Discharger will have up to 8 years following the adoption (June 1994) of the Basin Plan (i) to make the necessary adjustments/improvements to meet these objectives; or (ii) to conduct studies leading to an approved, less restrictive, site specific objective for ammonia. If it is determined that there is an immediate threat or impairment of beneficial uses due to ammonia, the objectives in Tables 3-2 and 3-4 of Attachment 2 shall apply and the timing of compliance will be determined on a case-by-case basis.

13. In order to protect underlying groundwater basins, ammonia shall not be present at levels that, when oxidized, to nitrate, pose a threat to groundwater.

B. Receiving Water Quality Objective

There shall be no chronic toxicity in ambient waters as a result of wastes discharged.

If the chronic toxicity in the receiving water downstream of the discharge point consistently exceeds 1.0 TU_c in a critical life stage test, the Discharger shall determine if the cause of the exceedance is the wastes discharged. If it is determined that the wastes discharged caused the exceedance, the Discharger shall conduct a toxicity reduction evaluation (TRE). The TRE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

III. BIOSOLIDS REQUIREMENTS

For biosolids management, the Discharger must comply with all requirements of 40 CFR Parts 257, 258, 501, and 503, including all monitoring, recordkeeping, and reporting requirements.

REVISED TENTATIVE

Since the State of California, hence the Regional Board, has not been delegated the authority to implement the biosolids program, enforcement of the biosolids requirements contained in this Order and permit shall be the sole responsibility of USEPA.

IV. PRETREATMENT REQUIREMENTS

A. This Order includes the Discharger's pretreatment program as previously submitted to this Regional Board. Any change to the program shall be reported to the Regional Board and USEPA in writing and shall not become effective until approved by the Executive Officer and the USEPA Regional Administrator.

B. The Discharger shall implement and enforce its approved pretreatment program. The Discharger shall be responsible and liable for the performance of all pretreatment requirements contained in Federal Regulations 40 CFR Part 403 including subsequent regulatory revisions thereto. Where Part 403 or subsequent revision places mandatory actions upon the Districts as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within six months from the effective date of this Order or the effective date of Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by the Regional Board, USEPA, or other appropriate parties, as provided in the Clean Water Act. The Regional Board or USEPA may initiate enforcement action against an industrial user for non-compliance with acceptable standards and requirements as provided in the Clean Water Act and/or the California Water Code.

C. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), and 402(b) of the Federal Clean Water Act. The Discharger shall cause industrial users subject to the Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

D. The Discharger shall perform the pretreatment functions as required in Federal Regulations 40 CFR Part 403 including, but not limited to:

1. Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);
2. Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;
3. Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and
4. Provide the requisite funding of personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

E. The Discharger shall submit annually a report to the Regional Board, the State Board, and the Environmental Protection Agency, Region 9, describing the Discharger's pretreatment activities over the previous twelve months. In the event

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the Discharger is not in compliance with any conditions or requirements of this permit, then the Discharger will also include the reasons for non-compliance and state how and when the Discharger shall comply with such conditions and requirements. This annual report is due on March 1 of each year and shall contain, but not be limited to, the information required in the attached "Requirements for Pretreatment Annual Report." (Attachment P), or any approved revised version thereof.

V. REQUIREMENTS AND PROVISIONS

A. Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.

B. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic and pretreatment effluent standards, and all federal regulations established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316 and 405 of the Clean Water Act and amendments thereto.

C. This Order includes the attached Monitoring and Reporting Program (Attachment T). If there is any conflict between provisions stated in the Monitoring and Reporting Program and the Standard Provisions, those provisions stated in the Monitoring and Reporting Program prevail.

D. This Order includes the attached "Standard Provisions and General Monitoring and Reporting Requirements" (Standard Provisions, Attachment N). If there is any conflict between provisions stated hereinbefore and the attached "Standard Provisions", those provisions attached hereinbefore prevail.

E. This Order includes the attached "Storm Water Pollution Prevention Plan" (Attachment A). If there is any conflict between provisions stated hereinbefore and the attached "Standard Provisions", those provisions attached hereinbefore prevail.

F. The Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.

G. The Discharger shall protect the facility from inundation which could occur as a result of a flood having a predicted frequency of once in 100 years.

H. This Order may be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Parts 122.44, 122.62, 122.63, 122.64, 125.62, and 125.64.

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VI. EXPIRATION DATE

This Order expires on December 10, 2003.

The Discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the expiration date as application for issuance of new waste discharge requirements.

VII. RESCISSION

Order No. 93-053, adopted by this Board on September 27, 1993, is hereby rescinded.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on January 26, 2000.

_____
Dennis A. Dickerson
Executive Officer

/ AVC-A

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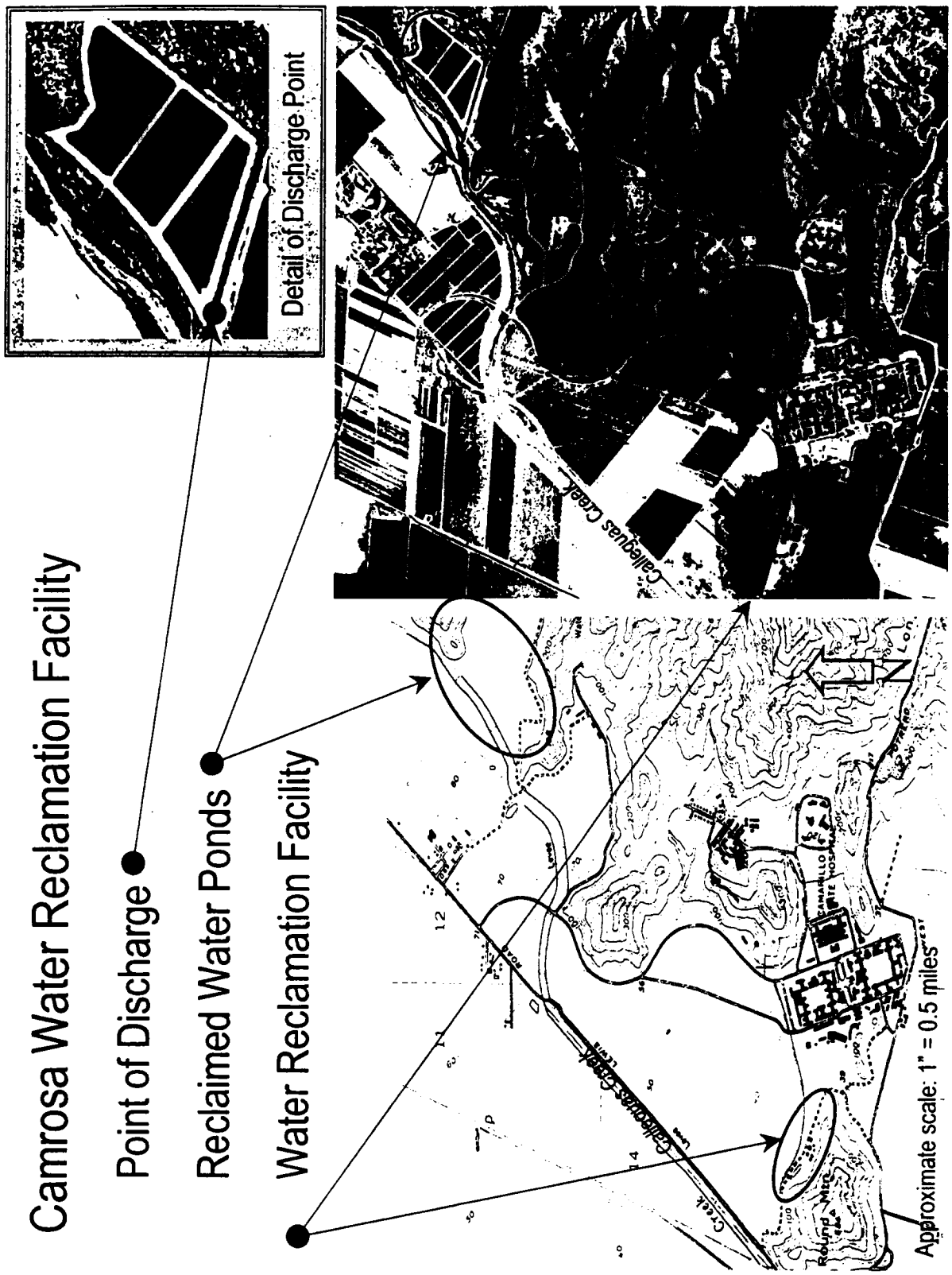
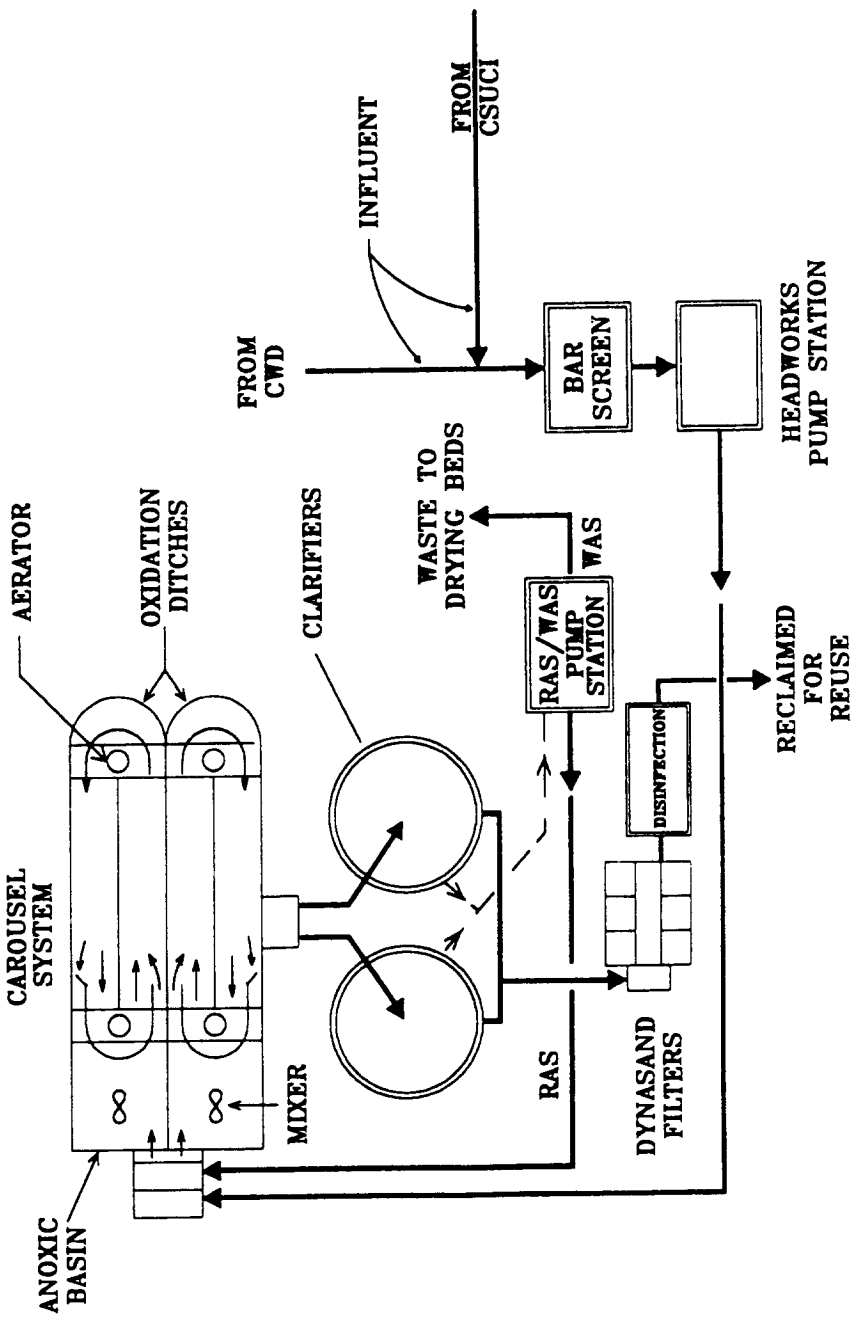
FIGURE 1



REVISED TENTATIVE

FIGURE 2

CAMROSA WATER RECLAMATION FACILITY
PROCESS DIAGRAM 4/97



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ATTACHMENT T

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. CI - 6769
FOR
CAMROSA WATER DISTRICT
(Camrosa Water Reclamation Facility)
(NPDES NO. CA0059501)

REVISED TENTATIVE

I. REPORTING REQUIREMENTS

A. The Discharger shall implement this monitoring program on the effective date of this Order. All monthly monitoring reports shall be received by the fifteenth day of the second month following each monthly sampling period, addressed to the Regional Board, Attention: Information Technology Unit. The first monitoring report under this Program is due in our office, on or before April 15, 2000, and will cover the monitoring period of February 2000. Weekly effluent analyses shall be performed on different weekdays during each month. Quarterly monitoring shall be performed during the months of February, May, August, and November. Semiannual monitoring shall be performed during the months of February and August. Annual monitoring shall be performed during the first calendar quarter of each year. If no flow occurred during the month, the report shall so state, and the annual sampling event will be completed when the next discharge occurs to surface water.

All water quality sampling analyses shall specify the USEPA analytical method used and its Method Detection Limit (MDL). For the purpose of reporting compliance with effluent limitations, performance goals, and receiving water limitations, analytical data shall be reported with an actual numerical value or "nondetected (ND)" with the MDL indicated for the analytical method used. The maximum allowed MDLs are those published by the USEPA. The Discharger shall not use a MDL higher than that published by the USEPA unless the Discharger can demonstrate that a practical detection limit is not attainable and obtains approval for a higher MDL from the Executive Officer.

B. If the Discharger performs analyses on any influent, effluent, or receiving water constituent more frequently than required by this Program, using approved analytical methods, the results of these analyses shall be included in the report. These results shall also be reflected in the calculation of the average values used in demonstrating compliance with average effluent, receiving water, etc., limitations.

November 9, 1999
Revised: December 29, 1999

C. Analytical data reported as "less than" or below the detection limit, for the purpose of reporting compliance with permit limitations, shall be reported as "less than" a numeric value or "below the detection limit" for that particular analytical method (also giving the detection limit).

D. The Discharger shall immediately notify Board staff, by telephone, of any confirmed coliform counts that could cause a violation of the 30-day median limit, or that exceed the applicable maximum effluent limit, including the date(s) thereof. This information shall be confirmed in the next monitoring report; in addition, for any actual coliform limit violations that occurred, the report shall also include the reasons for the high coliform results, the steps taken to correct the problem (including dates thereof), and the steps being taken to prevent a recurrence.

E. The Discharger shall submit an annual summary report containing a discussion of the previous year's effluent and receiving water monitoring data, as well as graphical and tabular summaries of the data. This annual summary report is due by April 1st of the year following data collection.

II. REGIONAL MONITORING PROGRAM

A. Pursuant to the Code of Federal Regulations [40 CFR §122.41 (j) and §122.48 (b)], the monitoring program for a discharger receiving a National Pollutant Discharge Elimination System (NPDES) permit must determine compliance with NPDES permit terms and conditions, and demonstrate that State water quality standards are met.

B. Since compliance monitoring focuses on the effects of the point source discharge, it is not designed to assess impacts from other sources of pollution (e.g. non-point source runoff, aerial fallout) nor to evaluate the current status of important ecological resources on a regional basis.

C. A watershed-wide Regional Monitoring Program was created for the Calleguas Creek Watershed to determine: compliance with effluent and receiving water limits, trends in surface water quality, impacts to beneficial uses, data needs for modeling contaminants of concern, and potential impacts to ground water.

D. The Discharger shall participate in the Regional Monitoring Program by monitoring the receiving water stations listed in Section V.A. and taking part in the Calleguas Creek Characterization Study Surface Water Element (SWE).

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III. INFLUENT MONITORING

Influent monitoring is required to:

- determine compliance with NPDES permit conditions and water quality standards.
- assess treatment plant performance.
- assess the effectiveness of the pretreatment program.

Sampling stations shall be established at each point of inflow to the sewage treatment plant and shall be located upstream of any in-plant return flows and where representative samples of the influent can be obtained. The date and time of sampling shall be reported with the analytical values determined.

Samples for influent BOD_5 (20°C) and suspended solids shall be obtained on the same day that effluent BOD_5 (20°C) and suspended solids samples are obtained in order to demonstrate percent removal.

The following shall constitute the influent monitoring program:

Constituent	Units	Type of Sample	Minimum Frequency of Analysis
Flow	mgd	recorder/totalizer	daily
Suspended solids	mg/L	24-hour composite	weekly
BOD_5 (20°C)	mg/L	24-hour composite	weekly
Chloride	mg/L	24-hour composite	monthly

Additionally, all monitoring under the approved pretreatment program, as previously submitted to this Regional Board, shall remain in force.

IV. EFFLUENT MONITORING
(Footnotes on pages T-10 to T-12)

Effluent monitoring is required to:

- determine compliance with NPDES permit conditions, identify operational problems, and improve plant performance.
- assess the effectiveness of the pretreatment program.
- provide information on wastewater characteristics and flows for use in interpreting water quality and biological data.

An effluent sampling station shall be established for each point of discharge and shall be located downstream of any in-plant return flows where representative samples of the effluent (after receiving all treatment) may be obtained. Effluent samples may be obtained at a single station provided that station is representative of the effluent quality at all discharge points. Any changes in sampling station locations shall be approved by the Executive Officer.

A. The following shall constitute the effluent monitoring program:

Constituent	Unit	Type of Sample	Minimum Frequency of Analysis
Total waste flow	mgd	------	daily[1/]
Turbidity[2/]	NTU	------	daily[1/]
Total residual chlorine	mg/L	grab	daily[1/]
Total coliform[2/]	MPN/100 mL	grab	daily
Fecal coliform[2/]	MPN/100 mL	grab	daily
pH	pH units	grab	daily
Temperature	°F	grab	weekly
Settleable solids	ml/L	grab	weekly
Suspended solids	mg/L	24-hour composite	weekly
BOD_5 (20°C)	mg/L	24-hour composite	weekly[3/]
Dissolved oxygen	mg/L	24-hour composite	weekly
Total dissolved solids	mg/L	24-hour composite	weekly
Sulfate	mg/L	24-hour composite	weekly
Chloride	mg/L	24-hour composite	weekly
Hardness	mg/L	24-hour composite	monthly
Oil and grease	mg/L	grab	monthly
Ammonia nitrogen	mg/L	24-hour composite	weekly[4/]
Nitrate nitrogen	mg/L	24-hour composite	weekly[4/]
Nitrite nitrogen	mg/L	24-hour composite	weekly[4/]
Organic nitrogen	mg/L	24-hour composite	weekly[4/]
Total nitrogen	mg/L	24-hour composite	weekly[4/]
Total kjeldahl nitrogen (TKN)	mg/L	24-hour composite	weekly[4/]
Total phosphate	mg/L	24-hour composite	weekly
Boron	mg/L	24-hour composite	monthly
Fluoride	mg/L	24-hour composite	quarterly
Cyanide	mg/L	24-hour composite	quarterly
Phenols	mg/L	24-hour composite	quarterly

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Constituent	Unit	Type of Sample	Minimum Frequency of Analysis
Aldrin	pg/L	24-hour composite	quarterly
Surfactants (anionic, cationic, and nonionic)	mg/L	24-hour composite	quarterly
Arsenic	µg/L	24-hour composite	quarterly
Cadmium	µg/L	24-hour composite	quarterly
Chlordane[5/]	ng/L	24-hour composite	quarterly
Chloroform	µg/L	24-hour composite	quarterly
Chromium(VI)[4] [6/]	µg/L	24-hour composite	quarterly
Copper	µg/L	24-hour composite	quarterly
Lead	µg/L	24-hour composite	quarterly
Mercury	ng/L	24-hour composite	quarterly
Nickel	µg/L	24-hour composite	quarterly
Selenium	µg/L	24-hour composite	quarterly
Silver	µg/L	24-hour composite	quarterly
Zinc	µg/L	24-hour composite	quarterly
DDT	ng/L	24-hour composite	quarterly
Chronic toxicity [7/]	TU_C	grab	quarterly
Acute toxicity [8/]	% Survival	grab	quarterly
Benzene	µg/L	24-hour composite	annually
1,2-dichlorobenzene	mg/L	24-hour composite	annually
1,3-dichlorobenzene	mg/L	24-hour composite	annually
1,4-dichlorobenzene	µg/L	24-hour composite	annually
Dieldrin	ng/L	24-hour composite	annually
Endosulfan [9/]	µg/L	24-hour composite	annually
Endrin [10/]	µg/L	24-hour composite	annually
Fluoranthene	µg/L	24-hour composite	annually
Halomethanes [11/]	µg/L	24-hour composite	annually
Heptachlor	ng/L	24-hour composite	annually
Heptachlorepoxide	ng/L	24-hour composite	annually
Hexachlorobenzene	pg/L	24-hour composite	annually
Lindane	µg/L	24-hour composite	annually
Polyaromatic hydrocarbon (PAHs) [12/]	ng/L	24-hour composite	annually
Polychlorinatedbiphenyls (PCBs) [13/]	ng/L	24-hour composite	annually
Pentachlorophenol	µg/L	24-hour composite	annually
Toluene	mg/L	24-hour composite	annually
Toxaphene	ng/L	24-hour composite	annually

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Constituent	Unit	Type of Sample	Minimum Frequency of Analysis
Tributyltin	ng/L	24-hour composite	annually
Tetrachlorodibenzo-p-dioxin (TCCDD) [14/] equivalents	pg/L	24-hour composite	annually
2,4,6-trichlorophenol	µg/L	24-hour composite	annually
Radioactivity	pCi/L	grab	annually

Additionally, all monitoring under the approved pretreatment program, as previously submitted to this Regional Board, shall remain in force.

V. RECEIVING WATER MONITORING REQUIREMENTS
(Footnotes on pages T-10 through T-12)

A. Receiving water stations shall be established at the following location:

Station No.	Description
R-1	Calleguas Creek about 300 feet upstream of the discharge point.
SWE-6	Calleguas Creek below Camrosa Water Reclamation Facility, at Camarillo Drive (bridge crossing to CSU Channel Islands)

B. The following shall constitute the receiving water monitoring program:

1. The following analyses shall be conducted on grab samples obtained at Stations R-1 and SWE-6:

Constituent	Units	Minimum Frequency of Analysis
Flow	cfs	monthly
Temperature	°F	monthly
pH	pH units	monthly
BOD_5 (20°C)	mg/L	monthly
Dissolved oxygen	mg/L	monthly
Chloride	mg/L	monthly
Turbidity	NTU	monthly
Residual chlorine	mg/L	monthly
Total coliform	MPN/100 mL	monthly

Constituent	Units	Minimum Frequency of Analysis
Fecal coliform	MPN/100 mL	monthly
Settleable solids	ml/L	monthly
Nitrate nitrogen [4/]	mg/L	monthly
Nitrite nitrogen [4]	mg/L	monthly
Ammonia nitrogen [4]	mg/L	monthly
Organic nitrogen [4]	mg/L	monthly
Total kjeldahl nitrogen (TKN) [4]	mg/L	monthly
Total nitrogen [4]	mg/L	monthly
Total surfactants	mg/L	quarterly
Total phosphate	mg/L	quarterly
Suspended solids	mg/L	quarterly
Total dissolved solids	mg/L	quarterly
Oil and grease	mg/L	quarterly
Sulfate	mg/L	quarterly
Boron	mg/L	quarterly
Hardness	mg/L	quarterly
Chronic toxicity	TU_C	quarterly
Arsenic	mg/L	semi-annually
Cadmium	mg/L	semi-annually
Chromium	mg/L	semi-annually
Copper	mg/L	semi-annually
Nickel	mg/L	semi-annually
Lead	mg/L	semi-annually
Zinc	mg/L	semi-annually
Chlorinated pesticides	mg/L	semi-annually
N and P pesticides	mg/L	semi-annually
Base, neutral, & acid extractable (BNAs)	mg/L	semi-annually
Total petroleum hydrocarbon (TPH)	µg/L	semi-annually

2. In the event of a spill or bypass of raw or partially treated sewage into Calleguas Creek, total and fecal coliform analyses shall be made on grab samples collected at all potentially affected downstream receiving water areas and at least one unaffected upstream receiving water area. Coliform samples shall be collected on the date of the spill or bypass, if possible, and daily on each of the following four days.

3. At the time of sampling, the following observations shall be made at all the stations and the times of the observations shall be noted:

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a) Measurement of flow
b) Odor of water
c) Color of Water
d) Occurrence of significant storm runoff (flowing into the river)
e) Presence of floating solids (Type)
f) Presence of any sludge banks or deposits, grease, oil, foam, or visible solids of waste origin
g) Wind conditions
h) Presence of any aquatic plant growth, sessile or floating
i) Any unusual occurrence

4. The time, date, and weather conditions (including air temperature) at the time of sampling shall be reported.

5. The color of the effluent shall be contrasted with that of the receiving water and reported descriptively.

6. Sampling may be rescheduled at stations W-18 and W-19, if weather and flow conditions would endanger personnel collecting receiving water samples. The monthly monitoring report shall note such occasions.

7. The results of receiving water monitoring and observations shall be submitted with the effluent monitoring reports. A standardized receiving water observation form is under development by the Regional Board staff.

VI. STORM WATER MONITORING AND REPORTING

Upon adoption of this Monitoring and Reporting Program, the Discharger shall file a notice of termination (NOT) with State Board, for their General Storm Water NPDES permit associated with industrial activity, since such requirements have been incorporated into this Order. The Discharger shall implement the attached Storm Water Monitoring and Reporting Program (Attachment T-2).

VII. COMPLIANCE WITH DAILY AVERAGE, INSTANTANEOUS MAXIMUM, AND 30-DAY AVERAGE LIMITS

A. If the result of any analysis exceeds the 30-day average limit, the frequency of analysis shall be increased to weekly within one week of knowledge of the test result. Weekly testing shall continue for at least 4 consecutive weeks and until

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compliance with the 30-day average limit is demonstrated, after which the frequency shall revert to the frequency specified in the monitoring and reporting program.

B. If the result of any analysis exceeds the daily average limit, the frequency of analysis shall be increased to daily within one week of knowledge of the test result. Daily testing shall continue for at least 4 consecutive days and until compliance with the daily average or instantaneous maximum limit is demonstrated, after which the frequency shall revert to the frequency specified in the monitoring and reporting program.

C. If any result of any analysis exceeds the instantaneous maximum limit (1-hour average), the frequency of analysis shall be increased to hourly, within one week of knowledge of the test result and the Regional Board shall be immediately notified. A minimum of four consecutive 1-hour samples shall be analyzed to demonstrate compliance with the instantaneous limit. Once compliance has been demonstrated, the frequency shall revert to as previously designated. In the event that compliance with the 1-hour average limit has not been demonstrated, the Regional Board shall be consulted to determine the appropriate sampling frequency.

VIII. QUALITY CONTROL PROGRAM

This Discharger, in cooperation with the other discharger in the watershed, shall develop and submit a quality control program for approval by the Executive Officer no later than six months from the date of permit issuance. The program shall be implemented no later than one year from the date of permit issuance.

IX. HAULING REPORTS

In the event that other wastes (besides sludge) associated with wastewater treatment are transported offsite during the reporting period, the following shall be reported:

A. Type(s) of waste and quantity of each type;
B. Name and either the address or the State registration number for each hauler of wastes used (or the method of transport, if other than hauling); and,
C. Address or specific location of the final point(s) of disposal for each type of waste.

If no wastes are transported offsite during the reporting period, a statement to that effect shall be submitted.

X. FOOTNOTES (Apply to T-4 A, T-5 A, T-6 A, and T-7 B)

1/ Where continuous monitoring of a constituent is required, the following shall be reported:

Total waste flow - Total daily flow and peak daily flow (24-hour basis);

Total chlorine residual - maximum daily value (24-hour basis); and,

Turbidity - maximum daily value, total amount of time each day that turbidity exceeded five (5) turbidity units, the flow-proportioned average daily value and the monthly mean value.

2/ Coliform and turbidity samples shall be obtained at some point in the treatment process at a time when wastewater flow and characteristics are most demanding on the treatment facilities, filtration, and disinfection procedures.

Fecal coliform analysis shall be conducted parallel to total coliform analysis.

3/ If any result of weekly BOD analysis yields 90% or greater of the 30-day average limit, the frequency of analyses shall be increased to daily within one week of knowledge of the test result for at least one month and compliance with the 7-day and 30-day average BOD limits is demonstrated; after which the frequency shall revert to weekly.

4/ Samples for the receiving water nitrogen series (nitrite, nitrate, ammonia-N, and organic nitrogen) shall be obtained at the same time that temperature and pH are recorded in order to calculate unionized ammonia.

5/ Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

6/ For Cr(VI) analysis, the appropriate sampling and analytical method must be used. The Discharger may, at their option, meet this limitation as total chromium.

7/ Initial screening shall be conducted using a minimum of three test species with approved test protocols to determine the most sensitive test organism for chronic toxicity testing. The initial screening process shall be conducted for a minimum of three months, but not to exceed five months, to account for potential variability of the effluent/ receiving water. If possible, the test species used during the screening process should include a fish, an invertebrate, and an aquatic plant.

Upon approval of the Executive Officer, and after the initial screening period, chronic toxicity testing may be limited to the most sensitive test species. However, the initial screening process shall be repeated annually, with a minimum of three test species with approved test protocols, to ensure use of the most sensitive species for chronic toxicity testing.

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Dilution and control waters for the effluent should be obtained from an unaffected area of the receiving waters. Standard dilution water may be used if the above source exhibits toxicity greater than 1.0 TU_C. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each batch of bioassay tests and reported with the test results.

Chronic Toxicity shall be expressed and reported as toxic units, where:

$$TU_C = 100/NOEC$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent/ receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test.

Except with prior approval from the Regional Board Executive Officer, ammonia shall not be removed from bioassay samples. The wastewater used for the toxicity test shall be analyzed for ammonia, and the result, along with an interpretation, shall be submitted with the toxicity data. If the test result is greater than the permit limitation, parallel tests or 100% effluent without ammonia removal and 100% effluent with ammonia removed shall be conducted.

8/ By methods specified in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms" (March 1985, EPA/600/4-85/013). Submission of bioassay results should include the information noted on pages 45 through 49 of the "Methods" where appropriate. The fathead minnow (Pimephales promelas) shall be used as the test species.

Except with prior approval from the Regional Board Executive Officer, ammonia shall not be removed from bioassay samples. The wastewater used for the toxicity test shall be analyzed for ammonia, and the result, along with an interpretation, shall be submitted with the toxicity data. If the test result is greater than the permit limitation, parallel tests or 100% effluent without ammonia removal and 100% effluent with ammonia removed shall be conducted.
The Acute toxicity analysis shall be conducted on a dechlorinated final effluent sample.

9/ Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

10/ Endrin shall mean the sum of endrin and endrin aldehyde.

11/ Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide), chloromethane (methy chloride), chlorodibromomethane, and dichlorobromomethane.

12/ PAHs shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[l,2,3-cd]pyrene, phenanthrene, and pyrene.

13/ PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclar-1248, Aroclor-1254, and Aroclor-1260.

14/ TCDD Shall mean the sum of the concentrations of chlorinated dibenzodioxins and chlorinated dibenzofurans multiplied by their respective toxicity equivalence factors, as shown in the following (constituent/factor): 2,3,7,8-tetra CDD/1.0, 2,3,7,8-penta CDD/0.5, 2,3,7,8-hexa CDD/0.1, 2,3,7,8-hepta CDD/0.01, octa CDD/0.1, 2,3,7,8-tetra CDF/0.1, 1,2,3,7,8-penta CDF/0.05, 2,3,4,7,8-penta CDF/0.5, 2,3,7,8-hexa CDFs/0.1, 2,3,7,8-hepta CDFs/0.01, octa CDF/0.001.

Ordered by: _____
Dennis A. Dickerson
Executive Officer

Date: January 26, 2000

/AVC-A

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9.4

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER No. 00-XXX

NPDES No. CA0055115

WASTE DISCHARGE REQUIREMENTS
FOR
GOLDEN WEST REFINING COMPANY
(Santa Fe Springs Refinery)

REVISED TENTATIVE

The California Regional Water Quality Control Board, Los Angeles Region, (hereinafter-Regional Board) finds:

1. Golden West Refining Company (Golden West), discharges wastes under waste discharge requirements contained in Order No. 91-046 adopted by this Board on April 22, 1991. This Order serves as a permit under the National Pollutant Discharge Elimination System (NPDES Permit No. CA0055115).

2. The Regional Board is implementing a Watershed Management Approach to address water quality protection in the Los Angeles Region. Pursuant to this Regional Board's watershed initiative framework, the San Gabriel River Watershed is the targeted watershed for the fiscal year 1999-2000. Accordingly, the Regional Board has been reviewing the Waste Discharge Requirements and NPDES permits for the facilities that discharge wastes to the San Gabriel River (including Golden West). As a result of the review, this new Order is prepared to replace Order No. 91-046 adopted on April 22, 1991.

3 Golden West formerly operated an oil refinery and tank farms at 13539 East Foster Road, Santa Fe Springs, California. However, in February 1992, Golden West ceased its crude oil operations and in August 1997 terminated its terminalling operations. In addition, in August 1997, Golden West commenced the dismantling of the refinery and the construction of light industrial buildings. Golden West continues with the dismantling and development of industrial buildings and proposes to discharge up to 12.7 million gallons per day (mgd) of rainfall runoff. A flow rate of approximately 8.509 mgd is considered as contaminated runoff from the areas where dismantling continues. The rainfall runoff flows to the southeastern corner of the facility into a retention basin (outfall 001) passing through oil traps, trash screens, and straw filters prior to discharge to the North Fork Coyote Creek with Latitude 33° 54' 15" and Longitude 118° 02' 30". North Fork Coyote Creek is tributary, via Coyote Creek, to the San Gabriel River, a water of the United States, above the estuary. See Figure 1 for location map.

In addition, up to 4.514 mgd of stormwater runoff, from the west property boundary, flows towards the retention basin as described above. Specifically, this area is an open area where remediation activities have occurred, and buildings have already been constructed, thus reducing the possibility of contamination.

4. All other industrial process wastes and domestic wastes from this facility are discharged to the sanitary sewer system. Golden West will also receive the groundwater from the City of Santa Fe Springs, Carmenita Road Underpass to be processed with its industrial wastes.

5. On June 13, 1994, this Regional Board adopted a revised Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan). The Basin Plan contains beneficial uses and water quality objectives for the Coyote Creek and San Gabriel River.

6. The beneficial uses of the receiving waters are:

   Water contact and non-contact recreation, warm freshwater, cold freshwater, and wildlife habitats; and (within the estuary) industrial service supply, ocean commercial and sport fishing, preservation of rare and endangered species, marine habitat, shellfish harvesting, and saline water habitat.

   The requirements in this Order are intended to protect designated beneficial uses and enhance the water quality of the watershed.

7. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389.

The Regional Board has notified the discharger and interested agencies and persons of its intent to prescribe the waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Clean Water Act, or amendments thereto, and shall take effect at the end of ten days from the date of its adoption, provided that the Regional Administrator of the U.S. Environmental Protection Agency has no objections.

IT IS HEREBY ORDERED that Golden West Refining Company, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. EFFLUENT LIMITATIONS

1. Wastes discharged shall be limited to storm water runoff only, as proposed.

2. The discharge of an effluent from Discharge Serial No. 001 (storm water runoff) with constituents in excess of the following limits is prohibited:

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Constituents	Units	Discharge Limitations Daily Maximum
Total suspended solids	mg/L lbs/day[1]	33 2,340
$BOD_5$20°C	mg/L lbs/day[1]	30 2130
Oil and grease	mg/L lbs/day[1]	15 1065
COD	mg/L lbs/day[1]	360 25,600
Phenolic Compounds	µg/L	1.0
Ethylbenzene	µg/L	700
Benzene	µg/L	1.0
Toluene	µg/L	150
Xylene(Total)	µg/L	1750
Total chromium	µg/L	600
Arsenic	µg/L	50
Cadmium	µg/L	4.6[2,3,4]
Copper	µg/L	13.6[2,3,4]
Lead	µg/L	82[2,3,4]
Chromium(VI)	µg/L	16.3[2,3,4]
Zinc	µg/L	123[2,3,4]
Mercury	µg/L	1.7[2,3,4]
Selenium	µg/L	50
Silver	µg/L	4[2,3,4]

[1] Based on a discharge flow rate of 8.509 million gallons per day.

[2] Concentrations are expressed as total recoverable metal. For the purpose of calculating effluent limits under the effluent limitations section of this permit, dissolved 304(a) criteria are translated to total recoverable effluent limitations using the default translators listed in

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USEPA's NRWQC (i.e., freshwater conversion factors in NRWQC Correction dated April 1999 – page 24 of EPA 822-Z-99-001), because site-specific translators are not available.

[3] The permit may be reopened by the Regional Water Quality Control Board and effluent limitations recalculated using approved site-specific translators developed according to USEPA guidance documents and/or state protocols, if applicable.

[4] The permit may be reopened by the Regional Water Quality Control Board and effluent limitations recalculated using approved site-specific water quality criteria. Site-specific water quality criteria must be developed according to recognized USEPA procedures.

3. The pH of wastes discharged shall at all times be within the range of 6.5 to 8.5.

4. The temperature of the wastes discharged shall not exceed 80°F.

5. The acute toxicity of the effluent shall be such that the average survival in undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test producing less than 70% survival.

B. REQUIREMENTS AND PROVISIONS

1. The discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management programs developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

2. This order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 CFR, Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Cause for taking such action includes, but is not limited to: failure to comply with any condition of this order and permit, endangerment to human health or the environment resulting from the permitted activity, or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of order adoption and permit issuance.

   The filing of a request by the discharger for an Order and permit modification, revocation and issuance, or termination; or a notification of planned changes or anticipated noncompliance does not stay any conditions of this Order and permit.

3. This Order may also be modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed protection management approach.

4. This Order includes the attached "Standard Provisions and General Monitoring and Reporting Requirements" ("Standard Provisions" Attachment N). If there is any conflict between provisions stated hereinbefore and the attached "Standard Provisions and General Monitoring and Reporting Requirements," those provisions stated hereinbefore prevail.

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5. The discharger must develop and implement a Storm Water Pollution Prevention Plan in accordance with Attachment A: Page 11, Section A, Storm Water Pollution Prevention Plan within 90 days from the effective date of this order.

C. EXPIRATION DATE

This order expires on December 10, 2005.

The discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the expiration date as application for issuance of new waste discharge requirements.

D. RESCISSION

Except for enforcement purposes, Order No. 91-046, adopted by this Board on April 22, 1991 is hereby rescinded.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on January 26, 2000.

Dennis A. Dickerson
Executive Officer

/JMM

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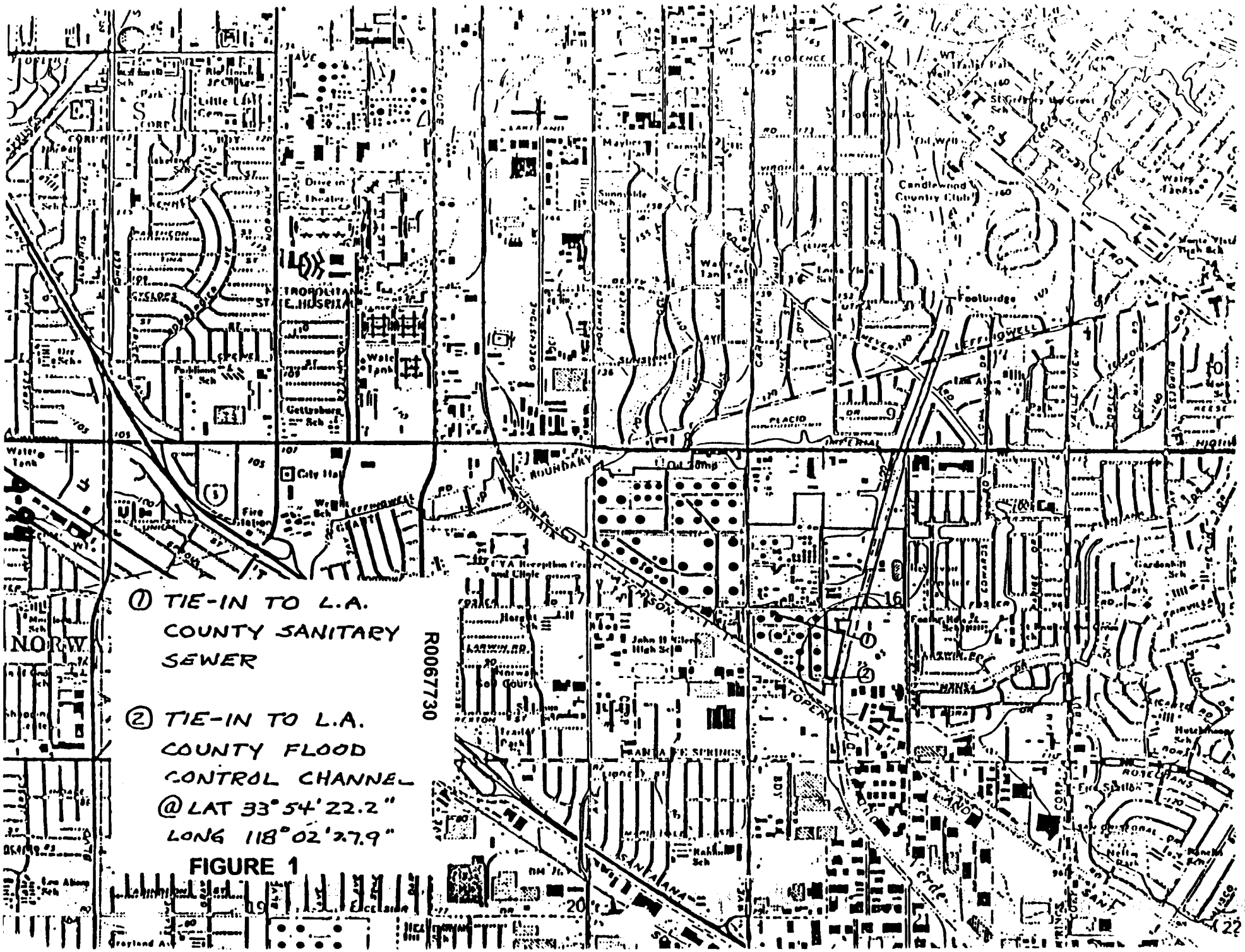
① TIE-IN TO L.A. COUNTY SANITARY SEWER
② TIE-IN TO L.A. COUNTY FLOOD CONTROL CHANNEL @ LAT 33°54'22.2" LONG 118°02'27.9"
R0067730

FIGURE 1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM No. CI-6083
for
GOLDEN WEST REFINING COMPANY
(CA0055115)

REVISED TENTATIVE

I. REPORTING REQUIREMENTS

A. The discharger shall implement this monitoring program on the effective date of this Order. The first monitoring report under this program shall be received by April 15, 2000.

Monitoring reports shall be submitted by the dates in the following schedule:

Reporting Period	Report Due
January - March	April 15
April - June	July 15
July - September	October 15
October - December	January 15
Annual	March 1

B. If no discharge occurs during any monitoring period, the report shall so state.

C. Laboratory analyses - all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services Environmental Laboratory Accreditation Program (ELAP). A copy of laboratory certification shall be provided each time a new and/or renewal is obtained from ELAP.

D. For every item where the requirements are not met, Golden West Refining Company shall submit a statement of the cause(s) and actions undertaken or proposed which will bring the discharge into full compliance with waste discharge requirements at the earliest possible time, and submit a timetable for implementation of these actions.

E. By March 1 of each year, Golden West Refining Company shall submit an annual report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, Golden West Refining Company shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with waste discharge requirements.

9-95

REVISED TENTATIVE

II. MONITORING REQUIREMENTS

A. Sampling station(s) shall be established at the discharge point and shall be located where representative samples of the effluent can be obtained. Provisions shall be made to enable visual inspections before discharge. In the event of presence of oil sheen, debris, and/or other objectionable materials or odors, discharge shall not be commenced before compliance with the requirements is ascertained. Any visual observation shall be included in the monitoring report.

B. All analyses shall include the chain of custody (including but not limited to date and time of sampling, date of analyses, name of person who performed the analyses), QA/QC, method of analysis and detection limits, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.

C. The detection limits employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the discharger can demonstrate that a particular detection limit is not attainable and obtains approval for a higher detection limit for the Executive Officer. At least once a year, the discharger shall submit a list of the analytical methods employed for each test and associated laboratory quality assurance/quality control procedures.

III. EFFLUENT MONITORING

The following shall constitute the effluent monitoring program :

Constituents	Units	Type of Sample	Minimum Frequency of Analysis
pH	pH units	grab	Once per discharge event[1]
Total waste flow	gal/day	-----	Once per discharge event[1]
Temperature	°F	grab	Once per discharge event[1]
Suspended solids	mg/L	grab	Once per discharge event[1]
Oil and grease	mg/L	grab	Once per discharge event[1]
COD	mg/L	grab	Once per discharge event[1]
$BOD_5 20°C$	mg/L	grab	Once per discharge event[1]
Phenolic compounds	µg/L	grab	Once per discharge event[1]
Benzene	µg/L	grab	Once per discharge event[1]

R0067732

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REVISED TENTATIVE

Constituents	Units	Type of Sample	Minimum Frequency of Analysis
Ethylbenzene	µg/L	grab	Once per discharge event[1]
Toluene	µg/L	grab	Once per discharge event[1]
Xylene(Total)	µg/L	grab	Once per discharge event[1]
Methyl Tertiary Butyl Ether	µg/L	grab	annually[2]
Arsenic	µg/L	grab	annually[2]
Cadmium	µg/L	grab	annually[2]
Copper	µg/L	grab	annually[2]
Lead	µg/L	grab	annually[2]
Mercury	µg/L	grab	annually[2]
Chromium (VI)	µg/L	grab	annually[2]
Total chromium	µg/L	grab	annually[2]
Selenium	µg/L	grab	annually[2]
Silver	µg/L	grab	annually[2]
Zinc	µg/L	grab	annually[2]
Acute Toxicity[3]	%Survival	grab	annually[2]
Priority pollutants (See attached list)	µg/L	grab	annually[2]

[1] During periods of extended rainfall, no more than one sample per two weeks need be obtained. Sampling shall be during the first hour of discharge. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at a safe opportunity and the reason for delay shall be included in the monitoring report.

[2] The report for January – March quarter shall include the results of the annual analyses. For the Environmental Protection Agency's priority pollutants (list attached), the discharger shall obtain representative samples at each effluent sampling stations for the first discharge of storm runoff on the effective date of this Order.

[3] By the method specified in "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" -September 1991, (EPA/600/4-90/027). Submission of bioassay results should include the information noted on pages 70-73 of the "Methods". The fathead minnow (Pimephales promelas) shall be used as the test species.

If the results of the toxicity test yields a survival of less than 90%, then the frequency of analyses shall increase to monthly until at least three test results have been obtained and full compliance with Effluent Limitations has been demonstrated, after which the frequency of analyses shall revert to annually. Results of toxicity tests shall be included in the first monitoring report following sampling.

REVISED TENTATIVE

IV. STORM WATER POLLUTION PREVENTION PLAN

The monitoring program shall also document the elimination or reduction of specific pollutants, resulting from implementation of Best Management Practices (BMPs).

Ordered by:

Dennis A. Dickerson
Executive Officer

Date: January 26, 2000

9-98

PRIORITY POLLUTANTS

Metals

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

Miscellaneous

Cyanide
Asbestos (only if specifically required)

Pesticides & PCBs

Aldrin
Chlordane
Dieldrin
4,4'-DDT
4,4'-DDE
4,4'-DDD
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC
Toxaphene
PCB 1016
PCB 1221
PCB 1232
PCB 1242
PCB 1248
PCB 1254
PCB 1260

Base/Neutral Extractibles

Acenaphthene
Benzidine
1,2,4-trichlorobenzene
Hexachlorobenzene
Hexachloroethane
Bis(2-chloroethyl) ether
2-chloronaphthalene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3'-dichlorobenzidine
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
Fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
Bis(2-chloroisopropyl) ether
Bis(2-chloroethoxy) methane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
N-nitrosodiphenylamine
Bis (2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
Benzo(a) anthracene
Benzo(a) pyrene
Benzo(b) fluoranthene
Benzo(k) fluoranthene
Chrysene
Acenaphthylene
Anthracene
1,12-benzoperylene
Fluorene
Phenanthrene
1,2,5,6-dibenzanthracene
Indeno (1,2,3-cd) pyrene
Pyrene
TCDD

Acid Extractibles

2,4,6-trichlorophenol
P-chloro-m-cresol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
Pentachlorophenol
Phenol

Volatile Organics

Acrolein
Acrylonitrile
Benzene
Carbon tetrachloride
Chlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
Chloroethane
Chloroform
1,1-dichloroethylene
1,2-trans-dichloroethylene
1,2-dichloropropane
1,2-dichloropropylene
Ethylbenzene
Methylene chloride
Methyl chloride
Methyl bromide
Bromoform
Bromodichloromethane
Dibromochloromethane
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride
2-chloroethyl vinyl ether
Xylene

TENTATIVE

vbc 7/6/99

9-99

R0067735

California Regional Water Quality Control Board

Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/~rwqcb4

Gray Davis
Governor

January 12, 2000

Mr. Neal Welland, Fire Chief
City of Santa Fe Springs, Headquarters Fire Station
11300 Greenstone Avenue
Santa Fe Springs, CA 90670-4619

Dear Mr. Welland:

RESPONSE TO COMMENTS ON TENTATIVE WASTE DISCHARGE REQUIREMENTS – GOLDEN WEST REFINING COMPANY, LOCATED AT 13539 E. FOSTER ROAD, SANTA FE SPRINGS, CA (NPDES PERMIT NO. CA0055115, CI-6083)

We have received your letter dated January 6, 2000, commenting on the tentative Waste Discharge Requirements for the Golden West Refining Company. After reviewing your comments, we provide you with the following responses:

1. Page 1, item 3, second paragraph: The wording has been changed to recognize that remediation activities have occurred on the west side of the Golden West Refining facility, however, this Board has not issue a "No Further Action Letter".

2. Pages 2 and 3, item A.2. Effluent Limitations: Lead is being analyzed as total lead which includes organic lead, therefore organic lead will not be included separately.

   The limitations for xylene is for total xylenes, therefore the word (total) has been added to clarify that total xylenes include o, m, and p xylene.

3. Pages T-2 and T-3, Effluent Monitoring: Organic lead is included in the total lead analysis, therefore organic lead will not be monitored separately.

4. Page T-3: Since the discharger has been requested to test U.S EPA priority pollutants, we believe that the testing for pollutants in the 8260 list is not necessary. Methyl tertiary butyl ether (MTBE) has been added in the monitoring program.

Enclosed is the revised tentative order that incorporates the above appropriate changes. If you have any questions please call José M. Morales at (213) 576-6667.

Sincerely,

W. Chiu

Wayne Chiou, Chief
Los Angeles Inland Watershed Unit

Enclosures

cc: See attached mailing list

9-100

R0067736

Mailing List

U.S. Environmental Protection Agency, Region 9, Clean Water Act Standards and Permits (WTR-5)
U.S. Army Corps of Engineers
NOAA, National Marine Fisheries Service
Department of Interior, U.S. Fish and Wildlife Service
Mr. John Youngerman, Division of Water Quality, SWRCB
Mr. Jorge Leon, Office of Chief Counsel, SWRCB
Department of Fish and Game, Region 5
Los Angeles County, DPW, Environmental Programs Division
Los Angeles County, Department of Health Services
David Beckman, Natural Resources Defense Council
Steve Fleischli, Santa Monica Bay Keeper
Mark Gold, Heal the Bay
Environment Now
Friends of The San Gabriel River

City of Santa Fe Springs
Headquarters Fire Station
11300 Greenstone Ave. • CA • 90670-4619 • (562) 944-9713 • Fax (562) 941-1817 • www.santafesprings.org

January 6, 2000

Wayne Chiou
Los Angeles Regional Water Quality Control Board
320 W. 4TH Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Chiou:

SUBJECT: TENATIVE WASTE DISHARGE REQUIREMENTS – GOLDEN WEST REFINING COMPANY, LOCATED AT 13539 FOSTER ROAD, SANTA FE SPRINGS, CA (NPDES PERMIT NO. CA0055115, CI-6083)

The Santa Fe Springs Fire Department (SFSFD) is in receipt of the Tentative Waste Discharge Requirements (WDR) and Monitoring and Reporting Program for Golden West Refinery (GWR). Thank you for including the City of Santa Fe Springs on your distribution list and inviting our comments. As the agency charged with administration of the Uniform Fire Code, Certified Unified Program Agency (CUPA) Programs, and other environmental regulations, the City is concerned about protection of human health and the environment. Accordingly, the SFSFD offers the following minor comments to the Tentative WDR:

1. *Page 1, item 3, second paragraph.* This paragraph refers to the GWR west property boundary and states "this area is an open area where the contamination has been cleaned up". While the SFSFD recognizes remediation activities have occurred on the west side of the GWR facility, the Regional Water Quality Control Board has not yet issued a "No Further Action Letter" and the status of the site is still being determined.

2. *Page 2 and 3, item A.2. Effluent Limitations.* The SFSFD requests organic lead be included as a constituent analyte and that daily maximum discharge limitations be established in accordance with RWQCB standards.

   Daily maximum discharge limitations for xylene should specify that the limitation is for total xylenes, including o, m, and p xylene.

R0067738

9-102

3. *Page T-2 and T-3, Effluent Monitoring.* The SFSFD requests organic lead be added to the list of constituents analyzed in the effluent monitoring program.

4. *Page T-3.* Constituents listed on page T-3 include priority pollutants which are attached on the last page of the subject document. The SFSFD requests all 8260B analytes, including methyl tertiary butyl ether (MTBE) be included in the analysis for volatile organics.

Thank you for considering our comments. Should you have any questions regarding this matter, please contact Environmental Protection Inspector, Brenda Nelson at (562) 941-7483 extension 155.

Sincerely,

Neal Welland

Neal Welland
Fire Chief DK

NW/bn

cc: Fred Latham, City Manager – City of Santa Fe Springs
Bob Orpin, Director of Planning – City of Santa Fe Springs
Paul Ashworth, Director of Housing – City of Santa Fe Springs
Susan Bergeron- Vance, Director of Finance – City of Santa Fe Springs
Andy Lazzaretto, Planning and Development Consultant – City of Santa Fe Springs
Moshe Sassover, Golden West Refinery

Golden West Refining Company submitted a letter dated January 11, 2000, commenting on the tentative Waste Discharge Requirements sent to them on December 24, 1999. We have scheduled a meeting (January 20, 2000) with them to discuss and hopefully clarify their concerns.

Golden West Refining Company

January 11, 2000

California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Attn: Wayne Chiou, Chief
Los Angeles Inland Watershed Unit

Subject: Tentative Waste Discharge Requirements; Golden West Refining Co.; NPDES Permit No. CA0055115, CI-6083.

Dear Mr. Chiou:

We have reviewed the subject tentative NPDES permit issued on Dec. 24, 1999 (expiring on Dec. 10, 2005) which we received on Dec. 29, 1999. We are desirous of complying with all permit requirements but, based on past sampling results, it appears that Golden West Refining Company (GWRC) may not be able to meet some of the new discharge limits listed for the various components.

Even for an operating refinery, some time would be needed to construct the facilities needed to treat the storm water to meet the new requirements. In GWRC's case, the refinery has not been in operation since 1992 and is presently being demolished for redevelopment as an industrial business park. We are in a transition phase at this time. To date, we have completed approximately one third of the project. In three to five years, the conversion from a refinery to an industrial business park should be complete depending on the economy. Meanwhile, we request that the requirements remain more compatible with the existing permit. As demolition and redevelopment proceed, the quality of the storm water runoff will approach the limits set in this new permit.

GWRC had submitted permit renewal plans about five years ago when it appeared that the refinery could be put back into operation. The plans were revised recently to reflect the current program to develop an industrial park when it was realized that the refinery would never be restarted. At no time during this period did we imagine that new permit limits would be so restrictive. It was never presented to us that major changes were coming so it came as a complete surprise to see the new requirements. It appears that many of the new limits are the same as for drinking water.

We have data from past testing showing that the requirements cannot always be met for some of the constituents and the proposed lower limits may indicate additional constituents. In particular, the proposed limits should be higher for Suspended Solids, BOD, Phenolic Compounds and Benzene. No limits should be imposed at

13539 E. Foster Road Santa Fe Springs, CA 90670 ~~(310)~~ 562 921-3581

present for metals. After five years or when the business park has been completed (whichever comes first), prevailing NPDES standards for like uses will be met.

There are presently no facilities existing at GWRC to improve the storm water runoff quality to the proposed requirements. Since water quality will improve as the site is remediated, the continuation of the demolition / redevelopment project would serve the same purpose as installing treatment facilities. Also, the construction of unnecessary treating facilities would interfere with the existing remediation plan.

A meeting with Jose Morales has been tentatively set for Thursday, January 20, 2000 at 10:30AM to discuss these issues. If you have any questions, please call me at (562) 921-3581, extension 310.

Very truly yours,

W.A.(Bill) Koch

Engineering Supervisor

Copy: Moshe Sassover
F.N. Sampieri
Mariana Glovaci
Jose Morales - RWQCB - FAX: (213) 576-6660

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NPDES Rescissions
9.5 – 9.6

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION
Pasadena, California
January 26, 2000
42?th Regular Meeting

ITEM: 95-96

SUBJECT: WASTE DISCHARGE REQUIREMENTS (NPDES PERMIT RESCISSION)

DISCUSSION: In accordance with the Federal Clean Water Act, as amended, all waste discharges to navigable waterways, or tributaries thereto, require National Pollutant Discharge Elimination System (NPDES) permits.

This Board adopted NPDES permits for the listed dischargers; they have been found to no longer need a permit and have been field-checked and verified by staff. Therefore, these permits should be rescinded.

A tentative Order has been prepared which proposes to rescind these permits.

RECOMMENDATION: The tentative Order be adopted.

R0067744

9-108

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

ORDER No. 00-XXX

RESCINDING WASTE DISCHARGE REQUIREMENTS
AND
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS
FOR DISCHARGES IN THE LOS ANGELES REGION

The California Regional Water Quality Control Board, Los Angeles Region, finds:

1. This Regional Board adopted waste discharge requirements for discharges to surface waters which also served as the National Pollutant Discharge Elimination System (NPDES) permits for the dischargers listed below.

2. These dischargers have been enrolled under a general NPDES permit or have eliminated their discharges to surface waters.

3. Therefore, the following waste discharge requirements and NPDES permits are no longer necessary and should be rescinded.

4. The rescission of waste discharge requirements is exempt from the provisions of Chapter 3 (commencing with Section 21100), Division 13, Public Resources Code, in accordance with Water Code Section 13389.

The Regional Board has notified the dischargers and interested agencies and persons of its intent to consider rescission of the following waste discharge requirements and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board, in a public hearing, heard and considered all comments and testimony pertinent to this matter.

IT IS HEREBY ORDERED that the following waste discharge requirements be rescinded:

Discharger (NPDES No.)	Order No. (Adoption Date)	Reason for Rescission
Certified Alloy Products (CA0059498)	94-123 (12-05-94)	Enrolled under General permit

TENTATIVE

December 20, 1999

R0067745

9-109

Discharger (NPDES No.)	Order No. (Adoption Date)	Reason for Rescission
Walnut Valley Water District (CA0062031)	90-131 (09-24-90)	Discharge ceased

The Executive Officer of this Regional Board is authorized, and he is hereby directed, to certify and submit copies of this Order to the dischargers, and to such individuals and governmental agencies as may have need therefor, or may request same.

I, Dennis A. Dickerson, Executive Officer, do certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on January 26, 2000.

DENNIS A. DICKERSON
Executive Officer

TENTATIVE

R0067746

9-110

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 10

SUBJECT: WASTE DISCHARGE REQUIREMENTS CONSIDERATION OF NON-NPDES REQUIREMENTS – RESCISSION

DISCUSSION: In accordance with the Porter-Cologne Water Quality Control Act, all dischargers of wastes which could affect the waters of the State, other than into a community sewer system, must file a Report of Waste Discharge Requirements with a Regional Water Quality Control Board and receive requirements. The Board is also required to periodically review active requirements and to update, revise or rescind the requirements, as necessary.

Tentative waste discharge requirements have been prepared for the dischargers listed on the attached Summary Sheet. The requirements are similar to others adopted previously for similar dischargers. No water quality problems are expected as a result of these discharges. The waste discharge requirements as they are met, are in conformance with the goals of this Board's Water Quality Control Plans.

For new cases, this is the first time they are being presented for Board consideration. For renewal or revised cases, staff has reviewed the applications or current requirements, and the past monitoring and technical reports submitted, and has inspected the facilities in the last six months. The attached summary sheets also include a discussion on the compliance history for these cases.

To save paper and space, the "Standard Provisions Applicable to Waste Discharge Requirements" have been included only in the first requirement in your agenda folder. They are, however, part of each requirement, and will be included with the final copies sent to each discharger and his respective mailing list.

RECOMMENDATION: The tentative Orders be adopted.

10.1

This item will be submitted with the Addendum package mailed on January 21, 2000.

Non - NPDES Rescissions
10.2 – 10.10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION
Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 10) - 10.10

SUBJECT: Consideration of Non-NPDES Requirements - Rescission

DISCUSSION: In accordance with the Porter-Cologne Water Quality Control Act, all dischargers of wastes which could affect the waters of the State, other than into a community sewer system, must file a Report of Waste Discharge with a Regional Water Quality Control Board and receive requirements. The Board is also required to periodically review or rescind the requirements, as necessary.

The Board had adopted Waste Discharge Requirements for the listed dischargers. The discharges have either been terminated or never occurred or no longer need requirements as verified by staff. Therefore, the Waste Discharge Requirements should be rescinded.

A tentative Order has been prepared that rescinds these Waste Discharge Requirements.

RECOMMENDATION: The tentative Order be adopted.

R0067751

10-5

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

ORDER NO. 00-XXX

RESCINDING WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES TO LAND/GROUNDWATER

The California Regional Water Quality Control Board, Los Angeles Region finds:

1. This Regional Board has adopted waste discharge requirements for the dischargers listed below.

2. The dischargers have since terminated their waste discharges or have not had any discharge from their facilities since issuance of the waste discharge requirements.

3. Board staff has verified, by inspection, that these facilities have discontinued discharging or there had been no waste discharged.

4. The Board finds that these requirements are no longer applicable and should be rescinded.

5. The Board has transmitted copies of this tentative Order to the dischargers and to interested agencies and persons, and has notified them of its intent to rescind requirements at a public meeting to be held on January 26, 2000.

6. At that public meeting, the Board gave the opportunity for a hearing and considered comments and correspondence pertaining to these discharges.

IT IS HEREBY ORDERED that the following requirements be rescinded:

Discharger	Order No.	Date Adopted	Reason for Rescission
Port of Los Angeles Berths 118-120 (File No. 98-053)	98-062	August 3, 1998	Dredging completed
Port of Los Angeles Berths 216-221 (File 97-120)	98-039	May 18, 1998	Dredging completed

TENTATIVE

December 20, 1999

R0067752

10-6

Discharger	Order No.	Date Adopted	Reason for Rescission
Port of Los Angeles Berth 191 (File No. 97-079)	98-038	May 18, 1998	Dredging completed
Port of Los Angeles Berths 163-164 (File 97-121)	98-037	May 18, 1998	Dredging completed
Port of Los Angeles Berths 121-126 (File No. 97-138)	98-035	May 18, 1998	Dredging completed
Port of Los Angeles Berths 51-55 (File No. 97-119)	98-028	April 13, 1998	Dredging completed
Port of Los Angeles West Basin Entrance, Berths 97-102 (File No. 96-022)	96-085	November 4, 1996	Dredging completed
Port of Los Angeles Stage I, Pier 400 (File No. 93-84)	94-029	April 4, 1994	Dredging completed
B. P. Exploration & Oil Inc. (Refiners Marketing Co.) (File No. 94-085)	96-013	February 26, 1996	Remediation completed

The Executive Officer of this Regional Board, is authorized, and he is hereby directed, to certify and submit copies of this Order to the dischargers, and to such individuals and governmental agencies as may have need therefor, or may request same.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on January 26, 2000.

TENTATIVE

DENNIS A. DICKERSON
Executive Officer

Item 11 is submitted under a separate cover.

California Regional Water Quality Control Board, Los Angeles Region

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 12

SUBJECT: Administrative Civil Liability (ACL) Complaint No. 99-122 for Sun Coast Calamari

DISCUSSION: Regional Board staff identified a water quality problem in Port Hueneme Harbor. Squid offloading operations caused or contributed to high ammonia concentrations and very low dissolved oxygen concentrations in the harbor. Regional Board staff met with the squid fishing and processing businesses and concerned parties to address the water pollution problem and potential solutions. The squid processors agreed to implement five Best Management Practices (BMPs) to mitigate the pollution in the harbor water. These BMPs did not result in the expected improvement of harbor water quality, based on chemical analyses conducted by Channel Islands Marine Resources Institute. Therefore, on November 24, 1999, the Executive Officer issued Notice of Violation (NOV) letters to the squid processors in Port Hueneme Harbor directing them to cease all discharge of squid offloading process wastewater into the harbor. Sun Coast Calamari continued to discharge wastewater from their squid offloading operations into Port Hueneme Harbor in violation of waste discharge prohibitions contained in the NOV. This discharge has continued to contribute to the pollution the harbor resulting in poor and potentially toxic water quality.

Sun Coast Calamari is alleged to have violated:

1. Sections 13260, 13264, and 13376 of the California Water Code;
2. The California Ocean Plan; and,
3. The Basin Plan.

These violations occurred on at least five separate occasions. The maximum civil liability that could be imposed under section 13265(d)(1) of the Porter-Cologne Water Quality Control Act is $5,000 per day for each violation. Therefore, the maximum civil liability that could be imposed is $25,000 (5 x $5,000). In addition, the Regional Board can be reimbursed for staff costs, $4,900, bringing the total maximum civil liability to $29,900.

OPTIONS: The Regional Board has the option to affirm, reject, or modify the attached ACL. Affirmation of the attached ACL would maintain consistency with prior Regional Board enforcement of the California Water Code and the Basin Plan. The recommended penalty in this ACL was calculated using a method consistent with other ACLs, while considering those factors as required by law.

RECOMMENDATION: Staff recommends that the Regional Board affirm the attached ACL in the amount of $19,900, which includes:

- $15,000 for discharge of ammonia-laden and high biological oxygen demand-laden wastewater to the harbor ($5,000 per discharge event), and
- $4,900 for reimbursement of staff costs.

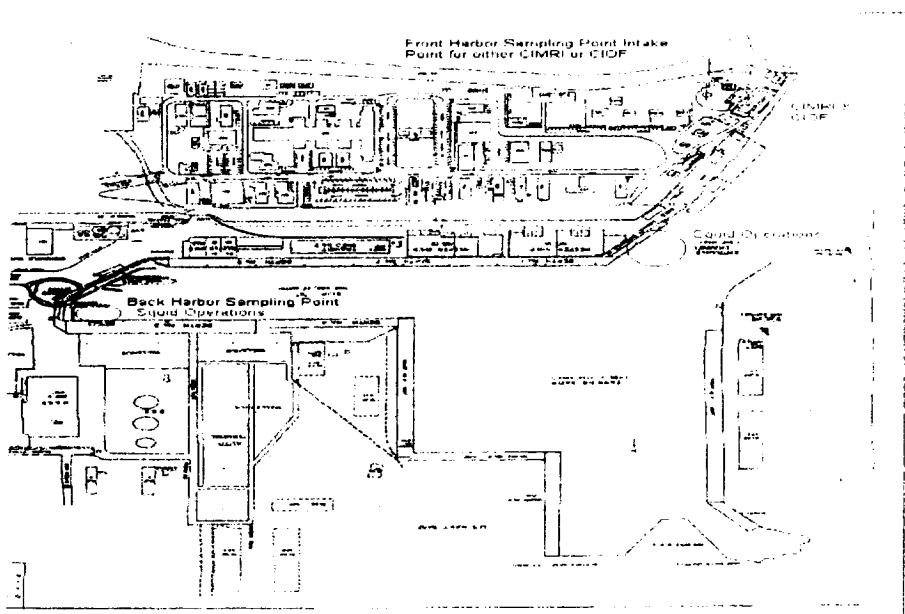
California Regional Water Quality Control Board, Los Angeles Region
427th Regular Meeting (Pasadena)
January 26, 2000
Enforcement Agenda Item No. 12
Staff Report for Administrative Civil Liability Complaint No. 99-122
For Sun Coast Calamari

Introduction

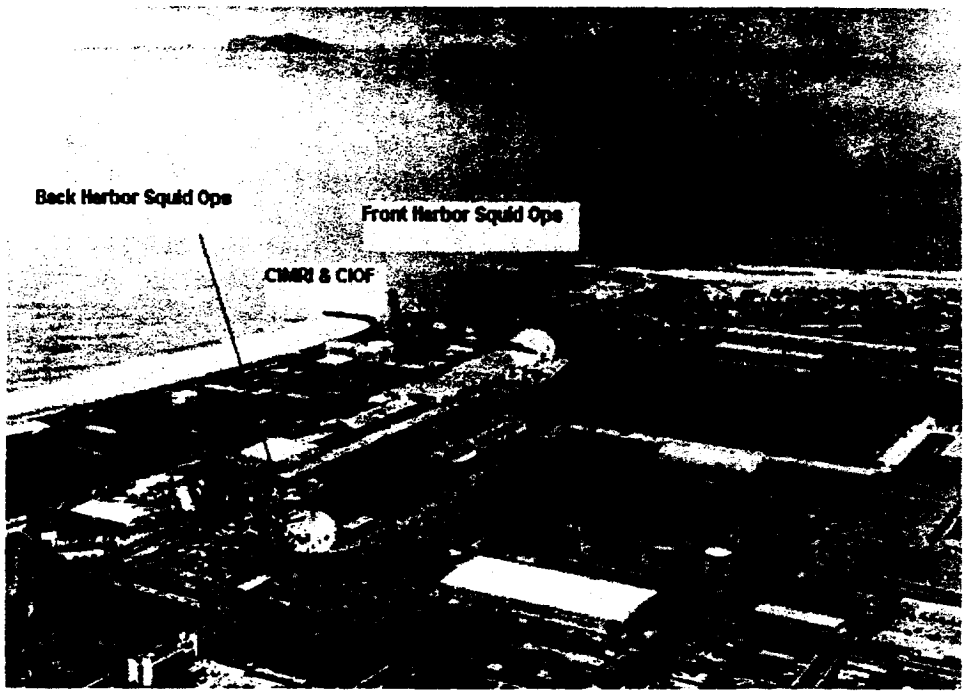
On December 2, 1999, and on four other documented occasions, Sun Coast Calamari discharged waste, in violation of the Porter-Cologne Water Quality Control Act, into Port Hueneme Harbor, California (Ventura County). Regional Board staff have prepared Administrative Civil Liability Complaint No. 99-122 to address these violations.

Background

Port Hueneme Harbor is located in Ventura County, between the cities of Oxnard and Ventura. It is a naval and industrial-based harbor. "The Port of Hueneme is the only deep water harbor between Los Angeles and the San Francisco Bay area and is the U.S. Port of Entry for California's Central Coast region. It serves international businesses and ocean carriers from both the Pacific Rim and Europe. The Port of Hueneme ranks among the top seaports in California for general cargo throughput. The niche markets that Hueneme serves include: the import and export of automobiles, fresh fruit, fresh produce, and forest products. The Port of Hueneme is the top seaport in the United States for citrus export and ranks among the top ten ports in the country for automobile and banana imports" (from www.portofhueneme.org).



Port Hueneme Harbor map



Port Hueneme Harbor aerial photo

October 27, 1999
Regional Board staff were notified by Channel Islands Ocean Farms (CIOF) that they were in violation of their National Pollutant Discharge Elimination System (NPDES) permit (NPDES NO. CA0063070, Order No. 92-082, CI No. 7219) for ammonia, dissolved oxygen, and biological oxygen demand. They stated that the violations were caused by the intake water from the harbor exceeding the discharge limits causing a toxic effect to their marine organisms. CIOF is an aquaculture business located within Port Hueneme Harbor which cultures abalone. They circulate saltwater from the harbor through their tanks and the saltwater is discharged back into the harbor.

Channel Islands Marine Resources Institute (CIMRI) is a non-profit organization which is also located within Port Hueneme Harbor. CIMRI provides education to local schools and the community on marine life and effects of pollution. CIMRI operates much the same as CIOF and was also in violation of their permit (NPDES No. CA0064131, Order No. 97-137, CI No. 7854) during the same time period. The organisms in CIMRI's tanks had to be relocated to another facility because of the deleterious effects of the harbor water's toxicity. CIMRI has ceased operating, resulting in no incoming funds to run their programs.

These two facilities are required to monitor for certain pollutants as a condition of their NPDES permits. Water chemistry results indicated very low levels of dissolved oxygen in the water which would essentially cause aquatic organisms to suffocate. Further data indicated high ammonia levels. Ammonia can potentially be extremely toxic to aquatic organisms.

The squid-fishing season, which began in the beginning of October, was producing bountiful harvests, and the offloading operations in the harbor seemed to be a potential explanation of our water quality test results. When squid die, they release their ink and ammonia. The biological components of squid ink are such that when it decomposes, it requires a large amount of oxygen in the process. This could be the source of the oxygen depletion seen in the

water chemistry analyses. Further, the addition of ammonia into the harbor had the potential to be toxic to the animals in the facilities and within the harbor as the concentration increased.

October 28, 1999
Regional Board staff investigated the complaint received from CIOF and collected water samples from the harbor for analysis. Initial dissolved oxygen (DO) levels taken in the field were recorded at 3 mg/L near CIMRI and CIOF and at 0.3 mg/L near the boats where squid offloading was occurring. Dissolved oxygen levels should be around 7 mg/L. Ammonia levels ranged from 2 to 5 mg/L from the facilities to the boats. Ammonia levels have to be less than 0.1 mg/L before CIMRI can bring their organisms back. Samples were collected and taken to the California State Department of Health Services laboratory in Los Angeles for analysis. Sample 1 was collected from harbor water in the back basin near a squid boat offloading its catch. Sample 2 was collected across the harbor from a drain on the dock where wastewater was flowing into the harbor. The following results were reported (all are in mg/L):

Source	Sample 1	Sample 2	Limit
Nitrate nitrogen	0.40	1.80	0.20
Ammonia nitrogen	22.8	4.40	0.05
Nitrite nitrogen	< reportable limit	0.04	0.03
Organic nitrogen	55.7	15.2	0.05
BOD – 5 day	> 500	104	2.00

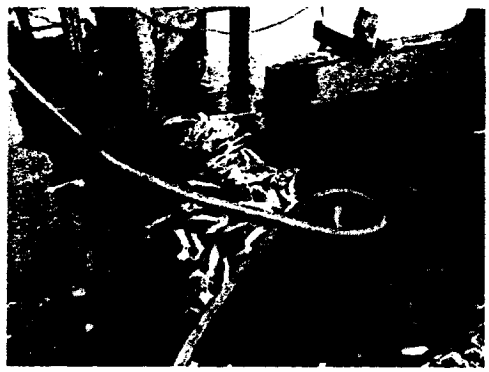
Nine out of the ten analyses exceeded established limits.

Thick foam was observed in the water near the boats and offloading operations. The water was dark purple-black in color.

Regional Board staff observed very sloppy housekeeping practices in the harbor as well as on the dock. The squid boats have tanks where the squid are kept after they are caught. When the squid die, ammonia and ink become concentrated in these tanks. The water in the tanks is discharged before the squid are offloaded to minimize the volume of unnecessary water which must be handled when they offload the squid. This water was being discharged into the harbor as the boats entered and left, as well as at dockside. Squid and water spilled during the offloading operation was being rinsed off the dock into the harbor.

November 1, 1999
A meeting was held on November 1, 1999, with representatives of the Regional Board, the Department of Fish and Game, port officials, the squid fishing companies, CIMRI and CIOF, and the Santa Barbara Channel Keeper.

Foam in the water on October 28, 1999.



Squid on the docks on October 28, 1999.

The meeting was called to address the seriousness and immediacy of the problem of toxicity in the harbor and to consider potential solutions. The representatives from the squid seafood companies agreed that the problems were most likely the result of their activities in the harbor. After discussing the role of the Regional Board in protecting water quality and outlining the violations of the Porter-Cologne Water Quality Control Act and the Water Quality Control Plan for the Los Angeles Region (also known as the Basin Plan) that were occurring, several options to correct the problem were discussed. The decision was made to implement several Best Management Practices (BMPs) that would alter the method of squid offloading and processing to decrease the amount of wastewater and biological material that was being flushed into the harbor. The squid companies agreed to implement these BMPs and CIMRI agreed to continue monitoring the water quality of the harbor to determine whether these changes would abate the pollution and improve water quality in the harbor.

The extent these BMPs were implemented is unknown. However, water chemistry data indicated the quality of the water was not improving. Graphic analysis of the data showed that the water quality deteriorated during the week and improved over the weekends when squid fishing did not occur. Continued complaints were made to the Regional Board about the squid companies' non-compliance with implementation of the agreed-upon BMPs and their continued discharge of waste into the harbor.

On November 24, 1999, the Executive Officer of this Regional Board issued Notice of Violation letters to the five squid companies operating in Port Hueneme Harbor. The companies were directed to cease discharging into the harbor immediately, and that any further discharges would be subject to enforcement action by the Regional Board, including a possibility of administrative civil liability of up to $5,000 for each day of violation. Some possible options were listed for the companies to pursue as alternatives to discharging into the harbor. These alternatives included applying for a NPDES permit through the Regional Board, submitting a new list of BMPs that could be implemented to successfully abate the pollution in the harbor, obtaining an industrial user permit to allow the squid waste to be discharged to the sanitary sewer system, or discharging the waste water from the holding tanks prior to entering waters of the State.

November 25-28, 1999

During the four day Thanksgiving holiday, when there was no fishing and very high tides flushed the harbor, there was a noticeable improvement in the water quality in the harbor. However, once fishing operations resumed, the water quality decreased rapidly again.

December 3, 1999
Regional Board staff inspected the squid offloading operations in Port Hueneme to determine whether the squid companies were complying with the Notice of Violation letters and had ceased discharge to the harbor. Extreme high wind conditions had resulted in a small craft warning being issued by the Wharfinger's office.

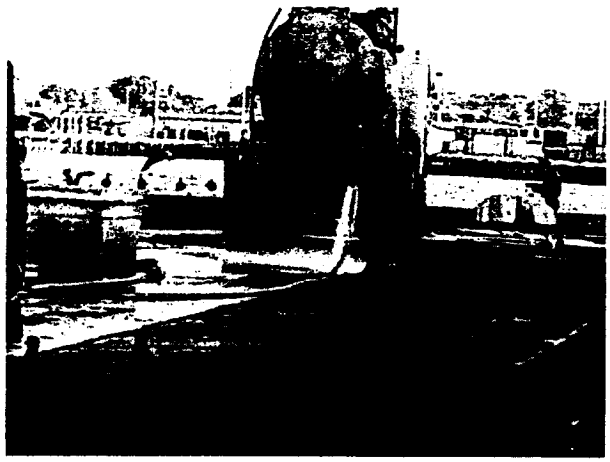
There were only two companies in operation during the inspection. It was obvious by the tanks hooked up to their operations that they had implemented some of the suggested BMPs. These tanks had been loaned to them by CIOF. There was no foam in the water around these ongoing operations and spillage onto the dock was minimal. The high winds were mixing the water a little and the minimal squid operations explain our field measurements of DO in the front of the harbor being 7.4 and 7.3 mg/L which are within Basin Plan standards. In the back basin of the harbor, the DO concentration was recorded at 5.4 mg/L.

Personnel from the Wharfinger's Office and indicated that Sun Coast Calamari had been unloading squid between 0100 and 0500 hours and a thick layer of foam had been observed around their boat and their offloading operations. Sun Coast Calamari received their Notice of Violation letter, sent by registered mail, on November 30, 1999. Regional Board staff also observed Sun Coast Calamari personnel hosing off the dock and offloading equipment. The wastewater then drained directly into the harbor.

Sun Coast Calamari personnel hosing off equipment and dock on December 3, 1999.

Sun Coast Calamari truck on December 3, 1999.

12-6



Sun Coast Calamari Tanker and personnel hosing down the dock on December 3, 1999.

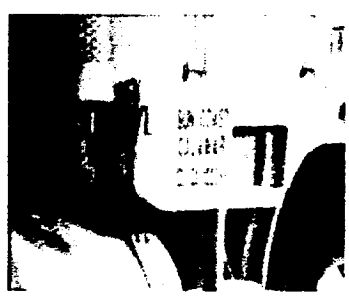
December 9, 1999

Regional Board staff again inspected the squid offloading operations at Port Hueneme Harbor on December 9, 1999. While observing dock offloading operations at Sun Coast Calamari, staff observed a large quantity of foam in the water around the vessel, *Nicholas Michael*, which is contracted to them. The pipes and hoses of their offloading equipment were leaking significant amounts of water, which was draining into the harbor, the most likely cause of the foam. There was a large overflow of water and squid from the conveyor belts and discharging foam and squid all over the dock. DO levels next to the boat were 5.75 mg/L and ammonia levels were 0.6 – 0.8 mg/L.

Foam in the water around *Nicholas Michael* on December 9, 1999.

Spilt squid on the docks on December 9, 1999.

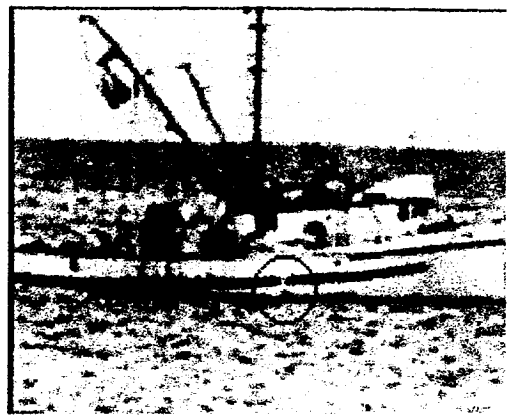
Water and foam being spilled from Sun Coast Calamari offloading operations on December 9, 1999.



Sun Coast Calamari truck on December 9, 1999.

Another boat contracted with Sun Coast Calamari, *Junior*, was observed right outside of the harbor dumping water. This does not meet the requirement of three miles outside of the harbor to release the hold water into waters of the United States.

Boats discharging within the 3 mile limit on December 9, 1999.



A close up of the *Junior*, contracted with Sun Coast Calamari, discharging water on December 9, 1999.

Impacts to Water Quality

These poor housekeeping practices have created a pollution nuisance in Port Hueneme Harbor. A bait company, which supplied baitfish to fishing boats, cannot keep their baitfish alive in their pens. CIMRI cannot maintain its marine organisms in their tanks. These organisms continue to be housed offsite at additional cost to CIMRI. The increased levels of ammonia in the harbor are toxic to the marine life. The depressed levels of dissolved oxygen suffocate those organisms that are not sensitive to the high ammonia levels. The combined effect is that the harbor is uninhabitable for many marine organisms usually found here. The Basin Plan states that DO levels should be 7.0 mg/L on the average, with no reading under 5.0 mg/L. Ammonia standards are dependent on the species of the organism, and the temperature and pH of the water. For CIMRI to bring their animals back and be operational again, the ammonia levels need be below 0.1 mg/L. Water quality samples taken by CIMRI were collected at two different locations twice a day. The first location was the intake for their water. This represents the front of the harbor and a best case scenario. The second sampling point was in the back of the harbor behind a boat named the *California Responder*. This sample would represent the worst case scenario since this water is not mixed as much and the water is subject to longer detention times which increases the amount of time necessary for its recovery. Below are the minimum and maximum values as well as the average values for dissolved oxygen and ammonia measured during November and December, 1999, by CIMRI.

Dissolved Oxygen	**November**	**December**
Front Harbor		
Average	6.21 mg/L	5.96 mg/L
Minimum	3.56 mg/L	4.39 mg/L
Maximum	8.00 mg/L	7.53 mg/L
Back Harbor		
Average	4.73 mg/L	5.05 mg/L
Minimum	2.59 mg/L	3.13 mg/L
Maximum	6.85 mg/L	6.80 mg/L

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Ammonia	November	December
Front Harbor		
Average	1.12 mg/L	0.24 mg/L
Minimum	0.00 mg/L	0.00 mg/L
Maximum	4.00 mg/L	0.80 mg/L
Back Harbor		
Average	1.25 mg/L	0.38 mg/L
Minimum	0.20 mg/L	0.00 mg/L
Maximum	4.00 mg/L	0.80 mg/L

On December 31, 1999 Regional Board staff received a phone call from CIOF. A diver had been in the harbor and noticed all the red and coraline algae was bleached and dying as if it had been burned. High ammonia levels are one of the suspected causes.

Alleged Violations

Sun Coast Calamari is alleged to have violated Sections 13260, 13264, and 13376 of the California Water Code, in addition to both the Basin Plan and the California Ocean Plan, by discharging squid holding tank water high in Biological Oxygen Demand substances and ammonia and squid wastes into Port Hueneme Harbor. The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Board), as a legal authority may impose civil liability under Sections 13265 and 13385 of the California Water Code (CWC). For reference, relevant portions of Sections 13260, 13264 and 13376 of the CWC are stated below:

California Water Code Section 13260.

(a) All of the following persons shall file with the appropriate regional board a report of the discharge, containing the information which may be required by the regional board:

(1) Any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(b) Every person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

California Water Code Section 13264. Prerequisites to discharge.

(a) No person shall initiate any new discharge of waste or make any material changes in any discharge, or initiate a discharge to, make any material changes in a discharge to, ...prior to the filing of the report required by Section 13260.

California Water Code Section13376. Reports of discharges

Any person discharging pollutants or proposing to discharge pollutants to the navigable waters of the United States within the jurisdiction of this state.....shall file a report of the discharge in compliance with the procedures set forth in Section 13260..... The discharge of pollutants ...or fill material... by any person except as authorized by waste discharge requirements is prohibited...

The Water Quality Control Plan for the Los Angeles Region (Basin Plan) adopted by the Regional Water Quality Control Board, Los Angeles Region on June 13, 1994, includes water quality objectives regulating ammonia and dissolved oxygen levels. The water quality

objectives for dissolved oxygen are: "At a minimum, the mean annual dissolved oxygen concentration of all waters shall be greater than 7 mg/L, and no single determination shall be less than 5.0 mg/L, except when natural conditions cause lesser concentrations". The water quality objectives for ammonia are based on pH and temperature, but are normally toxic to aquatic organisms in the harbor at levels greater than 2 mg/L..

The California Ocean Plan adopted by the State Water Resources Control Board on July 23, 1997 includes general requirements for the management of waste discharges to the ocean. It states: "Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.", and "Waste discharged to the ocean must be essentially free of: Material that is floatable or will become floatable upon discharge. ... Substances which will accumulate to toxic levels in marine waters, sediments, or biota."

Proposed Civil Liability

Sun Coast Calamari is civilly liable for $19,900 in accordance with Section 13265 of the CWC. For reference, the relevant portion of Section 13265 of the CWC is listed below:

California Water Code Section 13265. *Civil Liability*

(a) Any person discharging waste in violation of Section 13264, after such violation has been called to his attention in writing by the regional board, is guilty of a misdemeanor and may be liable civilly in accordance with subdivision (b). Each day of such discharge shall constitute a separate offense.

(d)(1) Civil liability may be administratively imposed by a regional board in accordance with Article 2.5 (commencing with Section 143323) of Chapter 5 for a violation of subdivision (c) in an amount which shall not exceed five thousand dollars ($5,000) for each day in which the violation occurs.

Penalty Calculations

Regional Board staff or other agencies observed Sun Coast Calamari violating the CWC on at least five separate occasions. This discharge of wastes to a navigable water of the United States is contrary to the CWC, the California Ocean Plan, and the Los Angeles Basin Plan. Therefore, under section 13265 (d) (1) of the CWC, the maximum civil liability that could be imposed for these violations is $5,000 each day for 5 days, for a total of $25,000.

Pursuant to section 13385 (e) of the SWC, the Regional Board is required to consider the following factors in determining the amount of civil liability to be imposed: the nature, circumstances, extent, and gravity of the violation, and, with respect to the violator, the ability to pay, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation; and other matters that justice may require.

A. Nature, circumstances, extent, and gravity of the violations – The discharge of pollutants including ammonia and biological oxygen demand-laden materials to the harbor created a nuisance and was the source of pollution of the harbor. The increased levels of ammonia were toxic to aquatic organisms. Further, low dissolved oxygen will suffocate aquatic organisms. CIMRI was forced to relocate their aquatic organisms to another facility because they were unable to survive in this poor quality water. Therefore, a reduction of the maximum civil liability is not warranted.

B. The ability of the discharger to pay – The ability of the discharger to pay is unknown. However, the proposed civil liability assessment is not a significant amount compared to the ultimate value of changes if they had been made and the discharger came into compliance. Therefore, a reduction of the maximum civil liability is not warranted.

C. Prior history of violations – Regional Board staff is not aware of any previous violations. Therefore, a reduction of the maximum civil liability is warranted.

D. Degree of culpability - Sun Coast Calamari willfully allowed wastes from the squid offloading operations to be discharged into Port Hueneme Harbor. Sun Coast Calamari failed to take adequate measures to prevent the discharge of pollutants. The chilled seawater is not being discharged outside the waters of the United States nor is it being recycled in a holding tank during the offloading process. These options were discussed and agreed upon at the meeting held on November 1, 1999. Sun Coast Calamari was informed of, and understood, the impacts of their actions when they chose not to comply. Therefore, a reduction of the maximum civil liability is not warranted.

E. Economic benefit or savings - Sun Coast Calamari has realized an economic benefit by not having to pay for the refitting of the offloading area, or the changes in offloading procedures. This saving ranges anywhere from $5,000 to $15,000. Implementation of the suggested BMPs would not constitute a significant cost. Three of the other companies who offload squid were able to make these changes without expending large amounts of money. Further, CIOF offered the use of their large storage tanks to hold the wastewater during offloading so it could be recycled back onto the boat for discharge more than three miles outside the harbor. These tanks are valued between $3,500 and $4,800 in their used condition. Monterey Fish Company estimated the total cost of the modifications to their operations to meet compliance was $5,000. Therefore, a reduction of the maximum civil liability is not warranted.

F. Other matters as justice may require - Other matters to consider include time spent by the staff of the Regional Board in evaluating the violations and preparing this Order and related documents. The Regional Board charges a rate of $70 per hour for recovery of staff costs. Regional Board staff time is conservatively estimated at 70 hours, staff costs incurred by the Regional Board total $4,900.

After consideration of the factors listed in Section 13327 and Section 13385(e) of the CWC, the Regional Board Executive Officer recommends that civil liability be imposed by the Regional Board in the amount of $19,900. This includes $15,000 as an assessment for the violations and $4,900 for staff costs.

Options

1. Adopt a directive supporting the attached Complaint No. 99-122 for Administrative Civil Liability in the amount of $19,900.
2. Modify Complaint No. 99-122 for Administrative Civil Liability.
3. Rescind Complaint No. 99-122 for Administrative Civil Liability.

Conclusion

1. Sun Coast Calamari was given a reasonable amount of time to come into compliance with the Notice of Violation dated November 24, 1999.

2. Other squid processing companies were able to come into compliance with the Notice of Violation in a reasonable amount of time and with a reasonable expenditure.
3. The penalty of $19,900 is more than fair with regard to the repeated violations.
4. It is important for the Board to sustain its position that compliance with the California Water Code, the California Ocean Plan, and the Basin Plan will be enforced.

Recommendation

Affirm the attached Complaint No. 99-122 for Administrative Civil Liability in the amount of $19,900, which includes $15,000 as an assessment for the violations and $4,900 for staff costs. Please note that the statutory maximum the Regional Board could assess is $29,900.

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/~rwqcb4

Gray Davis
Governor

December 28, 1999

Mr. John Borman
Sun Coast Calamari
928 E. 3rd Street
Pier of Oxnard, CA 93032

Dear Mr. Borman:

COMPLAINT NO. 99-122 FOR ADMINISTRATIVE CIVIL LIABILITY FOR VIOLATIONS OF THE CALIFORNIA WATER CODE, THE CALIFORNIA OCEAN PLAN, AND THE WATER QUALITY CONTROL PLAN OF THE LOS ANGELES REGION

Enclosed is Administrative Civil Liability Complaint No. 99-122, for Sun Coast Calamari, which addresses the squid offloading operations and procedures still occurring in Port Hueneme Harbor after a Notice of Violation letter was received by you on November 30, 1999. The continued violations are creating pollution and a nuisance resulting in poor water quality in the harbor. The amount of civil liability is nineteen thousand, nine hundred dollars ($19,900).

Sun Coast Calamari may waive the right to a hearing. Should Sun Coast Calamari choose to waive the right to a hearing, an authorized agent must sign the waiver form attached to Complaint No. 99-122, and return it to the Regional Board by January 15, 2000. If we do not receive your waiver by January 15, 2000, we will calendar this matter for a public hearing before the Board on January 26, 2000, at the Richard H. Chambers U.S. Court of Appeals Building, 125 South Grand Avenue, Pasadena, California.

Please contact me at (213) 576-6605 or Tracy Patterson at (213) 576-6661 should you have any questions.

Sincerely,

Dennis A. Dickerson
Executive Officer

Enclosures
/tp
cc: See attached mailing list

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Mailing List

Robert Gallager, County of Ventura, Environmental Health Division
Salley Coleman, City of Oxnard
Pete Wallace, Oxnard Harbor District, Director of Operations
Matt Phillips, Santa Barbara Channel Keeper

State of California
California Regional Water Quality Control Board, Los Angeles Region

In the Matter of:	)	Complaint No. 99-122
SUN COAST CALAMARI PORT HUENEME HARBOR OPERATIONS	)	ADMINISTRATIVE CIVIL LIABILITY FOR VIOLATIONS OF THE CALIFORNIA WATER CODE, THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION, AND THE CALIFORNIA OCEAN PLAN

YOU ARE HEREBY GIVEN NOTICE THAT:

1. Sun Coast Calamari is alleged to have violated Section 13264 and Section 13376 of the California Water Code (CWC), by illegally discharging oxygen depressing compounds and ammonia-laden holding tank water into Port Hueneme harbor. Further, this discharge is contrary to the Water Quality Control Plan for the Los Angeles Region (hereinafter the Basin Plan) for water quality objectives specified by the Regional Water Quality Control Board as mandated in Section 13241 of the CWC. Finally, the alleged discharge violated Chapter III of the California Ocean Plan which defines general requirements for management of waste discharge to the ocean. For these violations, the California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Board), may impose civil liability under section 13385 of the CWC.

2. Unless waived, a hearing on this matter will be held before the Regional Board at a regularly scheduled public meeting that will start at 9:00 a.m. on January 26, 2000, at the Richard H. Chambers, U.S. Court of Appeals Building, 125 S. Grand Avenue, Pasadena. You and/or your representatives will have an opportunity to be heard and to contest the allegations in this Complaint and the imposition of civil liability by the Regional Board. An agenda for the hearing will be mailed to you not less than ten days before the hearing date.

   At the hearing, the Regional Board will consider whether to affirm, reject or modify the proposed administrative liability, or whether to refer the matter to the Attorney General for recovery of judicial civil liability, or any other action appropriate as a result of the hearing.

ALLEGATIONS

3. On or about October 27, 1999, an agent for the owner(s) of Sun Coast Calamari, a seafood company located at 928 E. 3rd Street, Pier of Oxnard, California (Ventura County), violated Sections 13264, 13376, and 13385 of the California Water Code, in addition to both the Basin Plan, and the California Ocean Plan, by discharging wastes including: squid holding tank water high in Biological Oxygen Demand substances and ammonia, as well as squid wastes into the harbor at Port Hueneme, a water of the State of California. The following facts are the basis for the alleged violations:

a. On October 27, 1999, Channel Islands Oceans Farms (CIOF), located on the southern side of the entrance channel of Port Hueneme Harbor, contacted Regional Board staff to file a complaint and give notice that it could not meet the waste discharge requirements of its NPDES permit (NPDES No. CA0063070, Order No. 92-082, CI No. 7219) because the intake water from the harbor was already exceeding the discharge limits set. Specific discharge violations included high levels of ammonia and low levels of dissolved oxygen. Violation of the NPDES permit can result in enforcement action against CIOF.

b. Channel Islands Marine Resources Institute (CIMRI) located at 432 West Port Hueneme Road adjacent to the Port Hueneme Harbor (NPDES No. CA0064131, Order No. 97-137, CI No. 7854) was also in violation of its NPDES permit effluent discharge requirements. CIMRI is a non profit company which promotes education of marine life and pollution effects to local communities and schools. Both CIMRI and CIOF house marine organisms and use a constant flow of harbor seawater in their tanks to hold and grow these marine organisms. Toxicity in the harbor water forced CIMRI to move their aquatic organisms to another facility pending water quality improvement and the cessation of discharge.

c. On October 28, 1999, Regional Board staff inspected the water quality conditions of Port Hueneme Harbor. The water was found to be dark in color with a thick white foam present where offloading of squid occurred. There were dead squid floating in the harbor due to the washing of the docks when squid, packing ice, and process water were hosed into the harbor. Ammonia toxicity was recorded between 2-5 mg/L while dissolved oxygen (DO) levels were measured at less than 1 mg/L near the boats. These extreme low dissolved oxygen conditions occurred where the squid offloading operations took place, and appeared to be the result of those operations.

d. On November 1, 1999, Regional Board staff attended a meeting with representatives from the five squid industries of Port Hueneme Harbor (Del Mar Seafood, Monterey Fish Company, Sea Products, Southern Cal Seafood, and Sun Coast Calamari), CIMRI, CIOF, Department of Fish and Game, the Santa Barbara Channel Keeper and Oxnard Harbor District to discuss the impacts to the harbor from the squid offloading operations. Representatives from the squid processing facilities, including Sun Coast Calamari, acknowledged that the problems associated with the water quality of the harbor were associated with their procedures. Implementation of the following five Best Management Practices were agreed upon for implementation with the intent to bring the harbor waters back into compliance with Basin Plan objectives in order to avoid the issuance of Clean Up and Abatement Orders:

i. Discharge approximately half of the holding tank's chilled water greater than three miles outside of the harbor to reduce the amount of waste discharged in the harbor;
ii. Require waste on the docks to be removed to dumpsters instead of washed into the harbor;
iii. Recycle the chilled water when off-loading squid; recirculate this water back into the holding tank for discharge outside of the harbor;
iv. CIMRI would continue with their water quality monitoring program; and,
v. Coordinate vessel traffic within the harbor to minimize loss of squid.

e. Subsequent discharge monitoring and analytical water chemistry results do not indicate an improvement of the water quality to achieve water quality objectives. It is unknown whether the agreed-upon BMPs were implemented or were effective. CIMRI agreed to test water quality twice a day at the front and back of the harbor. Water quality results are reported to the involved parties to track levels of ammonia and dissolved oxygen as the primary indicators of the harbor's water quality.

f. On November 24, 1999, Notice of Violations (NOVs) were issued by the Regional Board's Executive Officer to the five known squid processing facilities within the harbor including Mr. John Borman, Sun Coast Calamari, 928 E. 3rd Street, Pier of Oxnard, CA 93032. The NOVs were sent by registered mail. Sun Coast Calamari received their NOV on November 30, 1999.

g. The NOVs directed the squid industries to cease all dumping of waste into the harbor and offered the following options for continued operation of their facilities:

i. Apply for and receive a National Pollutant Discharge Elimination System (NPDES) permit from this Board (per Sections 13260 and 13263 of the Porter-Cologne Water Quality Control Act);
ii. Modify and submit a list of BMPs that will abate the effects of the discharge on the receiving water;
iii. Discharge the waste to the sanitary sewer system (under industrial user permit with the City of Oxnard); or
iv. Discharge the waste prior to entering waters of the State.

The NOV noted that continuing violations would result in further enforcement action by this Regional Board, including administrative civil liability of up to $5,000 for each day of violation.

h. On December 3, 1999, Regional Board staff inspected the squid offloading procedures at Port Hueneme Harbor. During this inspection only two of the five companies were operating due to strong winds and small craft advisories. The two companies Regional Board staff inspected were Monterey Fish and Sun Coast Calamari. Regional Board staff observed Sun Coast Calamari personnel hosing off equipment and the dock, thereby discharging waste water directly into the harbor. Dissolved oxygen and ammonia levels continue to violate Basin Plan and Ocean Plan objectives. While some squid operators have implemented the suggested BMPs, others have not. Those implementing BMPs have expended between five thousand and fifteen thousand dollars to achieve compliance.

i. During the December 3, 1999 inspection, Regional Board staff reviewed the patrol logs in the Wharfinger's Office, which contained observations of incidents that were violations of the CWC. These incidents occurred after the NOV was recorded as received by Sun Coast Calamari on November 30, 1999. Board staff also inspected ship traffic logs, which contained notations of discharges to the harbor after the NOVs were delivered.

j. The following is a list of the squid boats known to be working with Sun Coast Calamari: *No. Viking*, *Spartan*, *Junior*, *Nicholas Michael*, and *Anthony G.*

k. Regional Board staff again inspected the offloading procedures of four of the five squid processors on December 9, 1999. Each company responded to the NOV in a unique manner. CIOF loaned large holding tanks to three companies to store the water mixed with the squid during the offloading process. The water could then be transferred back to the boat for discharge into the ocean three miles out from the harbor. Southern Cal Seafood installed drip trays which captured any spillage that previously went to the docks or harbor. This spillage was then collected and discharged with the other wastewater three miles outside of the harbor. However, upon inspecting Sun Coast Calamari, Regional Board staff observed foam in the water around the boat and on the dock around their equipment. There was a large quantity of water leaking out of their pipes and draining into the harbor. Major overflows of wastewater and squid were falling from the processing equipment thus increasing the amount of foam already present. The overall process was not meeting agreed-upon BMPs.

l. On December 10, 1999, Regional Board staff requested copies of the Wharfinger's logs of ship traffic in the harbor as well as the daily logs of events. The following entries supplement the Regional Boards observations:

i. December 2, 1999, 0300 "Mr. Mark Mayberry (DelMar) reports *Nicholas Michael* pumping dishcharge H_2O in harbor Not the first time he's noticed Suncoast doing this"

ii. December 2, 1999, 0330 "Rounds made Notify Sun Coast and So Cal to comply with tariff"

iii. December 3, 1999, 0330 "Fish ops Channel Entrance (Sun Coast) much foam in H_2O So Cal ops ok"

iv. December 6, 1999, 0355 "Returned: Sun Coast pump leaking waste water on dock and into harbor. Monterey and Del Mar areas clean"

v. December 7, 1999, 0215 "Returned: Sun Coast pump leaking considerable amounts of waste water into harbor"

vi. December 7, 1999, 0315 "Toured property: Sun Coast shut down for repairs to pump, So Cal also losing waste water into harbor; moderate amounts."

4. The Water Quality Control Plan for the Los Angeles Region (Basin Plan) adopted by the Regional Water Quality Control Board, Los Angeles Region on June 13, 1994, includes water quality objectives regulating ammonia and dissolved oxygen levels. The water quality objectives for dissolved oxygen are: "At a minimum, the mean annual dissolved oxygen concentration of all waters shall be greater than 7 mg/L, and no single determination shall be less than 5.0 mg/L, except when natural conditions cause lesser concentrations". The water quality objectives for ammonia are based on pH and temperature, but are normally toxic in the harbor at levels greater than 2 mg/L.

5. The California Ocean Plan for the State of California adopted by the State Water Resources Control Board on July 23, 1997 includes general requirements for the management of waste discharge to the ocean. It states: "Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.", and "Waste discharged to the ocean must be essentially free of: Material that is floatable or will become floatable upon discharge. ... Substances which will accumulate to toxic levels in marine waters, sediments, or biota." Ammonia is known to be potentially acutely toxic to aquatic organisms. Squid secrete ammonia when they are in a high stress environment such as being caught in a net or when they die.

6. The Basin Plan lists the beneficial uses of Port Hueneme Harbor as industrial process supply, navigation, water contact recreation, non-contact recreation, commercial sport fishing, marine habitat, and wildlife habitat.

PROPOSED CIVIL LIABILITY

7. Section 13265(d)(1) of the CWC authorizes a maximum civil liability of $5,000 per day. The Notice of Violation written by this Regional Board cited a possible fine of $5,000 per

day of violation. By continuing to discharge wastes after receiving the NOV on November 30, 1999 to a navigable water of the United States, contrary to the discharge prohibitions of the Clean Water Act, The California Ocean Plan, and contrary to the Los Angeles Region Basin Plan, Sun Coast Calamari is alleged to have violated the CWC for multiple days. Since the NOV was sent registered mail, and receipts were returned to the Regional Board indicating receipt on November 30, 1999, any days of discharge thereafter are subject to this fine.

Therefore, the maximum allowable assessed fine is $5,000/day for 5 days (December 2, 1999; December 3, 1999; December 6, 1999; December 7, 1999; and December 9, 1999) equal to a fine of $25,000. The following provides details of alleged violations:

- December 2, 1999: Wharfinger's log records *Nicholas Michael* dumping into the harbor as well as reprimand to comply with tariff. DO level 4.52 mg/L and ammonia readings are 0.6 mg/L in the back basin.
- December 3, 1999: Regional Board staff observes Sun Coast Calamari personnel hosing off equipment and the dock, thereby directly discharging into the harbor. Wharfinger's log notes large amount of foam around Sun Coast Calamari's offloading operations. DO is measured at 4.61 mg/L and ammonia readings are 0.6 mg/L in the back basin.
- December 6, 1999: Wharfinger's log indicates water leaking from Sun Coast Calamari's pump onto the dock and into the harbor. DO measured at 4.67 mg/L and ammonia is 0.4 mg/L in the back basin.
- December 7, 1999: Wharfinger's log indicates Sun Coast Calamari's pumps leaking considerable amounts of water onto dock and into harbor. They finally shut down to repair the pump. DO is measured at 4.8 mg/L in the back basin and ammonia readings range from 0.4 – 0.8+ mg/L from the front to the back basin.
- December 9, 1999: Regional Board staff observes foam around *Nicholas Michael*, where Sun Coast Calamari is offloading squid. Large overflows of water from the equipment are resulting in increasing foam and squid on the dock. DO is measured at 4.06 mg/L in the back basin and ammonia ranges from 0.6 – 0.8+ mg/L throughout the harbor.

Pursuant to section 13385(e) of the CWC, the Regional Board is required to consider the following factors in determining the amount of civil liability to be imposed: the nature, circumstances, extent, and gravity of the violation, and, with respect to the violator, the ability to pay, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation; and other matters that justice may require:

a. Nature, circumstances, extent, and gravity of the violations: The discharge of pollutants including ammonia and biological oxygen demand to the harbor created a nuisance and was the source of pollution of the harbor. The increased levels of ammonia are toxic to aquatic organisms. Further, low dissolved oxygen will

suffocate aquatic organisms. CIMRI was forced to relocate their aquatic organisms to another facility because they were unable to survive in this poor water quality. Therefore, a reduction from the maximum civil liability is not warranted.

b. The ability of the discharger to pay: The ability of the discharger to pay is unknown. However, the proposed civil liability assessment is not a significant amount compared to the ultimate value of changes if they had been made to meet compliance. Therefore, a reduction from the maximum civil liability is not warranted.

c. Prior history of violations: Regional Board staff is not aware of any previous violations. Therefore, a reduction from the maximum civil liability is warranted.

d. Degree of culpability: Sun Coast Calamari willfully allowed wastes from the squid offloading operations to be discharged into Port Hueneme Harbor. Sun Coast Calamari failed to take adequate measures to prevent the discharge of pollutants. The chilled seawater is not being discharged outside the waters of the United States nor is it being recycled in a holding tank during the offloading process. These options were discussed and agreed upon at the meeting held on November 1, 1999. Sun Coast Calamari was informed of and understood the impacts of their actions when they chose not to comply. Therefore, a reduction from the maximum civil liability is not warranted.

e. Economic benefit or savings: Sun Coast Calamari has realized an economic benefit by not having to pay for the refitting of the offloading area, or the change in procedures. This savings ranges anywhere from $5,000 - $15,000. Implementation of the suggested BMPs would not constitute a significant cost. Three of the other companies involved in the squid offloading procedures were able to make these changes without expenditure of a large amount of money. Further, CIOF offered the use of their large storage tanks to hold the wastewater during offloading so it could be recycled back onto the boat for discharge further than three miles outside the harbor. These tanks are valued at between $3,500 - $4,800 in their used condition. Sal Tringali of the Monterey Fish Company estimated the total cost of their modifications to his operations to meet compliance was $5,000. Therefore, a reduction from the maximum civil liability is not warranted.

f. Other matters as justice may require: Other matters to consider include time spent by the staff of the Regional Board in evaluating the violations and preparing this Order and related documents. The Regional Board charges a rate of $70 per hour for recovery of staff costs. With staff time of 70 hours, staff costs incurred by the Regional Board total $4,900.

9. After consideration of the factors listed in Section 13327 and Section 13385(e) of the CWC, the Regional Board Executive Officer recommends that civil liability be imposed by the Regional Board in the amount of $19,900. This includes $15,000 as an assessment for the violations and staff costs of $4,900.

10. In the event that Sun Coast Calamari chooses to waive their right to a hearing, an authorized agent must sign the waiver attached to this Complaint, and return it to the Regional Board by January 15, 2000. The signed waiver must be accompanied by payment of the civil liability of $19,900 in the form of a cashier's check made payable to the "State Water Resources Control Board Cleanup and Abatement Account."

11. Should Sun Coast Calamari not waive their right to a hearing, a hearing will be held during the regularly scheduled public meeting of the Regional Board on January 26, 2000. In the event that the Board affirms this Complaint, payment of the total civil liability will be due on February 2, 2000.

12. In the event that Sun Coast Calamari fails to make payment as specified above, the Executive Officer is authorized to refer this matter to the State of California Attorney General for enforcement.

13. This Complaint is issued to enforce a permit duly adopted by this Regional Board and is, therefore, exempt from the requirements of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.), pursuant to Title 14, CCR, Section 15321.

DENNIS A. DICKERSON
Executive Officer

Dated: December 28, 1999
/tlp

WAIVER OF THE RIGHT TO A HEARING

By signing below and attaching a check for the amount of civil liability proposed in Administrative Civil Liability Complaint No. 99-122, Sun Coast Calamari, on behalf of itself, waives the right to a hearing before the Regional Board. Sun Coast Calamari understands that it is giving up its right to argue against the allegations made by the Executive Officer in this Complaint, and against imposition of, and the amount of, civil liability imposed.

Signature: _____

Name: _____

Position: _____

Sun Coast Calamari

Date: _____

Sun Coast Calamari Inc.

To; Regional Water Quality Control Board
Attn: Tracy Patterson
From: John Borman
Date: 1/6/2000
Subject: Squid

Dear Tracy

I am preparing my defense of the charges levied against us. Specifically they have merit. However it was our (all squid handlers) understanding that we were trying to "significantly reduce" water going back into the harbor. Not eliminate it. I will demonstrate that I played a leadership role in this effort and that our company was the first to implement the changes adopted by the 5 companies. Furthermore that we spent more money, not less, and sooner, not later than our competitors. Please see my letter dated Nov 9 to all the fish companies challenging them to step up to the line. Note the Nov. letter to all the boats selling there catch to Sun Coast asking them to comply. Pete Wallace, the harbor master will verify my on site involvement and improvements as togeather we toured all facilities including our own. That I had made significant changes and reduced effluent water by a minimum of 80% which was our objective.

In review of the complaint I note that it has three major sources:

1. Hearsay of a competitor, Mark Mayberry of Del Mar . I do not deny that the boat in question had mistakenly left his overboard pump on after discharging outside the harbor. In fact I personally made an issue out of this event using it as an example to all. ALL fish handlers experienced any number of like incidence. Please verify that the compliance period took time and mistakes were common among many baots AND fish handlers. At any rate I do not believe hearsay should be a factor nor are we responsible for the actions of those boats that sell fish to our company.

2. Wharfinger reports noting foam and leakage. I have reviewed these reports. Reports enclosed. Note that Sun Coast was mentioned "negatively" 4 times, South Coast Seafood 4 times, Sea Products 4 times and Monterey Fish 1 time. Del Mar was not working most of this time. Please review these reports and you will see that we were not mentioned more than our competitors.

3. Please note that on your complaint you mention the events of Dec 7. We experienced a break in our discharge hose (newly modified). We did spill water (highly diluted from our fresh water

12-24

928 East Third Street, P.O. Box 151, Oxnard, California 93032 FAX (805) 385-9056 (805) 385-0056

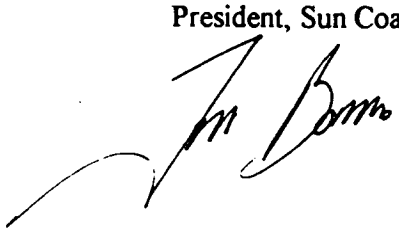
tanker) and stopped operations for repairs. This was the worse day to be observed due to the break in our discharge hose. Murphys law.

Concerning the hosing off of equipment. It is the practice of all unloading squid to hose off the equipment at the end of operations each day. This practice continues. It was our understanding that this amount did not harm the water quality and actually showed benefits. Expressed in our first meeting by Cal F&G officer Jorge Gross. At this time Sun Coast calamari captures ALL hose down water AND all effluent water and discharges nothing into the harbor. We are the only fish Co. practicing a zero effluent policy. Foam is a constant in squid operations. It is not necessarily bad and is very hard to attribute to any one unloading operation when in close proximity to others. Foam moves rapidly with tide and winds.

As for willfulness. I personally feel that myself and our company took this problem very seriously and did the most to reduce effluent water into Port Hueneme. I expect when you research my claims and the facts I have presented you will agree that the problem with waste water at Port Hueneme was effectively reduced beyond the goals established at our original meeting. Furthermore that you will find that Sun Coast Calamari did there part and more in achieving this goal. As of last week we became the only Co. With zero effluent. However I feel this is not necessary and not in keeping with the spirit of our endeavor. I will ask that we be forgiven our discretions and be relieved of the financial liability of this complaint. We have suffered from the many press articals in the LA times, Oxnard Star Free Press and the Fish Industry reporting services.

I look forward to meeting with you on the 14th and hope to resolve this matter with mutual positive results.

Sincerely, John Borman
President, Sun Coast Calamari



This item will be submitted with the Addendum package mailed on January 21, 2000.

California Regional Water Quality Control Board, Los Angeles Region
January 26, 2000
427th Regular Board Meeting (Los Angeles)

ITEM: 14

SUBJECT: Ojai Valley Sanitary District (OVSD): Complaint No. 99-009 for Administrative Civil Liability (ACL) in the amount of $233,000.

BACKGROUND: OVSD provides wastewater collection services for the City of Ojai, the unincorporated communities of Meiners Oaks, Mira Monte, Oak View, Casitas Springs, and Foster Park, and a small portion of the City of Ventura. Wastewaters are collected through 125 miles of pipelines and are treated at and discharged from the OVSD Wastewater Treatment Plant, under waste discharge requirements specified by this Board.

VIOLATION: OVSD discharged an estimated 1.2 million gallons of raw sewage into Canada Larga Creek over a period of up to nine days, ending on October 2, 1998. Regional Board staff concluded that the spill was avoidable and, on December 9, 1999, the Executive Officer issued Complaint No. 99-009 in the amount of $233,000. This penalty is based on:

- $ 90,000 at $10,000 per day for 9 days of discharge;
- $119,900 for a discharge of 1,199,000 gallons
  (1,200,000 gallons – 1,000 gallons x $0.10 per gallon = $119,900);
- $ 7,200 in avoided costs; and
- $ 5,900 for reimbursement of staff costs.

ACTION: No action is required; this is provided for the Board's information. On January 13, 2000, the Regional Board received an executed waiver of OVSD's right to a public hearing, accompanied by a check for $55,750 and a letter indicating that OVSD is electing to pay the remaining portion of the penalty in the form of a Supplemental Environmental Project (which will be subject to Board approval). Accordingly, there is no need to conduct a hearing.

California Regional Water Quality Control Board, Los Angeles Region
January 26, 2000
427th Regular Board Meeting

ITEM: 15

SUBJECT: Los Angeles Turf Club (LATC): Complaint No. 99-097 for Administrative Civil Liability (ACL), issued on October 28, 1999 in the amount of $150,000.

PURPOSE: To conduct a public hearing that will allow the LATC and any other interested parties to submit evidence regarding Complaint No. 99-097. Following the hearing, staff will ask the Board to affirm, modify, or rescind the complaint.

BACKGROUND: LATC owns and operates the Santa Anita Race Track, where up to 2,000 horses are stabled and trained, and where horseracing events are conducted. These operations generate significant loads of nonpoint source-type wastes and pollutants, among which include coliform, suspended solids, and nutrients. LATC currently discharges up to 130,000 gallons per day of untreated process wastewater and non-process wastewater to storm drains leading to the Arcadia Wash, the Rio Hondo and the Los Angeles River. The Regional Board regulates this discharge under requirements contained in Board Order 97-03.

VIOLATION: Staff alleges that LATC violated waste discharge requirements contained in Regional Board Order No. 97-03, by discharging at least 15,000 gallons of non-stormwater waste to the storm drain on August 31, 1999. These wastes were discolored, odiferous, and contained straw, paper, mud, and solid material, including manure.

Evidence supporting staff's allegation includes:

- A video tape of the discharge, taken by stormwater staff at the County of Los Angeles, Department of Public Works (LADPW) staff.
- Findings during a Regional Board inspection on September 9, 1999, prepared by Kwang Il Lee.
- Other findings from the LADPW inspection on August 31, 1999 and LADPW's subsequent channel cleanup efforts.

LATC EVIDENCE: As of January 14, 2000, Regional Board staff has received evidence from LATC contesting the volume (estimated at 150,000 gallons by LATC in a letter dated October 19, 1999, and again in a report dated

October 12, 1999). On December 20, 1999, LATC revised this estimate to a range between 4,000 gallons and 10,000 gallons, and submitted two sworn affidavits from LATC employees stating that the quantity of wastewater discharged may have been less than previously reported.

Regional Board staff find that the revised estimate, citing a range of range 4,000 gallons to 10,000 gallons, is speculative in that neither employee obvserved the yard being washed down, or saw the discharge. Rather, observations made by LATC's consultant, who spoke directly to a truck driver shortly after the incident, seem more reliable.

OTHER:

Following the incident on August 31, 1999, the Executive Officer issued Cleanup and Abatement Order No. 99-008 on September 10, 1999. This CAO ordered the LATC to delineate and remediate the effects of the discharges observed by the Regional Board and LADPW staff. LATC is in compliance with this Order. The Executive Officer also issued two 13267 letters, directing LATC to submit analytical data related to LATC's discharges to the Arcadia Wash and sanitary sewer.

Furthermore, the Board adopted a Cease and Desist Order on October 28, 1999, requiring LATC to cease discharge of wastes to Arcadia Wash under a two-year time schedule.

CONCLUSION:

Staff believes that the penalty of $150,000, the statutory maximum, was correctly set. The penalty includes the following components:

- an assessment of $140,000 at $10 per gallon of discharge over 1,000 gallons observed;
- a statutory assessment of $7,000 for one day of effluent limit violations; and
- an assessment of $3,000 for staff costs.

Known impacts from these discharges include: (i) violation of established standards for protection of aquatic life, (ii) public health risk from exposure to pollutants and (iii) public nuisance resulting from exposure to pollutants. Impacts to other beneficial uses such as groundwater recharge are not quantified.

OPTIONS:

1. Affirm the administrative civil liability in the amount of $150,000, as proposed. Affirming the penalty, as proposed, will support progress toward achieving one of the Board's high priorities of addressing nonpoint source pollutants in the Region.

2. Modify the amended administrative civil liability. However, staff believes that the penalty has been appropriately set, and that the evidence very recently submitted by LATC was not timely and is vague as to the number of trucks and gallons of water used, and is written by employees who did not observe the discharge.

3. Recsind the administrative civil liability. However, if no action is taken, process wastewater containing elevated levels of solids, total suspended solids, fecal coliform and other pollutants may continue to be discharged to waters of the State. Rejection of this ACL would be inconsistent with other actions taken by this Board.

4. Refer the matter to the Attorney General for recovery of judicial civil liability, or any other action appropriate as a result of the hearing.

RECOMMEN-DATION: Affirm the administrative civil liability in the amount of $150,000, as proposed.

ATTACHMENTS: Amended Administrative Civil Liability 99-097
Regional Board Inspection Report
County of Los Angeles DPW Inspectors Report
LATC Affidavits (2)

Also, please note that portions of the videotape will be available for viewing at the Board meeting.

OTHER: Staff is in the process of investigating past discharges and an additional discharge reported on or around the week of November 8, 1999, from the LAATC to the Arcadia Wash, in violation of the General Permit. Enforcement action relating to these spills may be forthcoming.

California Regional Water Quality Control Board
Los Angeles Region

Winston H. Hickox
Secretary for
Environmental
Protection

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/~rwqcb4

Gray Davis
Governor

October 26, 1999

Mr. Tom Austin, Vice President
Los Angeles Turf Club, Inc.
285 West Huntington Drive, P.O. Box 60014
Arcadia, California 91066

CERTIFIED MAIL
RETURN RECEIPT REQUIRED
CLAIM No. P 442 570 685

Dear Mr. Austin:

COMPLAINT NO. 99-097 FOR ADMINISTRATIVE CIVIL LIABILITY LOS ANGELES TURF CLUB (ORDER NO. 97-03-DWQ)

Enclosed is Complaint No. 99-097 for Administrative Civil Liability against the Los Angeles Turf Club, Inc. for violations of the California Water Code and Regional Water Quality Control Board Order No. 97-03.

Unless waived, a public hearing on this matter will be held before the Regional Board, pursuant to the California Water Code, Section 13323(b). Should the Los Angeles Turf Club choose to waive its right to a public hearing, an authorized agent must sign the waiver form attached to Complaint No. 99-097, and return it to the Regional Board before November 18, 1999. If we do not receive your waiver and payment of civil liability by November 18, 1999, we will calendar this matter for a public hearing before the Board, that starts at 9:00 a.m. on December 9, 1999, at the Camarillo Council Chambers, 601 Carmen Drive, City of Camarillo.

If you have any questions, please contact Hugh Marley at (213) 576-6687. The Board's Counsel, Mr. Jorge Leon, may be reached at (916) 657-2428.

Sincerely,

Dennis A. Dickerson

DENNIS A. DICKERSON
Executive Officer

Enclosure

cc: See attached mailing list

R0067785

Mailing List

Mr. Bob Wills, Office of CWA Compliance, U.S. Environmental Protection Agency. (USEPA). (WTR-7)
Mr. Terry Oda, Office of CWA Standards and Permits, USEPA
Mr. Kirk Wain, U.S. Fish and Wildlife Service, Department of Interior
Mr. Mark Helvey, NOAA, National Marine Fisheries Service
Mr. Jorge Leon, Office of the Chief Counsel, State Water Resources Control Board SWRCB)
Mr. John Youngerman, Division of Water Quality, SWRCB
Mr. Bill Paznokas, Marine Resources, California Department of Fish and Game. Reg 5
Mr. Fred Rubian, Environmental Program Division, Department of Public Works. Los Angeles County
Mr. Donald A Jordan, Flood Control Maintenance Division, DPWLAC
Mr. Paul C. Martyn, Industrial Waste Section, County Sanitation District of L.A. County
Mr. David O'Donnel, Storm Water Management Division, City of Los Angeles
Mr. Mark Gold, Heal the Bay
Mr. David S. Beckman, Natural Resource Defense Council
Mr. Steve Fleishli, Santa Monica BayKeeper
Mr.Terry Tamminen, Environment Now
Ms. Jacqueline Lambrichts, Friends of the Los Angeles River
Mr. Walt Pettit, State Water Resources Control Board
Ms. Mary Jane Forster, State Water Resources Control Board
Mr. John Norton, State Water Resources Control Board
Mr. Carl Sjoberg, Los Angeles County, DPW, Environmental Programs Division
Los Angeles County, Department of Health Services

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

In the matter of:	)	COMPLAINT NO. 99-097
	)	ADMINISTRATIVE CIVIL LIABILITY FOR
LOS ANGELES TURF CLUB,) INC.		VIOLATIONS OF THE CALIFORNIA WATER CODE AND ORDER NO. 97-03-DWQ

YOU ARE HEREBY GIVEN NOTICE THAT:

1. The Los Angeles Turf Club, Inc. (LATC) is alleged to have violated requirements contained in Board Order 97-03, Section 13264, Section 13376 and Section 13377 of the California Water Code. The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Board), as a legal authority may impose civil liability under Section 13385 of the (CWC).

2. Unless waived, a hearing on this matter will be held before the Regional Board at a regularly scheduled public meeting that will start at 9:00 a.m. on December 9, 1999, at the Camarillo Council Chambers, 601 Carmen Drive, City of Camarillo. You and/or your representatives will have an opportunity to be heard and to contest the allegations in this Complaint and the imposition of civil liability by the Regional Board. An agenda for the hearing will be mailed to you not less than ten days before the hearing date.

3. At the hearing, the Regional Board will consider whether to affirm, reject or modify the proposed administrative liability, or whether to refer the matter to the Attorney General for recovery of judicial civil liability, or any other action appropriate as a result of the hearing.

4. The LATC is alleged to have violated waste discharge requirements contained in Regional Board Order No. 97-03, adopted by this Board on April 17, 1997, by discharging at least 15,000 gallons of non-stormwater waste to the storm drain on August 31, 1999. Known impacts from these discharges include: (i) violation of established standards for protection of aquatic life, (ii) public health risk from exposure to pollutants and (iii) public nuisance resulting from exposure to pollutants. Impacts to other beneficial uses such as groundwater recharge, are not quantified.

BACKGROUND

5. The Los Angeles Turf Club Inc. (Discharger) operates the Santa Anita Park (Park) located at 285 West Huntington Drive, Arcadia, California, where horses are stabled and trained, and horseracing events are conducted. The Park area covers 310 acres near the residential community of City of Arcadia and lies within the Los Angeles River Watershed. The Arcadia Wash bisects the Park in a northwesterly to southeasterly direction.

6. The Park includes horse racing tracks, grandstands, decorative fountains, a paddock, horse stables, a maintenance area and a parking lot. The stable area houses up to 2,000 horses in about 80 stables at different times of the year. The term "stables" refers to the stables themselves and the area between and immediately surrounding the stables. Pursuant to 40 CFR 412.11(c), "process wastewater" means any process generated wastewater (e.g., stable wash water or horse wash water from outside the stables) and any precipitation which comes into contact with any manure or bedding from the stables, whether the manure or waste bedding is stored inside the stables or outside.

7. The Santa Anita Park stables, pursuant to 40 Code of Federal Regulations (CFR) Part 122 Appendix B, and Part 122.23, is a concentrated animal feeding operation (CAFO) because over 500 horses are stabled for over 45 days per year and forage growth does not exist in the stables. The Park is also a confined animal facility pursuant to California Code of Regulations, Title 27, Section 20164. A CAFO is a point source subject to a NPDES permit to lawfully discharge wastewater and storm water. Discharge of pollutants from point sources to navigable waters without an NPDES permit is not allowed.

8. LATC discharges up to 130,000 gallons per day (gpd) of wastewater during dry weather seasons (dry-weather wastes), including approximately 70,000 gpd of water used to wash horses in the stable area to the Arcadia Wash. The Arcadia Wash flows southwest for about seven miles prior to reaching the Rio Hondo and then the Los Angeles River, each of which are waters of the United States.

9. On January 19, 1995 the Los Angeles Turf Club filed a notice of intent (NOI) to comply with the requirements of the Industrial Activities General Stormwater Permit.

10. On September 8, 1999, Regional Board staff were advised by the Los Angeles County Department of Public Works (DPW) personnel that discharges of non-stormwater waste from the LATC outfalls were resulting in greatly increased amounts of sediment being deposited in the Arcadia Wash. DPW personnel also showed Regional Board staff a videotape depicting a non-stormwater waste discharge from LATC in violation of their General Permit as follows:

    a) On August 31, 1999, Los Angeles County Flood Maintenance Division personnel observed a high volume of non-stormwater being discharged from the LATC's outfalls. The discharge was discolored, odiferous, and contained straw, paper, mud, and solid material, including manure. The County DPW inspector returned to videotape the discharge later in the day. He noted that the water upstream of the LATC's outfalls was clear. He also stated that this type of discharge has been occurring for several years and that during racing season, the amount of debris and volume flow is much greater. Flow in the wash upstream of the LATC's outfalls was noted to be clear. LATC stated that the discharges consisted of 15,000 gallons of water used to wash down a maintenance yard, in addition to the roughly 35,000 gallons of horsewash water discharged from the stable area.

    b) On September 2, 1999, DPW personnel again observed and videotaped discolored discharge from the LATC's outfalls. DPW personnel also noted piles of debris collecting downstream of the LATC's outfalls.

11. On September 9, 1999, the Regional Board and the County of Los Angeles DPW conducted a joint inspection in the Arcadia Wash and collected samples of LATC's discharge. Regional Board staff observed a turbid, greenish-brown effluent being discharged out of the North and South Stable Area outfalls into Arcadia Wash. The effluent contained solid materials, including straw, manure, and trash. Staff also observed a significant amount of sediment from the discharge being deposited in the bottom of the channel. Furthermore, staff noted a strong manure-like odor emanating from the effluent being discharged into Arcadia Wash. In addition, staff noted that water upstream of the LATC's outfalls was clear.

12. Between September 7, 1999 and September 10, 1999 the DPW collected and hauled away 34.87 tons of debris and sediment from the Arcadia Wash downstream of the LATC's outfalls.

13. On September 10, 1999, the Regional Board Executive Officer issued Cleanup and Abatement Order No. 99-008 ordering the LATC to delineate and remediate the effects of the discharges observed by the Regional Board and DPW staff.

14. On September 10, 1999, the County of Los Angeles DPW conducted another inspection of Arcadia Wash and noted an accumulation of sediment, as well as mud and debris in the water flowing from both drains.

15. On September 15, 1999, the County of Los Angeles DPW conducted a fifth inspection of Arcadia Wash and recorded the continuing discharge from the LATC's outfalls.

16. On September 24, 1999, the Regional Board Executive Officer issued a 13267 letter requiring that the LATC submit, for Regional Board review, analytical data related to LATC's discharges to the Arcadia Wash and sanitary sewer.

17. On October 7, 1999, the Regional Board issued, in accordance with Section 13267 of the CWC, a letter requiring that the LATC submit a report of events leading to the discharges observed by the DPW and Regional Board staff.

18. On October 15, 1999, Regional Board staff issued a tentative Cease and Desist Order, proposed for adoption by the Board on October 28, 1999, to the Discharger, requiring that the Los Angeles Turf Club cease and desist from discharging waste into Arcadia Wash in violation of the tentative NPDES permit, and by complying with the time schedule provided to achieve full compliance with the provisions of the tentative NPDES permit.

19. Regional Board staff are currently evaluating and pursuing enforcement action for past violations of the General Permit other than the 15,000 gallon non-stormwater waste discharge event addressed by this ACL. The past violations being evaluated include, but are not limited to, the September 2, 1999, September 9, 1999, September 10, 1999 and September 15, 1999 discharges referenced in paragraphs 10, 11, 13 and 14 above.

20. The discharge of non-stormwater waste is a violation of California Water Code Section 13264. Discharge without a permit is a violation of California Water Code Section and 13260 and 40 Code

of Federal Regulations (CFR) Parts 122, 123, and 124; and is contrary to the requirements contained in Board Order No. 97-03-DWQ.

21. The Regional Board adopted a revised Water Quality Control Plan (Basin Plan) for the Coastal Watersheds of Los Angeles and Ventura Counties on June 13, 1994. The Basin Plan designates beneficial uses and establishes water quality objectives for Arcadia Wash, the Rio Hondo River and the Los Angeles River.

22. Surface water in Arcadia Wash, the Rio Hondo River and the Los Angeles River is beneficially used for municipal and domestic supply, groundwater recharge, freshwater replenishment, contact and noncontact recreation, warm freshwater habitat, wildlife habitat, and preservation of rare, threatened or endangered species. The Rio Hondo spreading grounds located downstream of LATC are significant groundwater recharge areas. Several parks with public access, including the Whittier Narrows Recreation Area, are also located along waterways downstream of LATC.

IMPACTS RESULTING FROM THE EFFLUENT LIMIT VIOLATIONS

23. The discharge of effluent in violation of requirements contained in Order No. 97-03, into the Arcadia Wash, and downstream waters violated established standards for protection of aquatic life, degraded waters of the state and caused a public nuisance resulting from exposure to pollutants. Impacts to public health and other beneficial uses have not been quantified.

CONCLUSION

24. Regional Board staff conclude that impacts resulting from the discharge of effluent in violation of Order No. 97-03, could have been avoided had LATC diverted it's process water, non-process water from the infield, paddock, and maintenance yard areas, and its horse-wash water to the sanitary sewer, or treated the wastewater being discharged to the Arcadia Wash to levels that would not have degraded waters of the state. Furthermore, the risk to public health and aquatic life could have been mitigated had the effluent limit violations been promptly addressed.

ALLEGED VIOLATIONS:

25. The discharge of non-stormwater waste into the Arcadia Wash and downstream waters observed on August 31, 1999 was in violation of discharge requirements contained in Board Order No. 97-03.

26. Sections 13376 and 13377 of the CWC prohibit the discharge of pollutants to surface waters, except as authorized by waste discharge requirements that implement the provisions of the Federal Clean Water Act.

27. Section 13385(a) of the CWC states that "any person who violates any of the following shall be liable civilly in accordance with subdivisions (b), (c), (d), (e), and (f): ... (2) Any waste discharge requirements or dredged and fill material permit."

28. Section 13385(c)(1) of the CWC states that "Civil liability may be imposed administratively by the state board or a regional board pursuant to Article 2.5 (commencing with Section 13323) of Chapter

5 in an amount not to exceed ten thousand dollars ($10,000) for each day in which the violation occurs.

29. Section 13385(c)(2) of the CWC states that "Where there is a discharge and the volume discharged exceeds 1,000 gallons, an additional liability not to exceed ten dollars ($10) times the number of gallons by which the volume discharged exceeds 1,000 gallons."

POTENTIAL CIVIL LIABILITY:

30. The total maximum civil liability authorized by the California Water Code is $150,000, which includes $10,000 under section 13385(c)(1) and $140,000 under section 13385(c)(2) of the California Water Code.

    a. Under section 13385 (c)(1), the maximum civil liability that could be imposed by the Regional Board for violation of the California Water Code is $10,000 per day per violation. LATC is alleged to have had been in violation of Section 13285 of the California Water Code for one day. Therefore, the maximum liability under 13385(c)(1) of the California Water Code is:

    1 day x $10,000 per day = $10,000

    b. Under section 13385 (c)(2), the maximum civil liability that could be imposed by the Regional Board for violation of the California Water Code is $10 per gallon for every gallon over 1,000 gallons discharged, but not cleaned up. LATC is alleged to have discharged a total of 15,000 gallons in violation of Section 13285 of the California Water Code on August 31, 1999. Therefore, the maximum liability under 13385(c)(2) of the California Water Code is:

    (15,000 – 1,000 gallons) x $10 per gallon = $140,000

PROPOSED CIVIL LIABILITY:

31. Pursuant to section 13385(e) of the California Water Code, the Regional Board is required to consider the following factors in determining the amount of civil liability to be imposed: the nature, circumstances, extent, and gravity of the violations; with respect to the violator, the ability to pay; any prior history of violations; the degree of culpability; economic benefit or savings, if any, resulting from the violation; and other matters as justice may require.

    "a" Nature, circumstances, extent, and gravity of the violations: LATC has discharged effluent into the Arcadia Wash and downstream waters in violation of the California Water Code. The discharges degraded water quality and impaired the designated beneficial uses in the Arcadia Wash, the Rio Hondo River and the Los Angeles River. Therefore a reduction from the maximum civil liability is not warranted.

    "b" The ability of the discharger to pay: The Regional Board is not aware that maximum liability of $150,000 would result in financial hardship. Therefore, a reduction from the maximum civil liability is not warranted.

"c" Prior history of violations: LATC's discharge to the Arcadia Wash has been in violations of Order No. 97-03 and of Water Code Sections 13350, 13268 and 13385, dating back to at least January 1995. Therefore, a reduction from the maximum civil liability is not warranted.

"d" Degree of culpability: LATC's effluent limit violations could have been avoided had LATC diverted its effluent to the sanitary sewer, disposed of it off-site, or treated it prior to it being discharged to the Arcadia Wash. Therefore, a reduction from the maximum civil liability is not warranted.

"e" Economic benefit or savings: LATC realized an economic benefit by not bringing the effluent discharged into the Arcadia Wash into compliance with Order No. 97-03 by installing remediation equipment, or diverting the discharge to the sanitary sewer system. Therefore, a reduction from the maximum civil liability is not warranted.

"f" Other matters as justice may require: Time spent by the staff of the Regional Board in evaluating the violations and preparing this Order and related documents. The Regional Board charges a rate of $70 per hour for staff cost recovery. As of October 17, 1999, staff costs incurred by the Regional Board totaled $3,000.

32. After consideration of the factors listed in Section 13385(e) of the California Water Code, the Regional Board Executive Officer recommends that the maximum administrative civil liability be imposed by the Regional Board on October 28, 1999, in the amount of $150,000, which includes a statutory assessment of $7,000 for one day of effluent limit violations, an assessment of $140,000 at $10 per gallon of discharge over 1,000 gallons observed and an assessment of $3,000 for staff costs.

33. The administrative civil liability of $150,000 is due and payable on December 16, 1999, subject to the provisions outlined in paragraph no. 34 below.

34. LATC may elect to pay $112,500 (75%) of the $150,000 administrative civil liability by committing to supplemental environmental projects. In the event that LATC chooses to invest in local environmental projects, a proposal for such projects is due to the Regional Board by December 23, 1999. The proposal for supplemental environmental projects will be subject to public notice and the approval of the Regional Board.

    A payment for the remaining $37,500, in a cashiers check payable to the SWRCB Cleanup and Abatement Account, is due and payable on December 16, 1999.

    Should the Regional Board not approve the LATC's supplemental environmental projects, or should LATC later fail or elect not to implement supplemental environmental projects, the total amount of $150,000 will be due and payable within 30 days of such an event.

35. In the event that the LATC chooses to waive their right to a hearing, an authorized agent must sign the waiver attached to this Complaint, and return it to the Regional Board by November 18, 1999. The

signed waiver must be accompanied by payment of the civil liability of $37,500 in the form of a cashier's check made payable to the "State Water Resources Control Board Cleanup and Abatement Account."

36. Should the LATC not waive their right to a hearing, a hearing will be held during the regularly scheduled public meeting of the Regional Board on December 9, 1999.

37. In the event that the LATC fails to comply with the requirements of this Complaint, the Executive Officer is authorized to refer this matter to the Office of Attorney General for enforcement.

38. Notwithstanding the issuance of this ACL, the Board shall retain the authority to assess additional penalties for violations of the tentative New Permit and for past violations of the General Permit.

39. This enforcement action is exempt from the provisions of the California Environmental Quality Act, California Public Resources Code, Section 21000, et seq., in accordance with California Code of Regulations, Title 14, Chapter 3, Section 15321.

40. Pursuant to California Water Code Section 13320, the Discharger may seek review of this order by filing a petition with the State Water Resources Control Board (SWRCB). A petition must be sent to the SWRCB, P.O Box 100, 901 P Street, Sacramento, 95812, within 30 days of receipt of this letter.

WAIVER OF HEARING:

41. The Los Angeles Turf Club Inc. may waive the right to a hearing. If the LATC chooses to waive the right to a hearing, an authorized agent must sign the waiver form attached to this Complaint, and return it, together with a cashier's check for the amount of the civil liability, to the Regional Water Quality Control Board, Los Angeles Region, 320 West 4th Street, Suite 200, Los Angeles, CA 90013. Regulations of the US Environmental Protection Agency require public notification of any proposed settlement of the civil liability occasioned by violation of the Clean Water Act including NPDES permits. Accordingly, interested persons will be given 30 days to comment on any proposed settlement of this Complaint.

10/26/99

Dated: October 26, 1999
/hm

DENNIS A. DICKERSON
Executive Officer

WAIVER OF THE RIGHT TO A HEARING

By signing below and attaching a check for the amount of administrative civil liability proposed in Complaint No. 99-097, the Los Angeles Turf Club waives its right to a hearing before the Regional Board. The Los Angeles Turf Club understands that it is foregoing its right to argue against the allegations made by the Executive Officer in this Complaint, and against imposition of, and the amount of, the civil liability imposed. Furthermore, the LATC understands that if an Administrative Civil Liability Order is adopted at the Regional Board meeting on December 9, 1999, payment will be due on December 16, 1999.

Signature:_____

Name:_____

Position:_____

Los Angeles Turf Club, Inc.

Date:_____

Winston Hickox
Secretary for
Environmental
Protection

California Regional Water Quality Control Board

Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, CA 90013
Phone (213) 576-6600 FAX (213) 576-6640

Gray Davis
Governor

MEMORANDUM

TO: File

FROM: Kwang Lee

DATE: November 22, 1999

SUBJECT: INSPECTION RESULT OF DISCHARGE FROM SANTA ANITA PARK – ARCADIA WASH

1. FIELD INSPECTION

On September 9, 1999, Board staff (Kwang Lee and Regina Ramirez) conducted an inspection in response to a complaint of the Los Angeles County.

The subject site is the Santa Anita Park (Park) located at 285 West Huntington Drive, Arcadia, California, where horses are stabled and trained, and horse racing events are conducted. The Arcadia Wash bisects the Park in a northwesterly to southeasterly direction. The owner is Los Angeles Turf Club.

The inspection was conducted as a joint inspection with Mr. Dave Robato (Tel: 626-574-0962) of the Los Angeles County. When staff arrived at the site, 10:25 p.m., staff observed turbid, brownish effluent being discharged out of the South and North Stable outfalls into Arcadia Wash (Refer to Picture 1 and 2). The effluent contained foams, solid materials including straw and small trashes. Discharge volumes at the outfalls were not measured. Staff also observed some sediment accumulated in the bottom of the channel near the South and North Stable outfalls.

Mr. Robato indicated that the discharge at the South Stable outfall was the discharge mainly presented in their complaint. In order to evaluate the water quality of the discharge, staff took samples at the South outfall, up-gradient (near Los Angeles County & State Arboretum) and down-gradient (near outfall # N-36) areas in the Arcadia Wash(Refer to Picture 3). Mr. Robato also took samples to be analyzed.

After the sampling, the samples were stored in a cooler with ice. The samples were immediately delivered to the state lab.

2. ANALYTICAL RESULTS

On October 7, 1999, the state lab. reported the following results:

Sampling Location	Constituents	
Up-gradient	Total coliform	<200
	E. coliform	<200
South Stable outfall	Turbidity	239 NTU
	Suspended solids	618 mg/L
	Settleable solids	1 ml/L
	BOD_5	93 mg/L
	Oil and grease	3.3 mg/L
	MBAS	2.38 mg/L
	Nitrate N	4.2 mg/L
	Ammonia N	0.5 mg/L
	Nitrite N	<R.L.
	Total coliform	90000
	E. coliform	30000
Down-gradient	Total coliform	90000
	E. coliform	50000
	BOD_5	Not analyzed due to insufficient volume.

3. FINDINGS

1. The discharger has an Industrial Activities Storm Water General Permit, (CAS000001, Order No. 97-03). That Order does not allow any other discharge to storm drain except storm water runoff.

2. The discharger has submitted a NPDES permit application to this Board for the discharges from the Santa Anita Park to the Arcadia Wash. During the discharge time, the discharger has no a NPDES permit.

3. There are thirty six (36) active outfalls along the Arcadia Wash, which runs through the Santa Anita Park. During the inspection time, only two (2) outfalls (South and North Stable outfalls) were discharging to the Arcadia Wash.

4. The discharger plans to divert all of the dry weather wastes and first 0.1 inch of storm water from the stable areas to the sanitary sewer.

5. Analytical results indicates that the discharge at the South Stable outfall has constituents exceeding the water quality objectives in the Basin Plan. Those are Suspended solids (618 mg/L), Settleable solids (1 ml/L), BOD_5 (93 mg/L), MBAS (2.38 mg/L), Total coliform (90000 MPN/100 ml) and E. coliform (30000 MPN/100 ml). The results also indicates that coliform number in the down-gradient area was impacted by the discharge at the South Stable outfall.

4. DISCUSSION AND RECOMMENDATIONS

Based on the observations and findings as described above, it is evident that the discharger has not complied with the requirements of Industrial Activities Storm Water General Permit. During the time of the discharge, the discharger has no a NPDES permit to allow such discharges. Significant pollutants (Suspended solids, Settleable solids, BOD_5, MBAS, Total coiform and E. coliform) have been discharged into a storm drain without adequate control measures.

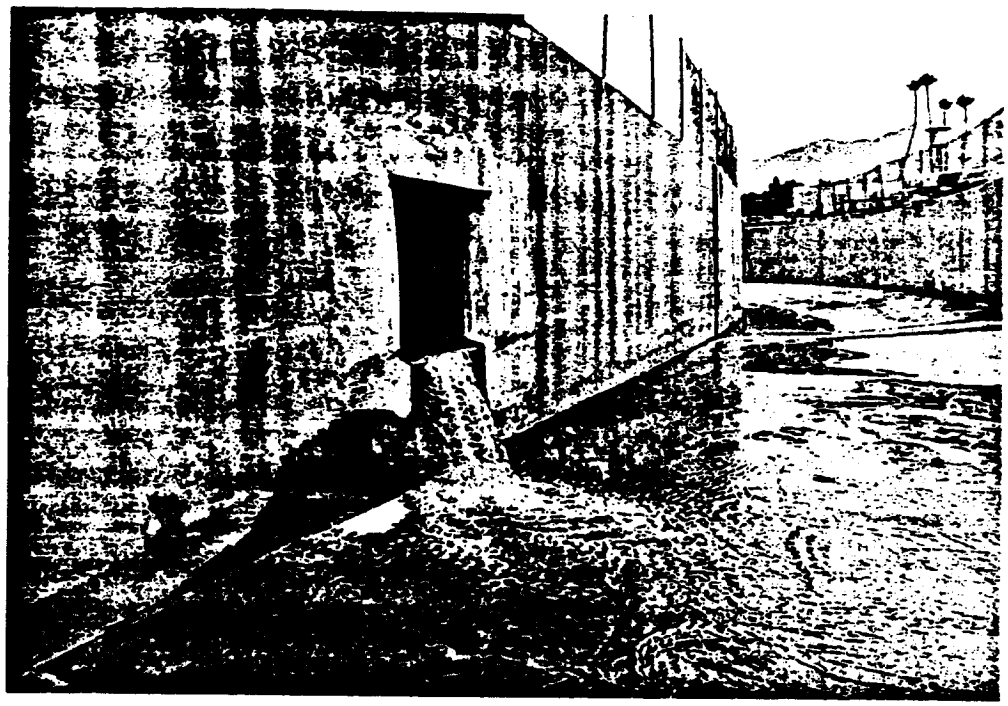
During the inspection time, the origin of the discharge has not been investigated due to limited time and access to each stable.

In the past 30 years, the discharger has been discharging the wastewater from the stables to the Arcadia Wash. Recently, the discharger has upgraded their drain/collection system and implemented the BMPs. But, it appears that they could not adequately control their pollutants. In addition, in the past few years, the discharge has told to this Board that they would divert all dry weather wastewater to the sewer system. But, the sewer connection has never completed.

Staff recommends an immediate enforcement action to take a corrective action, hold the discharger on the responsibility of any illicit discharge in the future and prevent any similar occurrence.

See attached pictures.

Picture 1. Discharge at South Stable Outfall: showing foams, straws, small trashes



Picture 2. Discharge at North Stable Outfall: showing small debris and accumulated sediment

Picture 3. Sampling at South Stable Outfall: showing foams, straw, small debris and sampling.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORK

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# ______

AREA: 3N

BUSINESS NAME: Santa Anita Race Track FILE # 010579 - I10510

STREET #: 285 FR: ____ DR: ____ NAME: Huntington SF: ____ UNIT ____

CITY: Arcadia ZIP: ______ TG: ______

XSTREET: Baldwin CONTACT: ______ TEL: ( )

Attached are receipts from Arcadia Wash debris removal dated 9/7/99 – 9/10/99.

INSPECTOR: [signature]

DATE: 9/16/99

36-0002 DPW Rev. 3'96

15-18

R0067800

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PURCHASE RECEIPT

B529757

COUNTY SANITATION D.5	Q-18543		
VENDOR NAME	P.O. NUMBER	SUB. NUMBER	
SCHOLL CANYON	626502		
VENDOR ADDRESS	REQUISITION No.	SHIPMENT METHOD	
	GATOR YARD		
VENDOR CONTACT	LOCATION/ROOM No./WHSE/OTHER		
( )			
VENDOR TELEPHONE No.			

CHARGES:

F5004116	48723
JOB/EQUIPMENT No.	ORG I.D. No.
453	2510
TASK No.	MINOR OBJECT

ARCADIA

STOCK ITEM NO.	QUANTITY	UNIT OF ISSUE	REC'D	B/O	PART NO.	DESCRIPTION OF ITEM	UNIT COST	TOTAL COST
60068526H	1.85	TONS				TRASH & DEBRIS 9/7/99	27.13	50.19
60068530S	4.47	"				" " " " " "	" "	121.27
60068545T	3.31	"				" " " " " "	" "	89.80
60068544W	8.15	"				" " " " " "	27.13	221.11
60068540T	7.74	"				" " " " " "	" "	209.99
60068651E	6.84	"				" " " 9/9/99	" "	185.57
60068676T	2.51	"				" " " 9/10/99	" "	68.10
						SUBTOTAL		
						TAX		
						TOTAL		946.03

AGREEMENT No.	TERMS
ISD - Pur. & Mat. Mgmt Service — BUYER	OVERAGE O.K. ☐ DATE:

APPROVED BY:

PRINT NAME

SIGNATURE

DATE

RECEIVED BY:

DENNIS E. SANDERS
PRINT NAME

SIGNATURE

9/14/99
DATE

DELIVERED BY:

PRINT NAME

SIGNATURE

DATE

WHITE - B & F. Accounts Payable CANARY - REQUESTOR

74-0043B DPW Rev. 10/97

15-19

R0067801

COUNTY SAN ATION DISTRICTS OF LOS AN LES COUNTY
REFUSE DISPOSAL RECEIPT

FACILITY: SCHOLL CANYON
ACCOUNT#: 5180A
LICENSE#: E476356

ACCOUNT NAME : LA CNTY DPW/FMD
CUSTOMER TYPE: CHARGE
REFUSE ORIGIN: 100.00% Pasadena

WEIGHIN INFORMATION

TRANS.NUMBER: 0600686767
TRANS.DATE : 9-10-1999

W/STATION : 02
W/MASTER : 302720
TIME IN : 8:41:48 am
GROSS WEIGHT: 13.91
TARE WEIGHT : 11.40
NET WEIGHT : 2.51

PRINTED DATE: 9-10-1999
8:41:52 am

REFUSE TYPE: REFUSE
RATE: 27.13

SUBTOTAL: 68.10

TOTAL FEE: 68.10

THIS RECEIPT IS VOID IF ANY HAND WRITTEN ENTRIES ARE CONTAINED

THE FOLLOWING RULES IN THIS LANDFILL MUST BE OBSERVED

1 No smoking driving to, while in, or returning from the disposal area.
2 No Salvaging of disposed material.
3 Observe all posted speed limit and traffic warning signs. The speed limit on dirt roads and in areas that are not posted is 15 MPH. Drive at safe speeds. Use low gears driving down hills. Reduce speed to allow for road, weather, traffic, load, driver ability and mechanical conditions of vehicle.
4 Dangerous Practices such as rapid backing of vehicle to dislodge loads, unassisted pull-offs or operating vehicle without doors secured are prohibited.
5 Children must remain in vehicles at all times. Anyone who is not engaged in the unloading of a vehicle must remain in the vehicle. All drivers and helpers must remain in the immediate vicinity of the vehicle being unloaded.
6 Dispose of your waste only in operating areas designated by landfill personnel.
7 Tool, tailgates, ETC., must be kept on, in or under your vehicle. The Districts will not accept liability for damage to these items by tractors or other trucks.
8 Injury or damage to persons or equipment must be reported to supervisory personnel prior to leaving the site. Do not move involved vehicle prior to report.
9 Load pull-off is a service accepted at your own risk. The Districts will not accept liability for vehicle damage or personal injury by performing this service.
10 Littering on local streets or roads and other areas within the facility will not be tolerated. Loads containing loose materials must be covered in accordance with state and local laws. Covers on loads must not be removed before arrival at working area. Cover all loads.
11 Hours of operation are rigidly adhered to.
12 Hazardous and Liquid Wastes such as: paints, oils, pesticides, cleaners, and batteries are not accepted at any Districts facility.
13 Consumption of alcoholic beverages or narcotics on Districts property is prohibited.
14 Loitering within the facility is prohibited.
15 Instructions given by Districts personnel must be followed at all times.

These rules are for your benefit. Serious and or frequent violations may result in your exclusion from Districts facilities. Please insure that these regulations are followed by you or your employee.

15-20

R0067802

COUNTY SA[illegible]TATION DISTRICTS OF LOS A[illegible]LES COUNTY
REFUSE DISPOSAL RECEIPT

FACILITY: SCHOLL CANYON
ACCOUNT#: 5180A
LICENSE#: E476356

ACCOUNT NAME : LA CNTY DPW/FMD
CUSTOMER TYPE: CHARGE
REFUSE ORIGIN: 100.00% Pasadena

WEIGHIN INFORMATION

TRANS.NUMBER: 0600686518
TRANS.DATE : 9-9-1999

W/STATION : 02
W/MASTER : 180306
TIME IN : 1:06:41 pm
GROSS WEIGHT: 18.24
TARE WEIGHT : 11.40
NET WEIGHT : 6.84

PRINTED DATE: 9-9-1999
1:06:54 pm

REFUSE TYPE:	REFUSE
RATE:	27.13
SUBTOTAL:	185.57
TOTAL FEE:	185.57

THIS RECEIPT IS VOID IF ANY HAND WRITTEN ENTRIES ARE CONTAINED

THE FOLLOWING RULES IN THIS LANDFILL MUST BE OBSERVED

1. No smoking driving to, while in, or returning from the disposal area.
2. No Salvaging of disposed material.
3. Observe all posted speed limit and traffic warning signs. The speed limit on dirt roads and in areas that are not posted is 15 MPH. Drive at safe speeds. Use low gears driving down hills. Reduce speed to allow for road, weather, traffic, load, driver ability and mechanical conditions of vehicle.
4. Dangerous Practices such as rapid backing of vehicle to dislodge loads, **unassisted pull-offs** or operating vehicle without doors secured are **prohibited**.
5. Children must remain in vehicles at all times. Anyone who is not engaged in the unloading of a vehicle must remain in the vehicle. All drivers and helpers must remain in the immediate vicinity of the vehicle being unloaded.
6. Dispose of refuse only in operating areas designated by landfill personnel.
7. Tools, tailgates, ETC., must be kept on, in or under your vehicle. *The Districts will not accept liability* for damage to these items by tractors or other trucks.
8. Injury or damage to persons or equipment must be reported to supervisory personnel prior to leaving the site. Do not move involved vehicle prior to report.
9. Load pull-off is a service accepted at your own risk. *The Districts will not accept liability* for vehicle damage or personal injury by performing this service.
10. Littering on local streets or roads and other areas within the facility will not be tolerated. Loads containing loose material must be covered in accordance with state and local laws. Covers on loads must not be removed before arrival at the disposal area. Cover all loads.
11. Hours of operation are rigidly adhered to.
12. Hazardous and Liquid Wastes such as: paints, oils, pesticides, cleaners, and batteries are not *accepted* at any Districts facility.
13. Consumption of alcoholic beverages or narcotics on Districts property is prohibited.
14. Loitering within the facility is prohibited.
15. Instructions given by Districts personnel must be followed at all times.

These rules are for your benefit. Serious and or frequent violations may result in your exclusion from Districts facilities. Please see to it that these regulations are followed by you or your employee.

R0067803

15-21

COUNTY SAN ATION DISTRICTS OF LOS AN LES COUNTY
REFUSE DISPOSAL RECEIPT

FACILITY: SCHOLL CANYON
ACCOUNT#: 5180A
LICENSE#: E279754

ACCOUNT NAME : LA CNTY DPW/FMD
CUSTOMER TYPE: CHARGE
REFUSE ORIGIN: 100.00% Pasadena

WEIGHIN INFORMATION

TRANS.NUMBER: 0600685607
TRANS.DATE : 9-7-1999

W/STATION : 01
W/MASTER : 300917
TIME IN : 2:06:15 pm
GROSS WEIGHT: 20.03
TARE WEIGHT : 12.29
NET WEIGHT : 7.74

PRINTED DATE: 9-7-1999
2:06:23 pm

REFUSE TYPE: REFUSE
RATE: 27.13
SUBTOTAL: 209.99
TOTAL FEE: 209.99

THIS RECEIPT IS VOID IF ANY HAND WRITTEN ENTRIES ARE CONTAINED

THE FOLLOWING RULES IN THIS LANDFILL MUST BE OBSERVED

1. No smoking driving to, while in, or returning from the disposal area.
2. No Salvaging of disposed material.
3. Drive all posted speed limit and traffic warning signs. The speed limit on dirt roads and in areas that are not posted is 15 MPH. Drive at safe speeds. Use low gears driving down hills. Reduce speed to allow for road, weather, traffic, load, driver ability and mechanical conditions of vehicle.
4. Dangerous Practices, such as rapid backing of vehicle to dislodge loads, unassisted pull-offs or operating vehicle without doors secured are prohibited.
5. Children must remain in vehicles at all times. Anyone who is not engaged in the unloading of a vehicle must remain in the vehicle. All drivers and helpers must remain in the immediate vicinity of the vehicle being unloaded.
6. Dispose of your waste only in operating areas designated by landfill personnel.
7. Tool, tailgates, ETC., must be kept on, in or under your vehicle. *The Districts will not accept liability* for damage to these items by tractors or other trucks.
8. Injury or damage to persons or equipment must be reported to supervisory personnel prior to leaving the site. Do not move damaged vehicle prior to report.
9. Load pull-off is a service accepted at your own risk. *The Districts will not accept liability* for vehicle damage or personal injury by performing this service.
10. Littering on local streets or roads and other areas within the facility will not be tolerated. Loads containing loose material must be covered in accordance with state and local laws. Covers on loads must not be removed before arrival in dumping area. Cover all loads.
11. Hours of operation are rigidly adhered to.
12. Hazardous and Liquid Wastes such as: paints, oils, pesticides, cleaners, and batteries are not accepted at any *Districts facility*.
13. Consumption of alcoholic beverages or narcotics on Districts property is prohibited.
14. Loitering within the facility is prohibited.
15. Instructions given by Districts personnel must be followed at all times.

These rules are for your benefit. Serious and or frequent violations may result in your exclusion from Districts facilities. Please ensure that these regulations are followed by you or your employee.

15-22

R0067804

COUNTY SA ATION DISTRICTS OF LOS AN LES COUNTY
REFUSE DISPOSAL RECEIPT

FACILITY: SCHOLL CANYON
ACCOUNT#: 5180A
LICENSE#: E279754

ACCOUNT NAME : LA CNTY DPW/FMD
CUSTOMER TYPE: CHARGE
REFUSE ORIGIN: 100.00% Pasadena

WEIGHIN INFORMATION

TRANS.NUMBER: 0600685494
TRANS.DATE : 9-7-1999

W/STATION : 01
W/MASTER : 301209
TIME IN : 12:15:02 pm
GROSS WEIGHT: 20.44
TARE WEIGHT : 12.29
NET WEIGHT : 8.15

PRINTED DATE: 9-7-1999
12:15:12 pm

REFUSE TYPE:	REFUSE
RATE:	27.13
SUBTOTAL:	221.11
TOTAL FEE:	221.11

THIS RECEIPT IS VOID IF ANY HAND WRITTEN ENTRIES ARE CONTAINED

THE FOLLOWING RULES IN THIS LANDFILL MUST BE OBSERVED

1. No smoking driving to, while in, or returning from the disposal area.
2. No Salvaging of disposed material.
3. Observe all posted speed limit and traffic warning signs. The speed limit on dirt roads and in areas that are not posted is 15 MPH. Drive at safe speeds. Use low gears driving down hills. Reduce speed to allow for road, weather, traffic, load, driver ability and mechanical conditions of vehicle.
4. Dangerous Practices, such as rapid backing of vehicle to dislodge loads, unassisted pull-offs or operating vehicle without doors secured are prohibited.
5. Children must remain in vehicles at all times. Anyone who is not engaged in the unloading of a vehicle must remain in the vehicle. All drivers and helpers must remain in the immediate vicinity of the vehicle being unloaded.
6. Dispose of your waste only in operating areas designated by landfill personnel.
7. Tool, tailgates, ETC., must be kept on, in or under your vehicle. *The Districts will not accept liability for damage* to these items by tractors or other trucks.
8. Injury or damage to persons or equipment must be reported to supervisory personnel prior to leaving the site. Do not move damaged vehicle prior to report.
9. Load pull-off is a service accepted at your own risk. *The Districts will not accept liability* for vehicle damage or personal injury by performing this service.
10. Littering on local streets or roads and other areas within the facility will not be tolerated. Loads containing loose material must be covered in accordance with state and local laws. Covers on loads must not be removed before arrival in dumping area. Cover all loads.
11. Hours of operation are rigidly adhered to.
12. Hazardous and Liquid Wastes such as: paints, oils, pesticides, cleaners, and batteries are not accepted at any *Districts facility*.
13. Consumption of alcoholic beverages or narcotics on Districts property is prohibited.
14. Loitering within the facility is prohibited.
15. Instructions given by Districts personnel must be followed at all times.

These rules are for your benefit. Serious and or frequent violations may result in your exclusion from Districts facilities. Please insure that these regulations are followed by you or your employee.

15-23

R0067805

COUNTY SA[illegible]ITATION DISTRICTS OF LOS A[illegible]LES COUNTY
REFUSE DISPOSAL RECEIPT

FACILITY: SCHOLL CANYON
ACCOUNT#: 5180A
LICENSE#: E476356

ACCOUNT NAME : LA CNTY DPW/FMD
CUSTOMER TYPE: CHARGE
REFUSE ORIGIN: 100.00% Pasadena

WEIGHIN INFORMATION

TRANS.NUMBER: 0600685457
TRANS.DATE : 9-7-1999

W/STATION : 02
W/MASTER : 180306
TIME IN : 11:23:36 am
GROSS WEIGHT: 14.71
TARE WEIGHT : 11.40
NET WEIGHT : 3.31

PRINTED DATE: 9-7-1999
11:23:44 am

REFUSE TYPE: REFUSE
RATE: 27.13
SUBTOTAL: 89.80
TOTAL FEE: 89.80

THIS RECEIPT IS VOID IF ANY HAND WRITTEN ENTRIES ARE CONTAINED

THE FOLLOWING RULES IN THIS LANDFILL MUST BE OBSERVED

1 No smoking driving to, while in, or returning from the disposal area.
2 No Salvaging of disposed material.
3 [illegible]erve all posted speed limit and traffic warning signs. The speed limit on dirt roads and in areas that are not [illegible] is 15 MPH. Drive at safe speeds. Use low gears driving down hills. Reduce speed to allow for road, weather, [illegible] driver ability and mechanical conditions of vehicle.
4 Dangerous Practices such as rapid backing of vehicle to dislodge loads, unassisted pull-offs or operating vehicle [illegible] doors secured are prohibited.
5 Children must remain in vehicles at all times. Anyone who is not engaged in the unloading of a vehicle must remain [illegible] vehicle. All drivers and helpers must remain in the immediate vicinity of the vehicle being unloaded.
6 Dispose [illegible] waste only in operating areas designated by landfill personnel.
7 Tools, tailgates, ETC., must be kept on, in or under your vehicle. *The Districts will not accept liability for damage* to these items by tractors or other trucks.
8. Injury or damage to persons or equipment must be reported to supervisory personnel prior to leaving the site. Do not [illegible] vehicle prior to report.
9 Load pull-off is a service accepted at your own risk. *The Districts will not accept liability* for vehicle damage or [illegible] by performing this service.
10 Littering on local streets or roads and other areas within the facility will not be tolerated. Loads containing loose [illegible] must be covered in accordance with state and local laws. Covers on loads must not be removed before arrival [illegible] area. Cover all loads.
11 Hours of operation are rigidly adhered to.
12 Hazardous and Liquid Wastes such as: paints, oils, pesticides, cleaners, and batteries are not accepted at any Districts facility.
13 Consumption of alcoholic beverages or narcotics on Districts property is prohibited.
14 Loitering within the facility is prohibited.
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These [illegible] for your benefit. Serious and or frequent violations may result in your exclusion from Districts facilities. Please [illegible] these regulations are followed by you or your employee.

15-24

R0067806

COUNTY SA 'TATION DISTRICTS OF LOS A' ELES COUNTY
REFUSE DISPOSAL RECEIPT

FACILITY: SCHOLL CANYON
ACCOUNT#: 5180A
LICENSE#: E279754

ACCOUNT NAME : LA CNTY DPW/FMD
CUSTOMER TYPE: CHARGE
REFUSE ORIGIN: 100.00% Pasadena

WEIGHIN INFORMATION

TRANS.NUMBER: 0600685305
TRANS.DATE : 9-7-1999

W/STATION : 01
W/MASTER : 300917
TIME IN : 8:57:14 am
GROSS WEIGHT: 16.76
TARE WEIGHT : 12.29
NET WEIGHT : 4.47

PRINTED DATE: 9-7-1999
8:57:24 am

REFUSE TYPE: REFUSE
RATE: 27.13
SUBTOTAL: 121.27
TOTAL FEE: 121.27

THIS RECEIPT IS VOID IF ANY HAND WRITTEN ENTRIES ARE CONTAINED

ELATION YARD

THE FOLLOWING RULES IN THIS LANDFILL MUST BE OBSERVED

1. No smoking driving to, while in, or returning from the disposal area.
2. No Salvaging of disposed material.
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4. Dangerous Practices, such as rapid backing of vehicle to dislodge loads, unassisted pull-offs or operating vehicle without doors secured are prohibited.
5. Children must remain in vehicles at all times. Anyone who is not engaged in the unloading of a vehicle must remain in the vehicle. All drivers and helpers must remain in the immediate vicinity of the vehicle being unloaded.
6. Dispose of your waste only in operating areas designated by landfill personnel.
7. Tool, tailgates, ETC., must be kept on, in or under your vehicle. *The Districts will not accept liability* for damage to these items by tractors or other trucks.
8. Injury or damage to persons or equipment must be reported to supervisory personnel prior to leaving the site. Do not move damaged vehicle prior to report.
9. Load pull-off is a service accepted at your own risk. *The Districts will not accept liability* for vehicle damage or personal injury by performing this service.
10. Littering on local streets or roads and other areas within the facility will not be tolerated. Loads containing loose material must be covered in accordance with state and local laws. Covers on loads must not be removed before arrival in dumping area. Cover all loads.
11. Hours of operation are rigidly adhered to.
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These rules are for your benefit. Serious and or frequent violations may result in your exclusion from Districts facilities. Please insure that these regulations are followed by you or your employee.

35-25

R0067807

COUNTY SAN[illegible]ATION DISTRICTS OF LOS AN[illegible]LES COUNTY
REFUSE DISPOSAL RECEIPT

FACILITY: SCHOLL CANYON
ACCOUNT#: 5180A
LICENSE#: B476355

ACCOUNT NAME : LA CNTY DPW/FMD
CUSTOMER TYPE: CHARGE
REFUSE ORIGIN: 100.00% Pasadena

WEIGHIN INFORMATION

TRANS.NUMBER: 0600685264
TRANS.DATE : 9-7-1999

W/STATION : 02
W/MASTER : 301209
TIME IN : 8:18:56 am
GROSS WEIGHT: 9.60
TARE WEIGHT : 7.75
NET WEIGHT : 1.85

PRINTED DATE: 9-7-1999
8:18:59 am

REFUSE TYPE: REFUSE
RATE: 27.13
SUBTOTAL: 50.19
TOTAL FEE: 50.19

THIS RECEIPT IS VOID IF ANY HAND WRITTEN ENTRIES ARE CONTAINED

THE FOLLOWING RULES IN THIS LANDFILL MUST BE OBSERVED

1 No smoking [illegible] while in, or returning from the disposal area.
2 No Salvaging of disposed material.
3 Observe all posted speed limit and traffic warning signs. The speed limit on dirt roads and in areas that are not [illegible] is 15 MPH. Drive at safe speeds. Use low gears driving down hills. Reduce speed to allow for road, weather, [illegible] driver ability and mechanical conditions of vehicle.
4 [illegible]gerous Practices such as rapid backing of vehicle to dislodge loads, unassisted pull-offs or operating vehicle [illegible] doors secured are prohibited.
5 Children must remain in vehicles at all times. Anyone who is not engaged in the unloading of a vehicle must remain in the vehicle. All drivers and helpers must remain in the immediate vicinity of the vehicle being unloaded.
6 Dispose of refuse only in operating areas designated by landfill personnel.
7 Tools, tailgates, ETC., must be kept on, in or under your vehicle. *The Districts will not accept liability* for damage to these items by tractors or other trucks.
8 Injury or damage to persons or equipment must be reported to supervisory personnel prior to leaving the site. Do not [illegible] vehicle prior to report.
9 Load pull-off is a service accepted at your own risk. *The Districts will not accept liability* for vehicle damage or [illegible] by performing this service.
10 Littering [illegible] streets or roads and other areas within the facility will not be tolerated. Loads containing loose [illegible] be covered in accordance with state and local laws. Covers on loads must not be removed before arrival [illegible] Cover all loads.
11 Hours [illegible] are rigidly adhered to.
12 Hazardous and Liquid Wastes such as: paints, oils, pesticides, cleaners, and batteries are not accepted at any Districts facility.
13 Consumption of alcoholic beverages or narcotics on Districts property is prohibited.
14 Loitering [illegible] the facility is prohibited.
15 Instructions given by Districts personnel must be followed at all times.

These [illegible] benefit. Serious and or frequent violations may result in your exclusion from Districts facilities. Please [illegible] these regulations are followed by you or your employee.

Arcadia Wash

15-26

R0067808

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
FOR LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331

MAILING ADDRESS
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

PERMIT

FACILITY: Santa Anita Wash
Arcadia-Sierra Madre System - Arcadia Wash and
Arcadia Wash-East Branch

FILE NO: C-3
105.032, 36.032

PERMITTEE:
General Telephone
c/o Arizona Pipeline Co.
325 Ponderosa Avenue
Ontario, CA 91761

PERMIT NO.: 97364-A

JOB NO.: C0884500

TELEPHONE: (909)390-6444

PURPOSE OF PERMIT:

To perform the work described in Provision No. 3 affecting the subject stream in accordance with the submitted plans, District Drawing Nos. 105-F396, 105-F397.1 &.2, and 36-F243 (Departmental Drawings Nos. PF500557, PF500558-59, and PF500560 respectively), as modified below.

APPLICATION DATED: July 3, 1997

PERMIT ISSUED: September 29, 1997

EXPIRES: See Prov. No. 1

FEES PLAN CHECK: $ 250.00 paid*

INSPECTION: $ 875.00 paid*

ANNUAL: $ None

*Receipt No. 290917, tendered

BY AUTHORITY OF THE BOARD OF SUPERVISORS DATED MARCH 26, 1950
HARRY W. STONE, DIRECTOR OF PUBLIC WORKS

BY _____

ROBERT L. GRINDLE, Permits and Subdivisions Section, Construction Division

THIS PERMIT IS SUBJECT TO THE PROVISIONS LISTED ON THE REVERSE SIDE HEREOF EXCEPT AS EXPRESSLY MODIFIED IN THE ADDITIONAL PROVISIONS LISTED BELOW AND AS MAR WITH AN "X" ON THE ATTACHED SHEETS ENTITLED "GENERAL PROVISIONS" AND "SPECIFIC PROVISIONS".

1. PERMITTEE MUST NOTIFY PERMIT OFFICE NO. 1 (8:00 A.M. TO 4:00 P.M.) AT TELEPHONE (626) 338-9515 AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS PERMIT. FAILURE TO SO NOTIFY IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN 180 DAYS FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT, THE PERMIT BECOMES NULL AND VOID.

2. PERMITTEE SHALL NOTIFY UNDERGROUND SERVICE ALERT AT 1-800-422-4133 FOR UNDERGROUND LOCATING AT LEAST 2 WORKING DAYS BEFORE COMMENCING AUTHORIZED EXCAVATION.

3.	Stream	Station	Work Description	Location
	Arcadia Wash	247+65	Two 4-inch ducts undercrossing by using directional bore method as shown on the approved plans.	Colorado Boulevard, west of Baldwin Avenue
	Arcadia Wash - East Branch	63+74	Two 4-inch ducts undercrossing by using directional bore method as shown on the approved plans.	Colorado Boulevard, west of Santa Rosa Road
	Santa Anita Wash	200+21	Two 5-inch ducts overcrossing by attaching pipes to Colorado Boulevard Bridge as shown on the approved plans.	Colorado Boulevard, west of Second Avenue

IGK:as
O:\SEC\ANGIE\PERMITS\97364-A

cc: City of Arcadia

bc: Construction (3) (Office, Permit Office No. 1), Flood Maintenance (East Area), General Files ✓

A COPY OF THIS SHALL BE KEPT AT THE SITE OF THE WORK THROUGHOUT THE PERIOD OF OPERATIONS WITHIN DISTRICT RIGHTS OF WAY AND SHALL BE SHOWN TO ANY DISTRICT REPRESENTATIVE OR ANY LAW ENFORCEMENT OFFICER UPON DEMAND.

EXERCISE OF THIS PERMIT SHALL INDICATE ACCEPTANCE OF AND AGREEMENT TO COMPLY WITH ALL PROVISIONS INCLUDED HEREIN. VIOLATION OF ANY PROVISION SHALL BE CAUSE FOR IMMIDIATE REVOCATION OF PERMIT.

50-0020 DPW Rev 9-95

15-27

R0067809

ADDITIONAL PROVISIONS FOR PERMIT NUMBER 97364-A

1. Use of District's right of way for the construction or activity authorized under this permit is tantamount to agreeing to the conditions herein. (G1)

2. Permittee shall be responsible for notifying his contractor and all subcontractors of the provisions of this permit. No work will be started until a copy of this permit is given to the contractor and each of his subcontractors. Further, the copy will be left at the site of the work being done by each contractor. (G2)

3. Permittee is notified that under the terms of the Labor Code of the State of California, the permittee or his contractor may be required to acquire a permit from the State Division of Industrial Safety if the work authorized herein involves excavation more than 5 feet deep. The inspection provided by the District can in no way be construed as a safety inspection. (G3)

4. Unless notified otherwise on this permit, all work authorized by this permit shall conform to the latest edition of the Standard Specifications for Public Work Construction, as amended, and published by Building News, Inc., 3055 Overland Avenue, Los Angeles, CA 90034 and the latest edition of the Los Angeles County Department of Public Works "Additions and Amendments to the Standard Specifications for Public Works Construction". (G4)

5. This permit is subject to such further conditions as the Director or his representative may issue during the period of this use. When possible, such additional conditions shall be promptly delivered in writing to the address shown on page one of this permit. Conditions delivered orally of necessity shall be promptly confirmed in writing. (G5)

6. Issuance of this permit shall not be construed as an obligation on the part of this District for the operation and maintenance of the proposed facilities. (G8)

7. Ingress and egress shall be at locations approved by the District's representative. (G10)

8. The District reserves the right to order the removal of all equipment if District's activities so require. The District assumes no responsibility for any loss to permittee's equipment or personnel. (G13)

9. Upon completion of work authorized under this permit, permittee shall restore the area to the satisfaction of the District's representative. (G14)

ADDITIONAL PROVISIONS FOR PERMIT NUMBER 97364-A

21 . Plans and calculations of any falsework or cofferdam to be placed within the channel waterway area must be submitted to this District for review and approval at least 30 days prior to installation.(W3)

21 . Permittee is advised that the proposed construction is located downstream of Santa Anita Dam, from which releases are made occasionally. Therefore, permittee shall contact the District's Water Conservation/Hydraulic Division, Operations Unit, at (818) 458-6177, before obstructing or removing a portion of the channel. Approval of District's representative for removal or obstruction must be obtained at least 24 hours in advance of initiating work.(W4)

22 . Permittee shall obtain a five-day clear weather forecast before conducting any operations within the channel and shall work only when no rain is forecast for the next five days, as determined by the District's inspector. Operations and access to the channel invert are specifically prohibitted during rainfall or excessive storm flow. Once operations under this permit are intiated, work shall be conducted in a dilligent manner until completed. The permittee shall not hold the District responsible for any damage due to flows within the channel.(W5)

23 . In the event the District's facility fails or needs to be replaced or repaired after the improvements have been constructed, the permittee shall be responsible for all costs and expenses to the District in excess of costs that would have been incurred by the District to replace the facility had said land been left vacant.(W8)

24 . Issuance of this permit shall not be construed as an obligation on the part of the District to assume responsibility for any damages incurred to the permittee's improvements in the event of storm drain and/or channel failure or flooding from rain storms.(W9)

25 . The permittee shall not use the invert during periods of precipitation or storm flow.(W13)

..... 25 PROVISIONS ISSUED

ADDITIONAL PROVISIONS FOR PERMIT NUMBER 97364-A

11 . Permittee shall take the necessary precautionary measures to prevent dust or other nuisances which might be created by reason of his activities. (G16)

11 . Permittee shall keep District right of way clear of obstruction for through access at all times and shall not interfere with the activities of the District's employees or the District's contractors. (G17)

12 . This permit shall not be construed as a permanent right for these operations. (G19

13 . No equipment in excess of H-10 Highway Loading (as specified in the Standard Specification for Highway Bridges of the American Association of State Highway and Transportation Officials) and no stockpiling of materials will be permitted along the channel within a distance equal to the wall height from the channel wall. (G20)

14 . The damage deposit noted on the permit is for the location delineated and is not transferable. The damage deposit will be refunded when the District's right of way and facilities have been restored to the satisfaction of the District's representative. (G15)

15 . Special attention is directed to General Provisions C and D on the reverse side of this permit. (G41)

16 . Permittee shall protect in place all District facilities where the proposed work comes in close proximity to the District's facilities. (G59)

17 . Permittee shall maintain the crossing facility and appurtenances. (X3)

18 . Extra precautions shall be exercised to prevent damage to the District's structures by reason of crossing/bridge construction operations. If in the opinion of the Director permittee fails to take proper precautions, the Director may direct all operations on the District's right of way. (X8)

19 . During the storm season, from October 15 to April 15:

a. No portion of the channel shall be obstructed.
b. No openings in the channel invert or side wall will be permitted. (W1)

Los Angeles County Flood Control District
Job No. C0884500
Arcadia-Sierra Madre System - Arcadia Wash, Arcadia Sierra Madre System - Arcadia Wash - East Branch, and Santa Anita Wash
Permit No. 97364-A - File Nos. 105.032 and 36.032
Permit Writer Il Kim - Dated September 29, 1997

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1. Request and Location (Thomas Guide new page 567-A4, C4 and D4, old page 28-C4, D4 and F4) Activity Code 3C. July 3, 1997, Mr. Mike Christensen from Arizona Pipeline Co. on behalf of General Telephone, requested permission to cross under the Arcadia - Sierra Madre System - Arcadia Wash and Arcadia - Sierra Madre System - Arcadia Wash Eastern Branch and cross over the Santa Anita Wash on Colorado Boulevard in the City of Arcadia.

2. Jurisdiction

   a. Description: Arcadia Wash at Station 247+85 is a 8-foot by 22-foot reinforced concrete double box as shown on U.S. Army Corps of Engineers' (COE) Drawing No. 372/88. Arcadia Wash-East Branch at Station 63+74 is a 12-foot-wide by 9-foot-high covered reinforced concrete channel as shown on COE Drawing No. 159/76. Santa Anita Wash at Station 247+85 is a 30-foot-wide by 13.5-foot-high reinforce concrete channel as shown on COE Drawing No. 186/29.

   b. Constructed by: U.S. Army Corps of Engineers.

   c. Right-of-way status: Street

   d. Maintenance and future proposals: The permittee will maintain the proposed telephone line conduit at various locations and District will continue to maintain the Arcadia Wash, Arcadia Wash-East Branch, and Santa Anita Wash.

3. Background and Supporting Data

   The ~~proposed~~ cut telephone conduits will be installed at least two below the Arcadia wash and Arcadia wash-East Branch by directional bore method. The third proposed conduit will be installed at the existing Colorado Boulevard bridge over Santa Anita Wash by attaching to the bridge. No problems are anticipated.

IGK:as/97364-A

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT 7/336 ...
900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331

PERMIT APPLICATION

The applicant must show that the proposed work will not adversely affect the District's interests; ie., (1) Hydraulic and Hydrology D (2) Structural integrity; (3) Maintenance standards; (4) District's property rights, etc. Application must complete the following portion application.

A. TO BE FILLED OUT BY OWNER/AGENT

OWNER: General Telephone TELEPHONE: (818) 813-4

ADDRESS: 5010 N. Azusa Canyon Rd., Irwindale, CA 91706
Street City Zip Code

AGENT: Arizona Pipeline Co. TELEPHONE: (909) 390-64

ADDRESS 325 Ponderosa Ave. Ontario, CA 91761
Street City Zip Code

SITE ADDRESS: Colorado Blvd. - Various Crossings -
Street City Zip Code

NEAREST INTERSECTION: ______ THOMAS GUIDE: 566

PERSON/AGENCY RESPONSIBLE FOR THE MAINTENANCE OF THE PROPOSED FACILITY: General Telephone PHONE: (818) 813-4

The undersigned certifies that the applicant for this permit is familiar with the requirements of the County Lobbyist Ordinance (Los An County Code Chapter 2.160), and that all persons acting on behalf of the applicant have complied with and will continue to compl this ordinance throughout the application process.

MIKE CHRISTENSEN [signature] 7-3-97
Print Name of Owner/Agent Signature of Owner/Agent Date
Received 7/22/9

B. DESCRIPTION OF WORK REQUESTED

Trench and install underground Telephone Cable
Santa Anita Wash at Colorado Blvd
Acadia Wash at Colorado Blvd, Acadia Wash East Bran
Jim Crosby of Arizona Pipeline Co at Colorado B.

Please submit the following with your application:

1. Six sets of final construction plans with structural details and profiles of the existing and proposed facilities.
2. Two sets of letter size structural and/or hydraulic and hydrology calculations. The plans and calculations must be stamped and s by a registered civil/structural engineer licensed to practice in the State of California.
3. Fee will be charged according to current ordinance established by the Board of Supervisors.

Paid DR# 290917 $1125.00
Aug 18, 97

FOR DISTRICT USE ONLY

PLAN CHECK FEE $250.00 INSPECTION FEE ~~[illegible]~~ $875.00
STREAM/PROJECT Santa Anita Wash & Acadia Wash & Acadia Wash East Branch FILE CODE 36 & 105 & 105
JOB NO. 6088450 DISTRICT DRAWING NO. ______

C. FOR PRIVATE DRAINS AND MISCELLANEOUS TRANSFER DRAINS ONLY

PD/MTD NO. ______ INSPECTOR : ______
JOB NO. ______ PHONE NO. ______
PERMIT NO. ______ INSPECTION DEPOSIT: ______
RECEIPT NO. ______ LDMA. ______

15-32

R0067814

290917

290917

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
RECEIPT

Date 8-18-97 $1125.00

Received From: ARIZONA PIPELINE CO

ELEVEN HUNDRED TWENTY FIVE 00/00 DOLLARS

If paying by check:
Check #: 575 Date: 8-18-97

☐ Check here for cash payments

For: PERMIT APPL.
(Address / Account # / Description)

Additional Information: SANTA ANITA WASH
ARCADIA WASH
ARCADIA WASH EAST BRANCH

Received By: [signature]

District No.

SELECT THE FOLLOWING IF AVAILABLE

For Water Payments: Batch Number P

Development Deposits: Parcel Number: Tract Number:

Survey Payments: Record of Survey Number:

Job Number:

Org/Fund	Revenue Source	Amount
42100 -	8371	
Sales Tax (TES-7315)	Bal Sheet Acct	

22-0066 DPW 1/96

R0067815

15-33

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
FOR LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331

MAILING ADDRESS
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

PERMIT

FACILITY Arcadia-Sierra Madre System-Arcadia Wash

FILE NO C-3
105.032

PERMITTEE Los Angeles Turf Club, Incorporated
c/o CGVL Engineers
7 Corporate Park Drive, Suite 250
Irvine, CA 92606

PERMIT NO 97344-A

JOB NO C0884000

TELEPHONE (818) 574-6626

PURPOSE OF PERMIT To perform the work described in Provision No. 3 affecting the subject stream in accordance with the submitted plans, District Drawing Nos. 105-F395.1-.12 (Department Drawing Nos. PF500420-31), as modified below.

APPLICATION DATED July 21 1997

PERMIT ISSUED September 15, 1997

EXPIRES See Prov. No. 1

FEES PLAN CHECK $ $ 250.00

INSPECTION $ $2,625.00

ANNUAL $ N/A

BY AUTHORITY OF THE BOARD OF SUPERVISORS DATED MARCH 26 1950
HARRY W. STONE, DIRECTOR OF PUBLIC WORKS

BY _____

Receipt Nos. 280914 and 292186, tendered

ROBERT L. GRINDLE, Permits and Subdivisions Section, Construction Division

THIS PERMIT IS SUBJECT TO THE PROVISIONS LISTED ON THE REVERSE SIDE HEREOF EXCEPT AS EXPRESSLY MODIFIED IN THE ADDITIONAL PROVISIONS LISTED BELOW AND AS MARKED WITH AN X ON THE ATTACHED SHEETS ENTITLED "GENERAL PROVISIONS" AND "SPECIFIC PROVISIONS".

1. PERMITTEE MUST NOTIFY PERMIT OFFICE NO. 1 8:00 A.M. TO 4:00 P.M. AT TELEPHONE (626)338-9509 AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS PERMIT. FAILURE TO SO NOTIFY IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN TWO DAYS FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT THE PERMIT BECOMES NULL AND VOID.

2. PERMITTEE SHALL NOT EXCAVATE UNDERGROUND SERVICE ALERT AT 1-800-422-4133 FOR UNDERGROUND LOCATING AT LEAST 2 WORKING DAYS BEFORE COMMENCING AUTHORIZED EXCAVATION.

3.

Stream	Station	Work Description	Location
Arcadia Wash	206+27.32	42-inch reinforced concrete pipe connection in accordance with the approved plan	North of Huntington Drive and east of Baldwin Avenue
Arcadia Wash	206+85.04	18-inch reinforced concrete pipe connection in accordance with the approved plan	North of Huntington Drive and east of Baldwin Avenue

4. Permittee must obtain a five-day clear weather forecast before conducting any operation within the channel and shall work only when no rain is forecast for the next five days.

WFT:as
O:PUBLIC/SEC/ANGIE/PERMITS/97344-A

cc: City of Arcadia
Corps of Engineers

bcc: Construction (3) (Office, P.O. 1, Tan), Flood Maintenance (West Area), Environmental Progra (Hildebrand), Hydraulic/Water Conservation, General Files ✓

A COPY OF THIS SHALL BE KEPT AT THE SITE OF THE WORK THROUGHOUT THE PERIOD OF OPERATIONS WITHIN DISTRICT RIGHTS OF WAY AND SHALL BE SHOWN TO ANY OF REPRESENTATIVE OR ANY LAW ENFORCEMENT OFFICER UPON DEMAND.

EXERCISE OF THIS PERMIT SHALL INDICATE ACCEPTANCE OF AND AGREEMENT TO COMPLY WITH ALL PROVISIONS INCLUDED HEREIN. VIOLATION OF ANY PROVISION SHALL BE CAUSE FOR IMMEDIATE REVOCATION OF PERMIT.

50-0020 DPW Rev 9 95

15-34

R0067816

76P238A

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
FOR LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331

MAILING ADDRESS
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

PERMIT

FACILITY: Arcadia - Sierra Madre System
Lima Street Lateral

FILE NO.: C-3
105.032

PERMITTEE: City of Arcadia
c/o Nationwide Construction
7340 East Florence Avenue, #227
Downey, CA 90241

PERMIT NO.: 91504-B

JOB NO.: C0885000

TELEPHONE: (213) 806-3766

PURPOSE OF PERMIT: to perform the work described in Provision No. 3 affecting the subject stream in accordance with the submitted plan, District Drawing No. 105-F 388, as modified below.

APPLICATION DATED: April 11, 1991

PERMIT ISSUED: June 25, 1991

EXPIRES: XXX

FEES: PLAN CHECK $ 100 waived
INSPECTION $ 300 waived
ANNUAL $ none

BY AUTHORITY OF THE BOARD OF SUPERVISORS DATED MARCH 26, 1950

T. A. TIDEMANSON, DIRECTOR OF PUBLIC WORKS

BY James Huntley

James Huntley, Head, Permits & Utilities Secti.
Construction Division

THIS PERMIT IS SUBJECT TO THE PROVISIONS LISTED ON THE REVERSE SIDE HEREOF EXCEPT AS EXPRESSLY MODIFIED IN THE ADDITIONAL PROVISIONS LISTED BELOW AND AS MARKED WITH "X" ON THE ATTACHED SHEETS ENTITLED "GENERAL PROVISIONS" AND "SPECIFIC PROVISIONS".

1. PERMITTEE MUST NOTIFY PERMIT OFFICE NO 1 (8:00 A.M. TO 4:00 P.M.) AT TELEPHONE (818) 338-9509 AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS PERMIT. FAILURE TO SO NOTIFY IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN 180 DAYS FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT, THE PERMIT BECOMES NULL AND VOID.

2. PERMITTEE SHALL NOTIFY UNDERGROUND SERVICE ALERT AT 1-800-422-4133 FOR UNDERGROUND LOCATING AT LEAST 2 WORKING DAYS BEFORE COMMENCING AUTHORIZED EXCAVATION.

3. Stream	Station	Work Description	Location
Lima Street Lateral	171+72±	12-inch pipe connection by Junction Structure "A"	At side of 355 South Campus Drive

RPJ:cma/PMT604-B
6/12/91

cc: City of Arcadia
Corps of Engineers (3)

bc: Construction (3) (Rivera, Permit Office No. 1), Hydraulic/Water Conservation, Waste Management (Hildebrand), Land Development, Flood Maintenance (East Area), Mapping and Property Management (Permits), General Files✓

R0067817

A COPY OF THIS SHALL BE KEPT AT THE SITE OF THE WORK THROUGHOUT THE PERIOD OF OPERATIONS WITHIN DISTRICT RIGHTS OF WAY AND SHALL BE SHOWN TO ANY DISTRICT REPRESENTATIVE OR ANY LAW ENFORCEMENT OFFICER UPON DEMAND.

15-35

EXERCISE OF THIS PERMIT SHALL INDICATE ACCEPTANCE OF AND AGREEMENT TO COMPLY WITH ALL PROVISIONS INCLUDED HEREIN. VIOLATION OF ANY PROVISION SHALL BE CAUSE FOR IMMEDIATE REVOCATION OF PERMIT.

70-0020 DPW 2-88

Los Angeles County Flood Control District

COMPLETION NOTICE

Stream ~~Arcadia-Sierra Madre System~~ Permit No. ~~7304-A~~

~~Lima Street Lateral~~

Purpose ~~To connect a 60-inch RCP to Arcadia-Sierra Madre System-Lima Street Lateral at Channel Station 194+45.65.~~

Permittee ~~Anita Associates~~

~~c/o Gruen Associates, Inc.~~

Operations under this permit have been inspected by the undersigned inspector in the field and were completed in essential compliance with all applicable provisions of the permit and in accordance with the approved permit plans except as follows: No exceptions

Inspector John J. Sievers Dated January 9, 1974

for Chief, Contract Construction

RE:bf

cc: Operation and Maintenance Division
Project Planning Division
General Files

District Engineer
U.S. Army Engineer District, Los Angeles
300 North Los Angeles Street
Los Angeles, CA 90012

2074 FCD 8/73

15-36

R0067818

General Files

105.032

Los Angeles County Flood Control District

COMPLETION NOTICE

Stream Arcadia-Sierra Madre System-Arcadia Wash-East Branch Permit No. [illegible]

Permittee Motel 6 of Santa Barbara Expiration Date xxxxxxx

Location At the rear of a proposed development to be located on Colorado Place, immediately upstream of Huntington Drive

Activity To connect an 18-inch corrugated metal pipe to the west wall of subject stream

Operations under this permit have been inspected by the undersigned inspector in the field and were completed in essential compliance with all applicable provisions of the permit and in accordance with the approved permit plans except as follows: no exceptions

It is recommended that this permit be closed work completed

"As Built" drawings are in District Map Files, Drawing No. 105-F 311

Fees Paid xxxxxx /S/ W. A. Sproul Dated 12-5-63
Inspector

GB/pm

/S/ I. S. Stokes
Chief, (Constr.) ~~(O. & M.)~~ Division

For use of Project Planning Division

Copies filed with:

Remarks

Final Action CLOSED DEC 17 1963

/S/ Page C. Irving
Section Head

District Engineer (3)

/S/ Owen D. Hall
Chief, Project Planning Division

15-37

R0067819

Los Angeles County Flood Control District

105,032

COMPLETION NOTICE

Stream Arcadia-Sierra Madre System — Arcadia Wash-East Branch Permit No. 59648-B

Permittee City of Arcadia Expiration Date xxxx

Location Immediately downstream of Colorado Boulevard.

Activity Connect an 18-inch corrugated metal pipe to west channel wall of subject wash.

Operations under this permit have been inspected by the undersigned inspector in the field and were completed in essential compliance with all applicable provisions of the permit and in accordance with the approved permit plans except as follows: No exceptions.

It is recommended that this permit be closed. Work completed.

"As Built" drawings are in District Map Files, Drawing No. 105-F 29

Fees Paid xxxx /S/ W. A. Sproul Dated 12-14-59
Inspector

GB/ag

A. C. Hyde
Chief, (Constr.) (O & M) Division

For use of Project Planning Division

Copies filed with:

Remarks:

Final Action CLOSED DEC 22 1959

Roy C. King
Section Head

Milan W Ramsom
Chief, Project Planning Division

: District Engineer (3)

15-38

R0067820

105 .032

Los Angeles County Flood Control District

COMPLETION NOTICE

Stream Arcadia-Sierra Madre System-Baldwin Avenue Lateral Permit No. 59599-B

Permittee City of Arcadia Expiration Date xxxx

Location At intersections of Baldwin Avenue and Hampton Road and Baldwin Avenue and Gloria Road.

Activity Connect three catch basin laterals to District's storm drain for subject system.

Operations under this permit have been inspected by the undersigned inspector in the field and were completed in essential compliance with all applicable provisions of the permit and in accordance with the approved permit plans except as follows: No exceptions.

It is recommended that this permit be closed. Work completed.

"As Built" drawings are in District Map Files, Drawing No. 105-F-292

Fees Paid xxxx /S/ W. A. Sproul Dated 6-23-60

Inspector

GB/ag

A. C. Hoch

Chief, (Constr.) (O & M.) Division

For use of Project Planning Division

Copies filed with:

Remarks:

Final Action CLOSED JUL 12 1960

Wayne C. Tsuji

Section Head

Milan W Ranson

Chief, Project Planning Division

cc: District Engineer (3)

15-39

R0067821

76P238A2 - 76

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

MAILING ADDRESS
BOX 2-18
TERMINAL ANNEX
S ANGELES, CALIFORNIA 90051

PERMIT

OFFICE ADDRESS
2250 ALCAZAR STREET
LOS ANGELES
TELEPHONE: 226-4206

STREAM: Arcadia-Sierra Madre System-
Lima Street Lateral

FILE NO: 105.03?

PERMITTEE: Los Angeles Turf Club, Inc.
Santa Anita Park
Arcadia, CA 91006

PERMIT NO. 77553-B

TELEPHONE 681-7401

PURPOSE OF PERMIT: to extend the District's fencing on the westerly wall of the Lima Street branch channel from approximate Station 209+90 to Station 215+90 in accordance with District Standard Drawing No. 2-D 473 (Type C., a copy of which is enclosed and made a part hereof, and as modified below.

APPLICATION DATED August 1, 1977

PERMIT ISSUED August 17, 1977

EXPIRES xxx

FEES PLAN CHECK $None
INSPECTION $50.00, waived
ANNUAL $None

BY AUTHORITY OF THE BOARD OF SUPERVISORS DATED MARCH 28, 1950

A. E. BRUINGTON, CHIEF ENGINEER

BY PHE

P. H. Emery
Head, Permit Section, Construction

THIS PERMIT IS SUBJECT TO THE PROVISIONS LISTED ON THE REVERSE SIDE HEREOF EXCEPT AS EXPRESSLY MODIFIED IN THE ADDITIONAL PROVISIONS LISTED BELOW:

1. PERMITTEE MUST NOTIFY East Area Headquarters (7:30 a.m. to 4:00 p.m.) AT TELEPHONE 445-7630 AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS PERMIT. FAILURE TO SO NOTIFY IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN 60 DAYS FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT, THE PERMIT BECOMES NULL AND VOID.

2. Permittee shall be responsible for the future maintenance of the modified fencing.

3. Permittee shall salvage and stockpile the existing fabric and contact the District at 445-7630 when the fabric is ready for pick up by the District.

BCB:ag
BCB 8-17
Inc. 8/17

cc: Operation and Maintenance (2) (East Area)
Water Conservation
Construction (2) (Permits)
General Files

R0067822

A COPY OF THIS PERMIT SHALL BE KEPT AT THE SITE OF THE WORK THROUGHOUT THE PERIOD OF OPERATIONS WITHIN DISTRICT RIGHTS OF WAY AND SHALL BE SHOWN TO ANY DISTRICT REPRESENTATIVE OR ANY LAW ENFORCEMENT OFFICER UPON DEMAND.
EXERCISE OF THIS PERMIT SHALL INDICATE ACCEPTANCE OF AND AGREEMENT TO COMPLY WITH ALL PROVISIONS INCLUDED HEREIN. VIOLATION OF ANY PROVISION SHALL BE CAUSE FOR IMMEDIATE REVOCATION OF PERMIT.

15-40

105.032

Los Angeles County Flood Control District

COMPLETION NOTICE

Stream Arcadia-Sierra Madre System-Arcadia Wash Permit No. 82161-A

Purpose Construct a guard house at Bridge No. 10 (Stn. 209+22), Arcadia Wash

Permittee Los Angeles Turf Club, c/o Henry M. Layne, Inc., & Assoc.

Operations under this permit have been inspected by the undersigned inspector in the field and were completed in essential compliance with all applicable provisions of the permit and in accordance with the approved permit plans except as follows:

no exceptions

☐ As-built drawings received

Inspector J. J. Sievers Dated 6-23-82

for Division Engineer

st

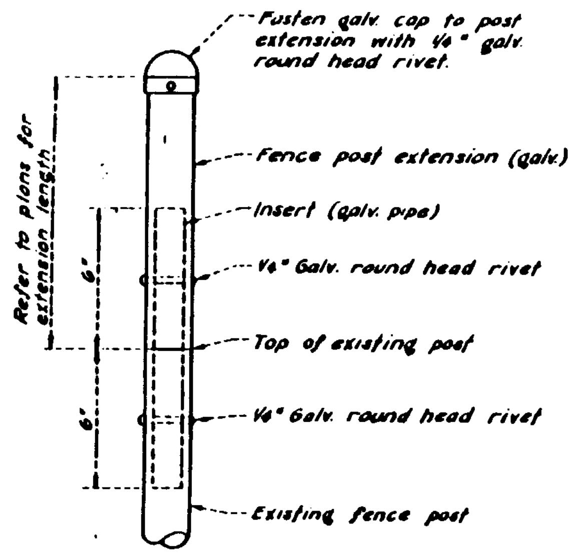
cc: Col. Paul W. Taylor
District Engineer
Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, CA 90053

Operation and Maintenance (East)
Property Management (Permits)
General Files

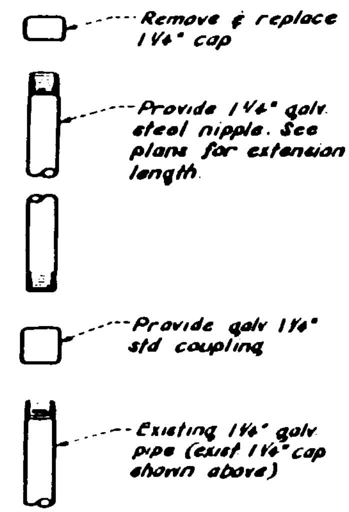
R0067823

15-41

15-42



TYPE A



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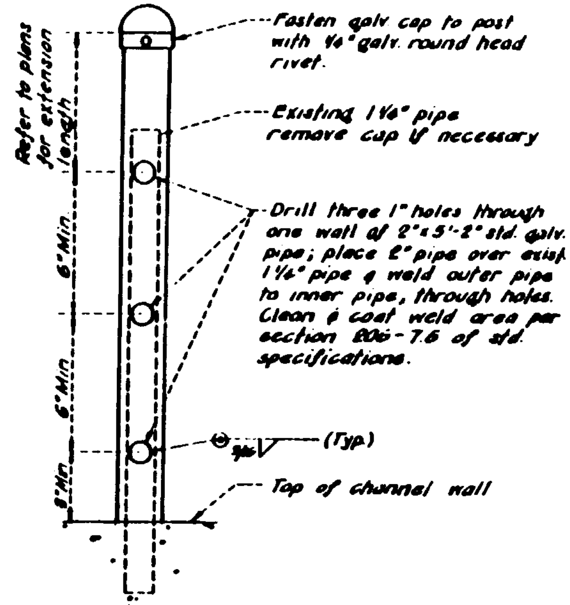
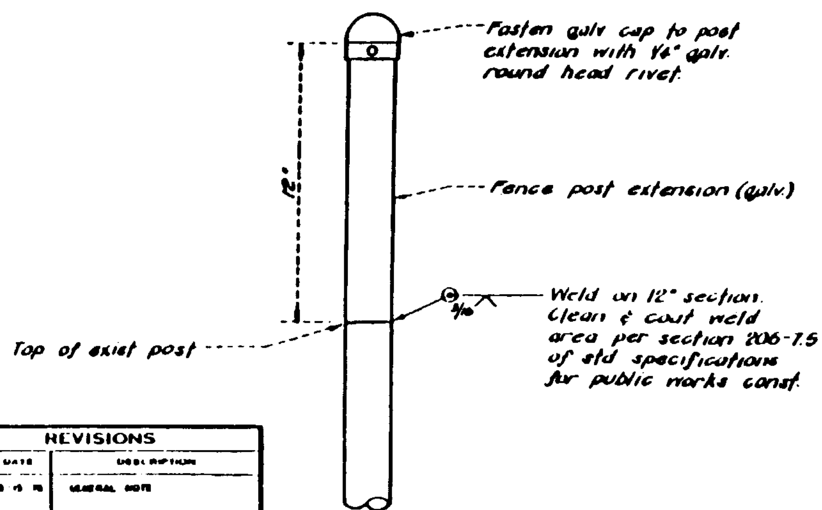


TYPE C



TYPE D

▲ General Note:

All existing pipe size may vary. The contractor shall verify in the field to determine exact size of existing pipe and required sleeve.

Drawn by: T Rini	**REVISIONS**		
	Mark	Date	Description
Checked by: ... Nadow	▲	3-15-76	GENERAL NOTE
Designed by: R Kumber			
Submitted by: J McElroy			

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

TYPICAL FENCE POST EXTENSION DETAILS

Scale: NONE	Date: Feb '75	DWG. NO. 2 · Sheet 1

Los Angeles County Flood Control District

Arcadia-Sierra Madre System-Lima Street Lateral - 105.032
Permit Application No. 77553-B
B. C. Brooks - August 19, 1977

1. Request and Location (Thomas Guide page 28, D-4)

In Letter No. 6459 dated August 1, 1977, Mr. Paul Hvidston of the Los Angeles Turf Club, Inc., requested permission to raise the westerly channel wall fence from Station 209+90 to 215+90. This area is within the Santa Anita Park racetrack property. The fence is being raised to lesson the possibility of riders being thrown from the racehorses who pass adjacent to the fence.

2. Jurisdiction

a. Description: This reach of the channel is 14 feet wide and varies in depth from 12 feet to 13 feet 9 inches as shown on District Drawings Nos. 105-F 285.24 and 285.25.

b. Constructed by: U.S. Corps of Engineers

c. Right of way status: Easement Parcel No. 53 as shown on District Drawing No. 105-RW 61.

d. Maintenance and future proposals: The permittee will maintain the modified fencing.

3. Background and Supporting Data:

Mr. Hvidston first contacted the Permit Section approximately one year ago. He requested information verbally but never followed through and requested a permit.

The fees are being waived since the District's exposure to liability should be reduced by the higher fencing. The permit request is being expedited since the permittee hopes to start construction about August 15, 1977.

BCB:ag

R0067825

15-43

LOS ANGELES TURF CLUB, INC.
SANTA ANITA PARK
ARCADIA, CALIFORNIA 91006

105.032

August 1, 1977

681-7401
447-2171

Los Angeles County
Flood Control District
P. O. Box 2418
Terminal Annex
Los Angeles, CA 90051

Attention: Mr. Pat Emery
Construction Division

Gentlemen:

We request permission to raise the westerly channel fence of the Lima Street Branch channel of the Arcadia Wash System to an 8 foot height from approximately station 209+90 to 215+90. This is to be done in accordance with Flood Control Standard drawing 2-D-473 Type C by slipping 8' posts over existing posts and installing new 8' fabric. This is requested as a safety feature as horses with riders travel adjacent to this fence and the rider could be thrown over the lower fence.

We would like to start construction about August 15, 1977.

Very truly yours,

Paul Hvidston
General Superintendent

PH:lp

AUG 4 1977
6459
PERMIT APPLICATION NO. 77553-D
8/4 NC
75-44

R0067826

105.032

Los Angeles County Flood Control District

COMPLETION NOTICE

Stream Arcadia-Sierra Madre System-Arcadia Wash-East Branch Permit No. 82322-A
Arcadia-Sierra Madre System-Lima Street Lateral

Purpose to (1) construct a cover slab over the Lima Street Lateral between Sta 210+18.22 and 215+90, (2) construct a cover slab over Arcadia Wash-East Branch between Sta 39+40.85 and 44+72 and between Sta 46+99.22 and 49+68.22, and (3) install a 4" cast iron soil pipe across the channel at Sta 214+10.11

Permittee Los Angeles Turf Club
c/o Henry M. Layne, Inc., & Associates

Operations under this permit have been inspected by the undersigned inspector in the field and were completed in essential compliance with all applicable provisions of the permit and in accordance with the approved permit plans except as follows: No exceptions

☐ As-built drawings received

Inspector John J. Sievers Dated 10-28-82

ms

for Division Engineer

cc: Col. Paul W. Taylor
District Engineer
Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, CA 90053

Operation and Maintenance (East)
Property Management (Permits)
General Files ✓

R0067827

15-45

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

MESSAGE | **FOR YOUR FILE**

TO Ms. Mary Schmitt
Business and Fiscal Division

CLEARED TO CENTRAL FILES FOR FILING
PROP. MGMT.
12/7/82
tt

DATE PTE TO
G.F.

DATE 12-6-82

Permit No. 82322-1, file code 105.032, was completed 10-28-82

The ~~accel~~/minimum inspection cost is $ 500 -.

The plan chec: fee is $ 400 -.

The total deposited amount is $ 1600 -, under Receipt No. 2694 & 3070

Please refund the balance of $ 900 - 7 c to:

Los Angeles Turf Club
% Henry M. Trepte, Jr. & Assoc
2500 W Third Street
LA 90057

CIRCLE FOLLOW-UP DATE AND FILE

MONTH	J	F	M	A	M	J	J	A	S	O	N	D
DAY	1	2	3	4	5	6	7					
	8	9	10	11	12	13	14	15				
	16	17	18	19	20	21	22	23				
	24	25	26	27	28	29	30	31				

cc: Contract Administration (Permit Inspection)
Property Management (Permits)
General Files

BY [illegible] Chaplain

SIGNED

DETACH AND FILE FOR FOLLOW-UP

15-46

R0067828

File No. 105.32

Los Angeles County Flood Control District

COMPLETION NOTICE

Stream Arcadia-Sierra Madre System-Arcadia Wash Permit No. 78442-A

Purpose To connect a 24" CMP to Sta. 216+69 and a 12" CMP to Sta. 219+44, grate basins, to Arcadia Wash

Permittee Los Angeles Turf Club, Inc.

Operations under this permit have been inspected by the undersigned inspector in the field and were completed in essential compliance with all applicable provisions of the permit and in accordance with the approved permit plans except as follows: No exceptions

Inspector John J. Sievers Dated 2-14-79

☐ As-built drawings received.

for Division Engineer

cc: Operation and Maintenance (East)
Property Management (Permits)
General Files

15-47

R0067829

6674 FCD 11/78

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

MAILING ADDRESS:
BOX 2418
TERMINAL ANNEX
LOS ANGELES, CALIFORNIA 90051

PERMIT

OFFICE ADDRESS:
2250 ALCAZAR STREET
LOS ANGELES
TELEPHONE: 226-4208

STREAM: Arcadia-Sierra Madre System-Lima Street Lateral
Storm Drain Bond Issue Project No. 1401, Arcadia

FILE NO: 105.032
364-1401.032

PERMITTEE: City of Arcadia
c/o HYA Consulting Engineers
1010 South Baldwin Avenue, Suite B
Arcadia, CA 91006

PERMIT NO: 85099-B

TELEPHONE: (818) 447-8502

PURPOSE OF PERMIT: to make the connections and to provide inspection for future transfer of Miscellaneous Transfer Drain No. 1097 as noted in Provision No. 1a to the subject streams in accordance with the submitted plans, District Drawings Nos. 364-1401-F 6.1 through .7, as modified below.

APPLICATION DATED: March 1, 1985

PERMIT ISSUED: March 14, 1985

EXPIRES: XXX

FEES: PLAN CHECK $ None
INSPECTION $ 5,475.00, waived
ANNUAL $ None

BY AUTHORITY OF THE BOARD OF SUPERVISORS DATED MARCH 28, 1950

HOWARD H. HAILE, CHIEF ENGINEER

BY _____

Eugene A. Gagne, Head, Permit Section
Property Management Division

PERMIT IS SUBJECT TO THE PROVISIONS LISTED ON THE REVERSE SIDE HEREOF EXCEPT AS EXPRESSLY MODIFIED IN THE ADDITIONAL PROVISIONS LISTED BELOW AND AS MARKED WITH AN "X" ON THE ATTACHED SHEETS ENTITLED "GENERAL PROVISIONS" AND "SPECIFIC PROVISIONS"

1. PERMITTEE MUST NOTIFY PERMIT LIAISON 8:00 A.M. TO 4:00 P.M. AT TELEPHONE (213) 226-4206 AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS PERMIT. FAILURE TO SO NOTIFY IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN 180 DAYS FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT THE PERMIT BECOMES NULL AND VOID

1a. Stream	Station	Connection, Size, and Type	Remarks
Arcadia-Sierra Madre System-Lima Street Lateral	179+50.06	33-inch reinforced concrete pipe in accordance with Corps of Engineers' Junction Structure B	On Huntington Driv (westbound)
Project No. 1401	43+35	33-inch reinforced concrete pipe in accordance with submitted drawings	On Lovell Avenue north of Norman Avenue

DEPT. OF PUBLIC WORKS
2250 ALCAZAR STREET
RECEIVED
MAR 15 1985
1:23

CAP:cs
Enc. 4

cc: Col. Dennis F. Butler (Enc. 4)
District Engineer
Department of the Army
Los Angeles District, Corps of Engineers

bc: Contract Administration (2)
Hydraulic (Operation Section)
Operation and Maintenance (East Are
Program Management (DRS)
Property Management (Permits)
General Files ✓

A COPY OF THIS PERMIT SHALL BE KEPT AT THE SITE OF THE WORK THROUGHOUT THE PERIOD OF OPERATIONS WITHIN DISTRICT RIGHTS OF WAY AND SHALL BE SHOWN TO ANY DISTRICT REPRESENTATIVE OR ANY LAW ENFORCEMENT OFFICER UPON DEMAND

EXERCISE OF THIS PERMIT SHALL INDICATE ACCEPTANCE OF AND AGREEMENT TO COMPLY WITH ALL PROVISIONS INCLUDED HEREIN. VIOLATION OF ANY PROVISION SHALL BE CAUSE FOR IMMEDIATE REVOCATION OF PERMIT

15-48

R0067830

GENERAL PROVISIONS

PERMIT NO. 85099B

X 1. Use of District's property for the construction or activity authorized under this permit is tantamount to agreeing to the conditions herein.

X 2. Permittee shall be responsible for notifying his contractor and all subcontractors of the provisions of this permit. No work will be started until a copy of this permit is given to the contractor and each of his subcontractors. Further, the copy will be left at the site of the work being done by each contractor.

X 3. Permittee is notified that under the terms of the Labor Code of the State of California, the permittee or his contractor may be required to acquire a permit from the State Division of Industrial Safety if the work authorized herein involves excavation more than 5 feet deep. The inspection provided by the District can in no way be construed as a safety inspection.

X 4. Unless noted otherwise on this permit, all work authorized by this permit shall conform to the latest edition of the Standard Specifications for Public Works Construction, as amended, and published by Building News, Inc., 3055 Overland Avenue, Los Angeles, CA 90034.

X 5. This permit is subject to such further conditions as the Chief Engineer or his representative may issue during the period of this use. When possible, such additional conditions shall be promptly delivered in writing to the address shown on page one of this permit. Conditions delivered orally of necessity shall be promptly confirmed in writing.

____ 6. Upon satisfactory completion of construction, the District will assume operation and maintenance of the proposed facilities.

X 7. Permittee shall be responsible for the operation and maintenance of the proposed facilities until formally transferred to the District.

____ 8. Issuance of this permit shall not be construed as an obligation on the part of this District for the operation and maintenance of the proposed facilities.

X 9. The only authorized discharge is storm run-off.

____ 10. The authorized discharge shall conform to the requirements of the State of California Regional Water Quality Control Board.

X 11. The discharge of industrial waste or sewage is prohibited.

X 12. Permittee shall immediately notify the District at (213) 226-4308 (24-hour number) of any and all discharges not authorized by this permit.

____ 13. Permittee is advised that _____ is now under construction by _____. Before beginning work, permittee shall obtain permission from this District's contractor so as to cause no extra work or expense to this District or its contractor. No discharge into the District's drain will be permitted until the facility is completed and ready to accept storm flows.

X 14. Should work take place between October 15 and April 15, permittee shall obtain a long-range clear weather forecast before breaking into the main line storm drain. Construction of facilities connecting to the main line will be permitted only during a clear weather forecast that is acceptable to this District's representative. Once operations under this permit are initiated, the work shall be conducted in a continuous manner until completed.

____ 15. Should it become necessary to cut District's right of way fence, permittee shall properly brace fence in accordance with the District's standards and to the satisfaction of District's representative.

____ 16. Upon completion of work authorized under this permit, permittee shall repair District's right of way fence to the satisfaction of the District's representative. Security fencing shall be provided across any opening in the fence at the end of each day's work.

____ 17. Abandoned connector pipes shall be sealed at both ends with 8-inch brick and mortar or 6 inches of concrete.

X 18. All inlet openings shall be provided with protection bars spaced to provide an opening that does not exceed 6 inches.

____ 19. All pipes within District's right of way shall be placed at least 2 feet below the surface of the ground. Polyvinyl chloride pipes shall be placed at least three feet below the surface of the ground within District's right of way.

X 20. All open cuts and trenches within District's right of way shall be backfilled and compacted in accordance with approved methods to the satisfaction of District's representative. Paving shall be replaced in kind.

____ 21. Ingress and egress shall be at locations approved by the District's representative.

____ 22. The connection shall be made in accordance with District Standard Drawing No. _____, a copy of which is enclosed herewith and made a part hereof.

____ 23. Permittee shall telephone the District's representative at the number shown on the permit to arrange for placing his/her own lock on the gate and shall keep the gate locked, except when entering or leaving the District's right of way. The lock shall be identified by means of the brass tag supplied with this permit. The tag must be kept on the lock at all times; and if lost, a replacement tag should be obtained from the Permit Section at (213) 226-4208 immediately or the lock will be removed and discarded.

15-49

R0067831

GENERAL PROVISIONS

PERMIT NO. 85099-B

____ 24. When activities authorized by this permit are completed, permittee shall telephone the District's representative to arrange for final inspection/removal of the permittee's lock. This will reduce the permittee's responsibility for any subsequent damage to the District's facilities and initiate the return of any security deposit being held by the District.

____ 25. The District reserves the right to order the removal of all equipment if District's activities so require. The District assumes no responsibility for any loss to permittee's equipment or personnel.

X 26. Upon completion of work authorized under this permit, permittee shall restore the area to the satisfaction of the District's representative.

____ 27. The damage deposit noted on the permit is for the location delineated and is not transferable. The damage deposit will be refunded when the District's right of way and facilities have been restored to the satisfaction of the District's representative.

X 28. Permittee shall take the necessary precautionary measures to prevent dust or other nuisances which might be created by reason of his activities.

____ 29. Permittee shall keep District's right of way clear of obstruction for through access at all times and shall not interfere with the activities of the District's employees or the District's contractor.

____ 30. Permittee shall not use District's property for the temporary or permanent storage of excavated materials, rock, sand, cement, or other material or any equipment, except as specifically noted.

____ 31. This permit shall not be construed as a permanent right for these operations.

____ 32. No equipment in excess of H- Highway Loading (as specified in the Standard Specifications for Highway Bridges of the American Association of State Highway and Transportation Officials) and no stockpiling of materials will be permitted along the channel within a distance equal to the wall height from the channel wall.

____ 33. The inspection fee deposited with the District is the estimated cost to inspect the work authorized under this permit. Should the actual cost be less than the amount deposited, the District will refund the difference. Should the actual cost be more than the amount deposited, permittee shall submit the difference to the District upon receipt of a written request. In no case will the fee for the actual cost inspection be less than $_____. Actual cost will include cost to the District for inspector's time, if required; interim and/or final inspection; and the connection fees to District's facilities, where applicable.

X 34. Permittee shall submit in writing the name and telephone number of individual(s) authorized to request interim and/or final inspections. Should permittee fail to provide same, it is understood that permittee's contractor has the authority to request inspections. Cost for said inspections will be taken from the amount deposited for actual cost inspection as set forth in the paragraph above.

____ 35. Excavation slopes shall be cut to a slope which will preclude sloughing, but in no case shall excavated slopes be steeper than one horizontal to one vertical.

____ 36. Backfill shall be similar to the existing material but shall not contain organic material, broken concrete or pavement, boulders, or other material unsuitable for compaction. All backfill shall be compacted to a minimum relative compaction of 90% in accordance with ASTM D-1557, Method "C". Water densification is not allowed. Permittee shall provide the District's representative with a compaction report from a soil laboratory.

____ 37. The location of any temporary construction roadways or ramps on District's right of way must be approved by the District's representative. Upon completion of work, all falsework, temporary construction, and any temporary roads or ramps shall be removed by permittee, at his expense, and the area shall be restored to a condition equivalent to or better than the original condition.

____ 38. Steel, concrete, reinforced concrete, asbestos cement, or polyvinyle chloride pipe may be used for the connection to the District's facility.

____ 39. All D-loads for asbestos cement pipe shall be 1-1/2 times that of reinforced concrete pipe.

____ 40. Pipe bedding shall be in accordance with District Standard Drawing No. 2-D 177.

____ 41. During the period of operations conducted under the permit, permittee shall maintain in effect an insurance policy (minimum limit-$_____ million) naming the District and/or U.S. Army Corps of Engineers as co-insured with respect to these operations. A copy of this policy shall be submitted to the District for inclusion in the District file copy of this permit. Expiration or cancellation of the insurance policy shall constitute revocation of this permit.

____ 42. Due to an infestation of alligator weed, this facility has been placed in a state of quarantine by the Los Angeles County Agricultural Commissioner. Clearance shall be obtained from Mr. _____, Office of the Los Angeles County Agricultural Commissioner, at (213) 575-5461, at least ten days prior to the start of work.

____ 43. Prior to discharging water into this District's storm drain, the permittee shall notify _____ Yard at _____ at least 48 hours in advance. This notification is necessary to prevent any hazards to District's or contractor's crews which may be working in the downstream storm drains.

15-50

R0067832

GENERAL PROVISIONS

PERMIT NO. 85099 B

____ 44. Permittee is advised that District's right of way is in the form of an easement. Permittee's attention is therefore directed to Provision F on the reverse side of the permit.

____ 45. Three-thousand (3,000) psi concrete shall be used in structures within channel right of way.

____ 46. Permittee is hereby notified that a bikeway and/or equestrian trail sponsored by _____ is aligned along the _____ channel levee at this location. Permittee shall accept all responsibility for notifying the representative, Mr. _____, telephone extension _____, before beginning each period of activities under this permit. Also in this regard, permittee's attention is drawn to Provision C (on the reverse side of the permit) which specifies that this District will be held free and harmless of any liability which results from this permit.

____ 47. Permittee shall place signs at each end where the haul road overlaps the recreational trails advising "Equestrians Hikers, and Cyclists: Watch for Cross Traffic".

____ 48. Paving within the District's right of way shall be accomplished in such a manner as to insure that surface flows overpour the channel wall.

____ 49. During storm season, from October 15 to April 15, the following provisions shall apply:

a. No portion of the channel shall be obstructed.
b. No openings in the channel invert or side wall will be permitted.

____ 50. During the period from April 15 to October 15, falsework and cofferdams may be placed and excavations made in the channel. However, capacity to convey flows around any obstructions or openings in the channel lining shall be provided as follows:

April 15 to May 31 - one-third channel capacity/Area
June 1 to August 31 - 5 per cent of channel capacity/Area
September 1 to October 15 - one-third channel capacity/Area

The above capacities criterion must be determined by hydraulic calculations. Preliminary information regarding the methods for performing these calculations may be obtained before preparation of cofferdams or falsework plans by contacting the U.S. Army Corps of Engineers, Operations Branch, at 686-4926. For purposes of computing the area of an obstruction, dimensions shall be taken normal to channel flow and two feet added to the faces of the obstructions.

____ 51. Plans and calculations of any falsework or cofferdam to be placed within the channel waterway area must be submitted to this District for review and approval at least 30 days prior to installation.

____ 52. Permittee is advised that the proposed construction is located downstream of _____ Dam, from which releases are made occasionally. Therefore, permittee shall contact the District's Hydraulic Division, Operations Section, at 226-4191, before obstructing or removing a portion of the channel. Approval of District's representative for removal or obstruction must be obtained at least 24 hours in advance of initiating work.

____ 53. Permittee may utilize, for construction operations, portions of this District's right of way within 500 feet of each side of the work site provided channel security and access for the District's operations are maintained.

__X__ 54. Permittee shall paint channel Station Number(s) 179+50 on the channel wall(s) above the connection opening/[redacted] with black paint, large enough to be legible from the opposite bank as directed by the District's representative.

____ 55. Vehicular traffic within the District's right of way shall not exceed a speed limit of 25 miles per hour.

____ 56. No work, as authorized under this permit, shall be started until a Faithful Performance Bond in favor of the District in the amount of $_____ has been approved and acknowledged in writing by this office.

__X__ 57. Permittee shall submit a copy of the as-built drawings for the completed construction authorized by this permit.

____ 58. The letters "LACFCD" shall not be on the manhole covers and catch basin lids.

____ 59. Permittee shall enter into a use agreement with the District for the activities authorized by this permit.

____ 60. Permittee shall submit within six months from the date of issuance of this permit, legal description, plans, and appraisal of the rights of way required for permanent rights. Failure to do so will result in an annual rental of $500 or more starting from the date of issuance of the permit. For information relative to the description, contact Mr. E. Inouye of the Property Management Division at 226-4355. Submittal of the description should include reference to the stream and permit number.

R0067833

15 - 51

LATHAM & WATKINS
Paul Singarella (Bar No. 155393)
Estela de Llanos (Bar No. 201838)
650 Town Center Drive, 20th Floor
Costa Mesa, California 92626-1925
Telephone: (714) 540-1235
Facsimile: (714) 755-8290

Attorneys for Petitioner
Los Angeles Turf Club, Inc.

Regional Water Quality Control Board

of the State of California

Los Angeles Region

In the Matter of the Petition of Los Angeles Turf Club, Inc. for Review of Complaint No. 99-097, Administrative Civil Liability California Regional Water Quality Control Board, Los Angeles Region	No. _____ DECLARATION OF ANDY LA ROCCO IN SUPPORT OF PETITIONER'S REQUEST FOR RECONSIDERATION OF ADMINISTRATIVE CIVIL LIABILITY PENALTY AMOUNT

I, Andy La Rocco, declare as follows:

1. I have been employed by Los Angeles Turf Club, Inc. ("LATC") for 18 years. During the period of my employment, I have worked at the Santa Anita facility, located at 285 West Huntington Drive, Arcadia, California ("Racetrack"). I began my employment as a tractor operator and have been Racetrack foreman for the past 8 years. I have personal knowledge of the matters set forth herein, and if called as a witness, could and would competently testify thereto.

2. I submit this declaration in connection with LATC's response to Los Angeles Regional Water Quality Control Board Complaint No. 99-097 filed against Racetrack for Administrative Civil Liability.

3. As Racetrack foreman, I am in charge of all track maintenance. The maintenance equipment for the Racetrack is kept at a location called the corporation yard. One of my responsibilities is to manage activities at this corporation yard. Twenty-four employees report to me, including operating engineers, truck drivers and laborers. They often give me information about what they are doing and, in a general sense, I direct their activities.

4. My office is located in the corporation yard and I have a clear view of corporation yard activities. On a typical day at work, I spend at least half the day in the corporation yard. When it is not racing season, I spend about 6 hours in the corporation yard. August 31, 1999 was a day during our off-season, when there was no racing.

5. Because of my knowledge and experience from years of working at the Racetrack and because of the information I typically receive from the people that report to me, I can make a reasonable estimate of what happens during the day at the Racetrack.

6. Although I worked on Tuesday, August 31, 1999, I have no specific recollection of how many truckloads of water were used to wash down the corporation yard or which truck was used. However, based on my knowledge and experience and

including the area around Gate 7, the guardrail at the main racetrack, the track surface, the chutes, and the barn area. The dust control involves just moistening the ground so as not to bother neighboring homes and businesses. The 2,500-gallon truck is also used to water the training track, because the long-arm trucks do not fit there.

8. The 2,000-gallon "fan" truck is used for dust control in the barn area and to water stress-spots on the track during racing season. Until an irrigation system was installed about mid-October, it was also used heavily to water plants and trees around the facility.

9. Although I do not specifically remember seeing the corporation yard washed down on August 31, 1999, based on my knowledge and experience from years of working at the Racetrack, I can make a reasonable estimate of what probably happened on that day at the Racetrack.

10. The long-arm trucks are not suitable for use as a washdown truck and would not have been used for this purpose, on August 31, or at any other time.

11. It would not take 5 truckloads of water to wash down the yard and I have no personal knowledge of the yard ever being washed down with 5 truckloads of water.

12. Based on past practices, it is my best estimate that 3 or 4 truckloads of water were used on August 31 to washdown this yard. It is also possible that only 2 truckloads of water were used, but not as likely as 3 or 4.

13. Based on my knowledge of equipment capabilities and based on past practices, the 2-fan truck most likely was used on August 31 to wash down the yard. The sprays can be adjusted more easily on the small truck and it is easier to maneuver in the corporation yard, where a lot of equipment is stored.

14. The water trucks are not filled to capacity. This is because it takes about two minutes to shut off the fill water. If the drivers do not start shutting off the water before the truck is filled to capacity, they overfill and spill water on the ground, creating mud around the truck, which we try to avoid. It is my practice not to overtop the

12. The truckloads used to wash down the yard would not have been completely full of water. I base this conclusion on the fact that the shut-off valve for the water does not shut off right away. As the valve is being turned off, water continues to come out for a few minutes. Workers have to stop filling the truck before it is filled to capacity so that water does not spill everywhere and cause mud puddles.

I declare under penalty of perjury that the foregoing is true and correct and that this Declaration was executed this 17th day of December, 1999, at Arcadia, California.

Andy LaRocco

Andy LaRocco

SPECIFIC PROVISIONS

PERMIT NO. 85099-B

A. CONNECTION

X 1. The connection shall be made in accordance with the U.S. Army Corps of Engineers' Junction Structure No. B, a copy of which is enclosed herewith and made a part hereof.

X 2. All work involving removal and restoration of the channel structure shall be accomplished during the period April 15 to October 15.

____ 3. During the period October 15 to April 15, the permittee shall, at the end of each workday, seal the hole in the channel wall with 1/2-inch steel plate extending at least 6 inches beyond the opening in all directions. Securing bolts shall be 1/2-inch in diameter and spaced a maximum of 12 inches center to center.

X 4. (Simple Connection)
Cut a one-inch-deep groove in the concrete at the channel wall removal limits with a chipping hammer. Remove the remaining concrete in a careful manner with hand-operated equipment leaving a clean plane surface for bonding new concrete. Breaking concrete by means of explosives, heavy impact equipment, or a mass attached to a cable or rope will not be permitted within the channel rights of way.

____ 5. (One-half or less channel wall removal)
Make a saw cut one-inch deep on the exposed face of the channel at the removal limits; cut a groove in the concrete adjacent to and within the limits of the saw cut to a depth of the saw cut with a chipping hammer. Remove the remaining concrete in a careful manner with hand-operated equipment leaving a clean plane surface for bonding new concrete. Breaking concrete by a means of explosives, impact equipment, or a mass attached to a cable or rope will not be permitted within the channel rights of way.

____ 6. (Full height of channel wall removal)
Where new concrete is to join existing concrete, the contractor shall saw the existing concrete with an approved concrete saw. Saw cut will not be permitted to extend beyond the removal limits. At corners and intersections of the channel wall and invert, concrete shall be removed with a chipping hammer in a careful manner leaving a clean plane surface. Any irregularities shall be coated with a 5:1 epoxy grout mixture to obtain a smooth plane surface. A 3-inch-diameter circle shall be painted with an epoxy coating around each longitudinal steel bar exposed in the saw cut face to inhibit the formation of rust. Epoxy shall be a commercial quality two-component mixture specially manufactured for the intended purpose. The two components shall be mixed and applied in accordance with the manufacturer's directions for use. Concrete shall be carefully removed with hand-operated equipment; breaking concrete by means of explosives, impact equipment, or a mass attached to a cable or rope will not be permitted within the channel rights of way. The District's representative shall be the sole judge of the acceptability of all equipment to be utilized for the concrete removal operations.

X 7. The drain shall have an alignment such that the edge of the proposed wall opening will be at least five feet away from the nearest vertical wall joint.

B. CROSSING

____ 1. The top of the jacked casing shall be placed at least _____ feet below the invert of the channel.

____ 2. All excavation for the crossing/undercrossing shall not encroach on a 1:1 line extending downward and outward from the top of the channel lining for trapezoidal channels or heel of the channel wall for rectangular channels unless solid sheeting is provided.

____ 3. Permittee shall maintain the crossing facility and appurtenances.

____ 4. Removal of the existing invert slab shall extend a minimum of 2 feet beyond each side of the excavation limits.

____ 5. Overcrossing conduits shall be provided with a security barrier in accordance with the attached detail entitled "Barrier for Conduits Crossing Channels".

____ 6. Overcrossing conduits shall provide a minimum of _____ feet of vertical clearance from the channel invert.

____ 7. The following vertical clearance shall be provided over the surface of the District's access road:

Telephone and communication lines.....27 feet
Low voltage (22.5 kv or less).....43 feet
High voltage (greater than 22.5 kv).....55 feet

____ 8. Extra precautions shall be exercised to prevent damage to the District's structures by reason of crossing/bridge construction operations. If in the opinion of the Chief Engineer permittee fails to take proper precautions, the Chief Engineer may direct all operations on the District's right of way.

____ 9. If any water-borne debris becomes deposited on the bridge/crossing structure, falsework, cofferdams, or other facilities installed by permittee, such debris shall be immediately removed from the channel at his expense. Permittee shall maintain a sufficient number of men and the necessary equipment at the work site to insure that the structure and its appurtenances will be maintained free and clear of debris at all times during periods of storm flow. All equipment shall be removed from the channel during periods of precipitation.

15-52

HYA CONSULTING ENGINEERS

March 1, 1985

106-20

Mr. Robert L. Scavarda
Property Management Division
Los Angeles County Flood Control District
2250 Alcazar Street
Los Angeles, California 90023

Subject: City of Arcadia
Huntington Drive and Lovell Avenue Storm Drains
LACFCD M.T.D. No. 1097, Units 1 and 2

Dear Mr. Scavarda:

On behalf of the City of Arcadia, we submitted seven copies of the construction drawings for the subject project as approved by the District to Mr. Stan Dixon of the District's Development Regulation Section on February 25, 1985. In accordance with the District's procedures, we hereby request that the connection permits required for this project be issued to the City of Arcadia. As shown on the construction drawings, the Huntington Drive Storm Drain (LAFCD M.T.D. No. 1097, Unit 1) will be connected to the concrete channel of the West Branch of the Arcadia Wash and the Lovell Avenue Storm Drain (LACFCD M.T.D. No. 1097, Unit 2) will be connected to the District's Project No. 1401, Line A.

We understand that since the requested permits will be issued to a municipality, the permit fee will be waived. As the project is being advertised at this time and bids will be received by the City on March 26, 1985, any action you may take to expedite the permit issuance will be appreciated. If you should need any further information, please do not hesitate to call me.

Very truly yours,

HYA Consulting Engineers

Louis Y. Yu
Principal

LYY:sl

cc: Mr. Chester N. Howard, City of Arcadia

MAR 5 1985

PERMIT APPLICATION NO.

RECEIVED
FEB 4 1985
FLOOD CONTROL DISTRICT

01283

1010 S Baldwin Suite B, Arcadia, California 91006 (818) 447-8502

15-53

R0067839

County of Los Angeles Department of Public Works

COMPLETION NOTICE

Stream Arcadia-Sierra Madre System-Lima Street Lateral Permit No. 84437-A

Purpose to construct a concrete cover slab and warehouse over the Lima Street Lateral between Stations 203+32 to 204+52, all of the work to be performed as shown on the submitted plans, District Drawings Nos. 105-F 381.1 through 381.7

Permittee Los Angeles Turf Club
c/o Henry M. Layne, Inc., & Associates

Operations under this permit have been inspected by the undersigned inspector in the field and were completed in essential compliance with all applicable provisions of the permit and in accordance with the approved permit plans except as follows: No exceptions

☐ As-built drawings received.

Inspector John Sievers Dated January 22, 1985

A.C. Rivera Jr.
for Division Engineer

pab

cc: Business and Fiscal, Hydraulic Operations, Operation and Maintenance (East), Property Management (Permits), General Files

Col. Dennis F. Butler
District Engineer
Department of the Army
Los Angeles District, Corps of Engineers

15-54

R0067840

County of Los Angeles Department of Public Works

COMPLETION NOTICE

Stream Arcadia-Sierra Madre System- Lima Street Lateral Permit No. 84502-A

Purpose to (1) construct a concrete cover slab over the Lima Street Lateral between Stations 179+00+ and 185+00+ and (2) connect five 18-inch reinforced concrete pipe stubs to the channel at Stations 179+21, 180+21, 181+61, 182+60, and 184+33, all of the work to be performed as shown on the submitted plans, District Drawings Nos. 105-F 382.1 through .8

Permittee Los Angeles Turf Club
c/o Henry M. Layne, Inc., & Associates

Operations under this permit have been inspected by the undersigned inspector in the field and were completed in essential compliance with all applicable provisions of the permit and in accordance with the approved permit plans except as follows: No exceptions

☐ As-built drawings received.

Inspector John Sievers Dated January 22, 1985

A.C. Rivera Jr.
for Division Engineer

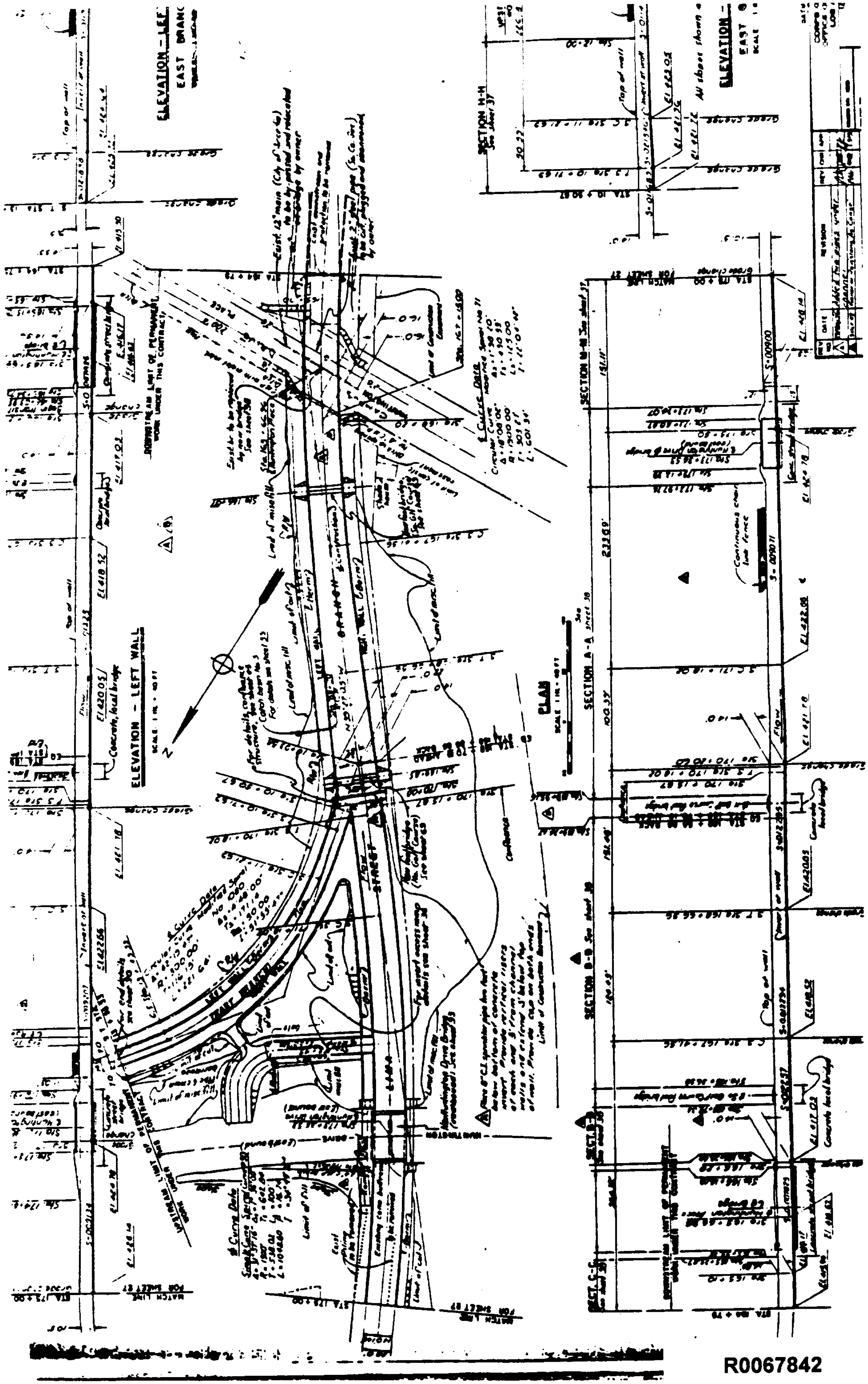
pab

cc: Business and Fiscal (Schmitt), Operation and Maintenance (East), Hydraulic Operations, Property Management (Permits), General Files

Col. Dennis F. Butler
District Engineer
Department of the Army
Los Angeles District, Corps of Engineers

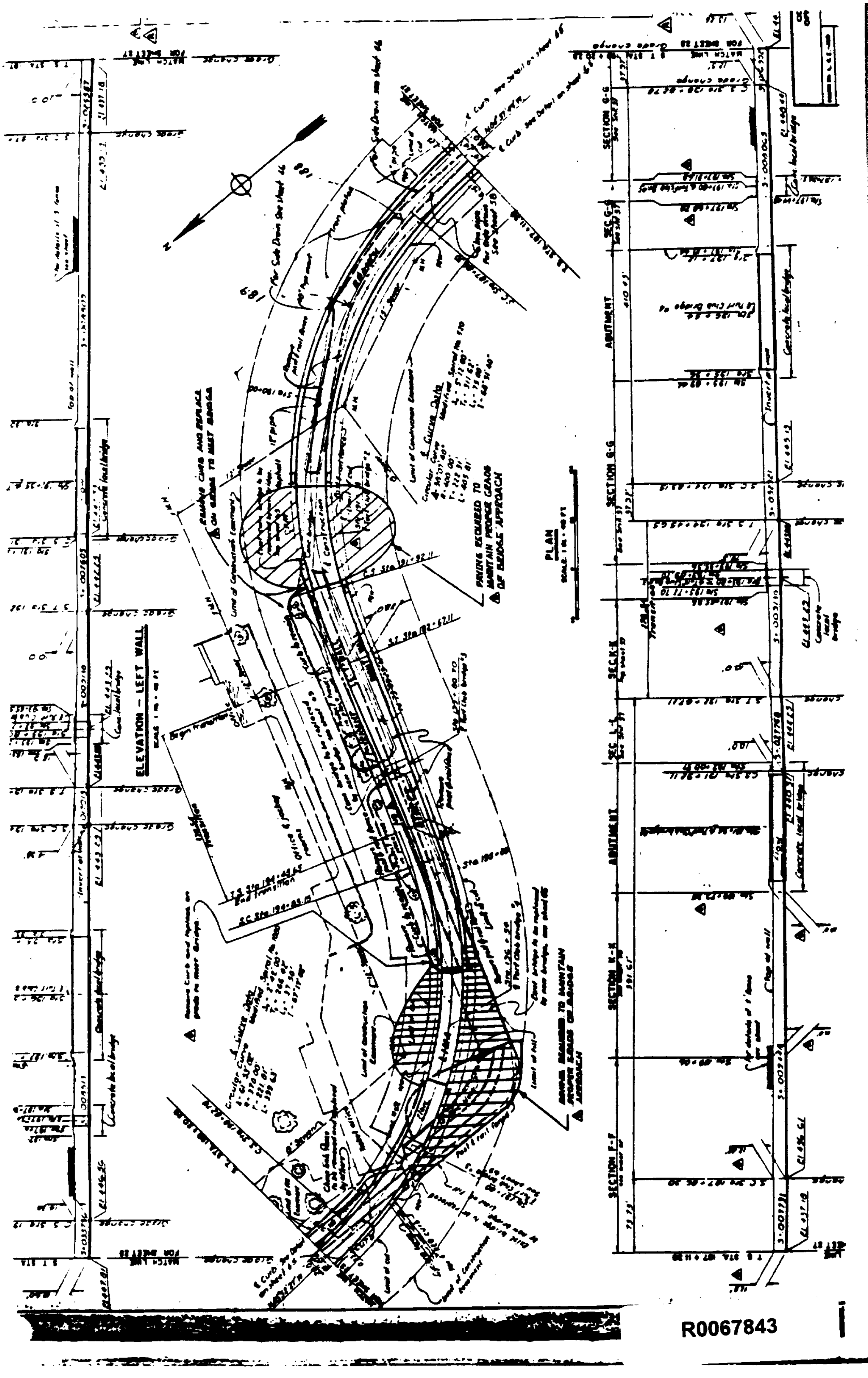
R0067841

15-55



15-56

R0067842

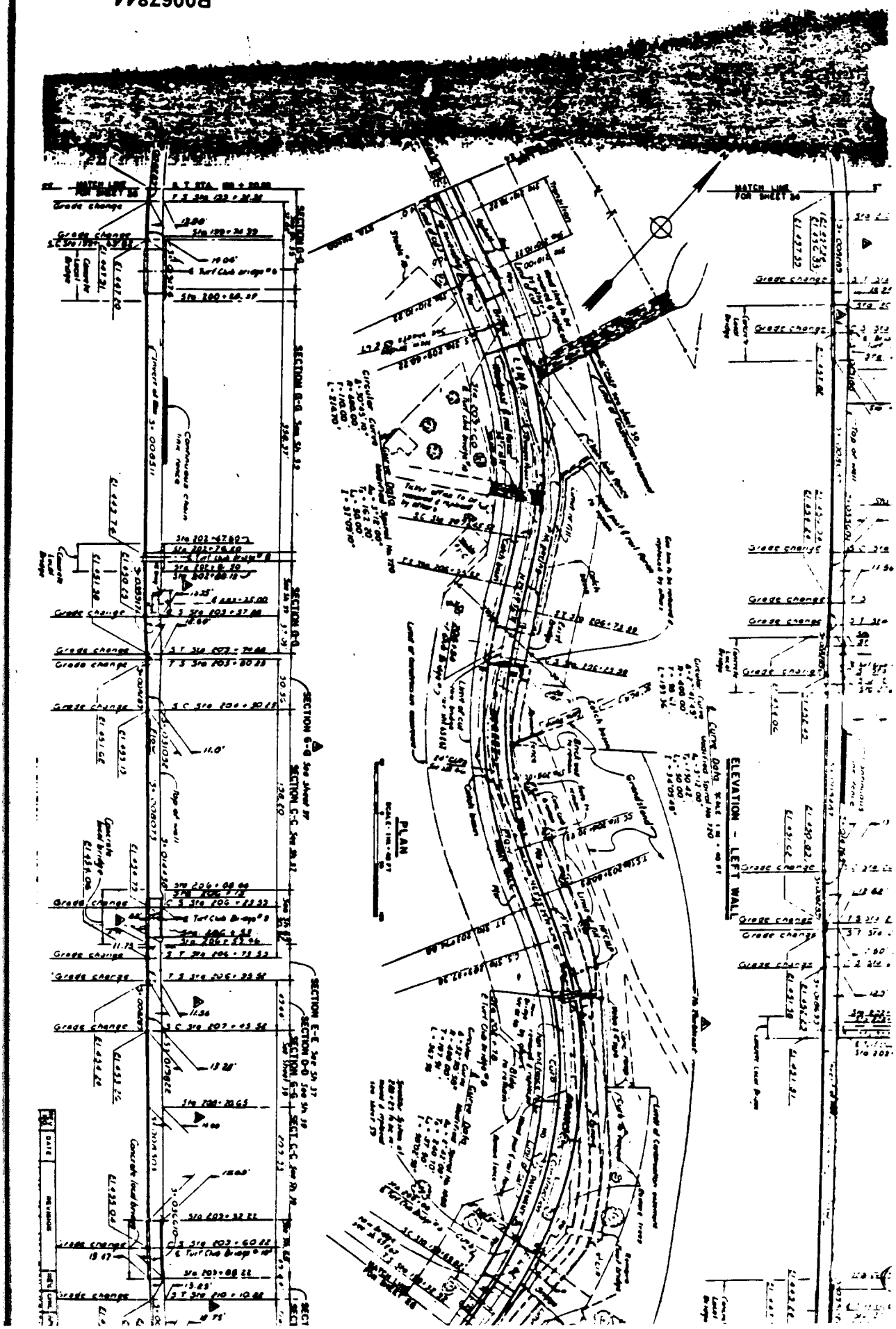


R0067843

15-57

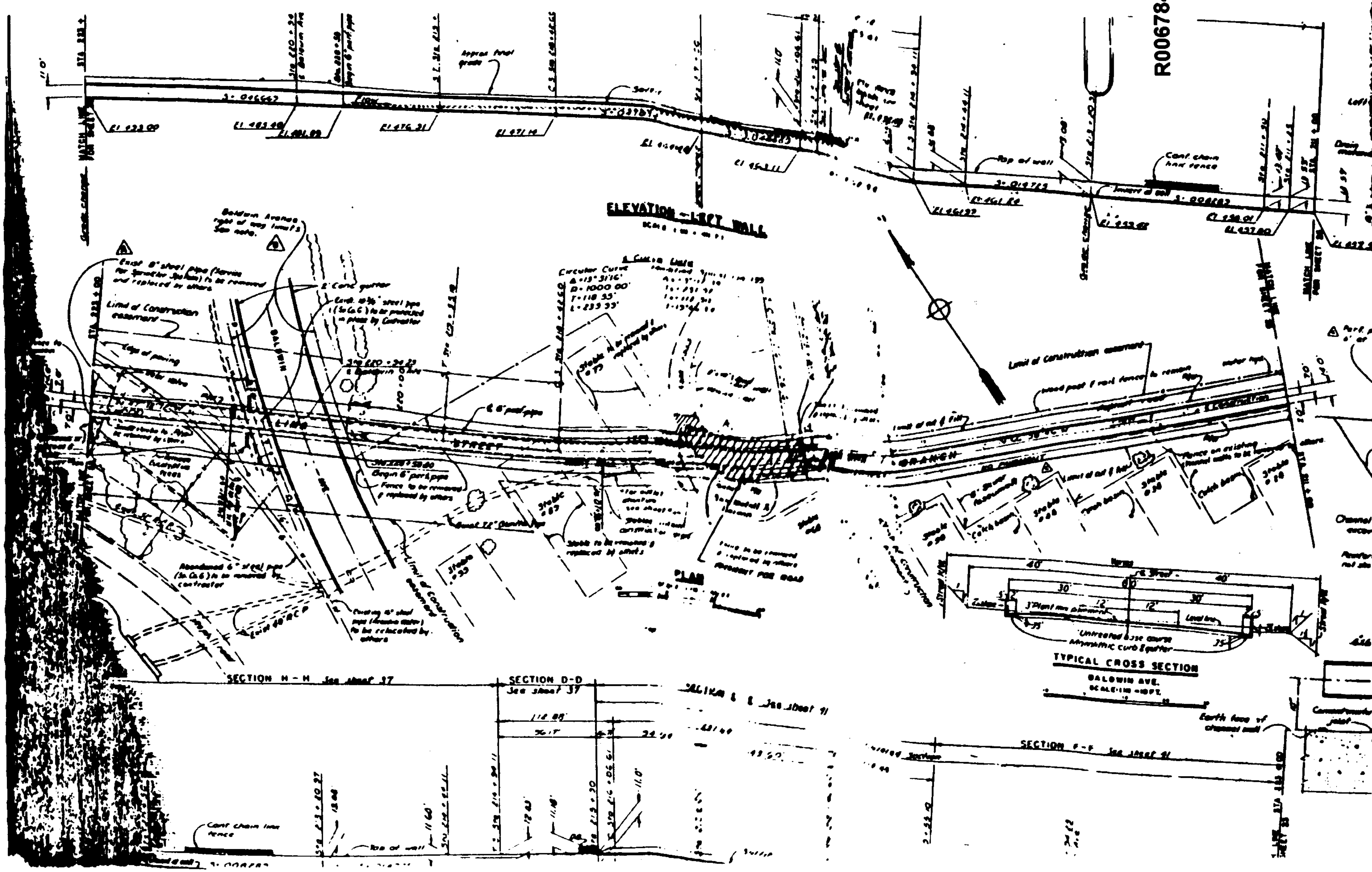
85-51

R0067844



15-59

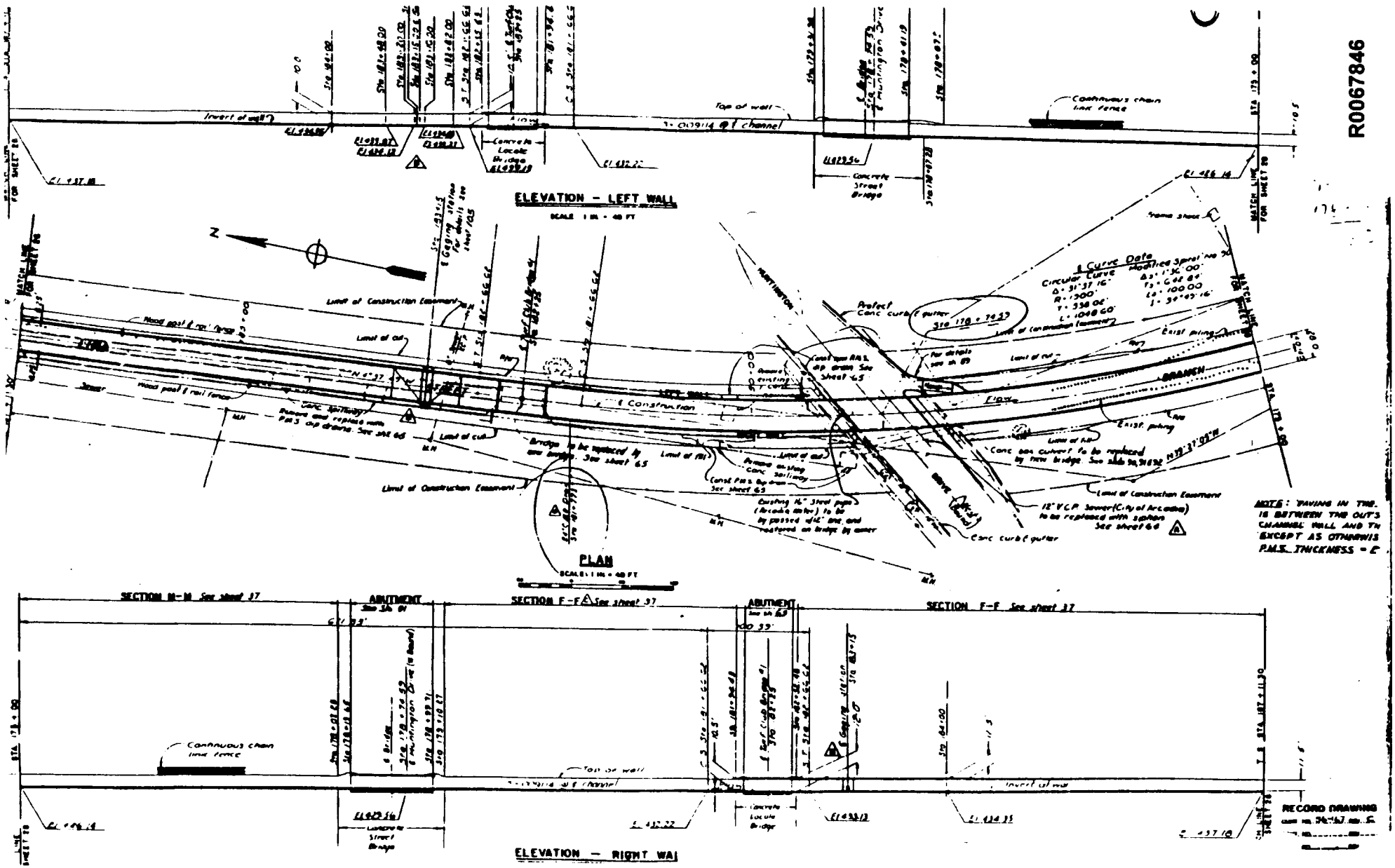
R0067845



ELEVATION - LEFT WALL
PLAN
TYPICAL CROSS SECTION
BALDWIN AVE.
SECTION H - H See sheet 37
SECTION D-D See sheet 37
SECTION F-F See sheet 41
Limit of Construction easement
Circular Curve
D = 1000.00'
T = 118.55'
L = 235.55'
Limit of Construction easement
Wood post & rail fence to remain
Cont. chain link fence
Top of wall
Approx final grade
MATCH LINE FOR SHEET
Abandoned 6" steel pipe (So.Ca.G.) to be removed by contractor
Existing 12" steel pipe (Arcadia water) to be relocated by others
Earth face of channel wall
Untreated base course
Asphaltic curb & gutter
BALDWIN
STREET
Begin 6" perf. pipe
Fence to be removed & replaced by others
Edge of paving
Catch basin

15-67

R0067846

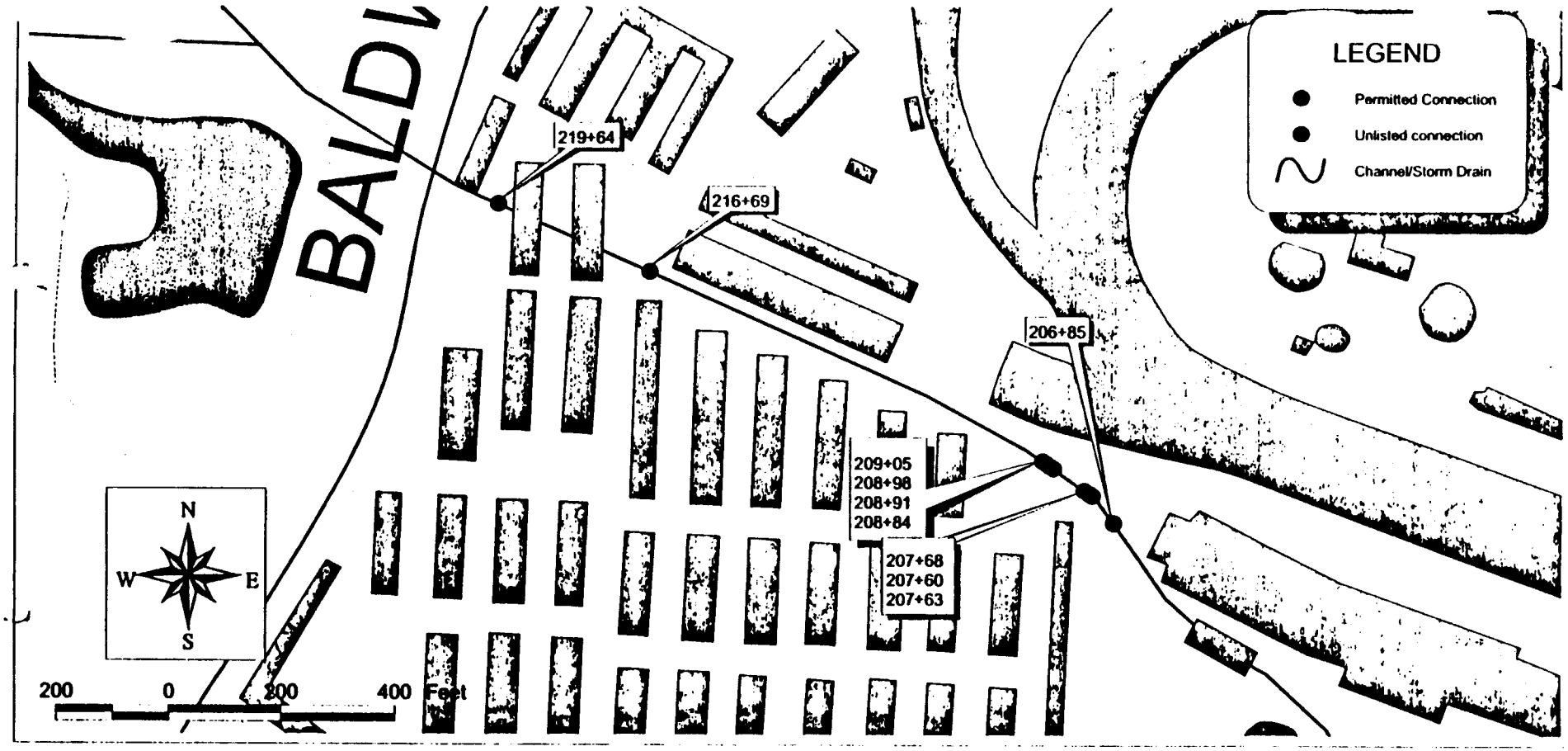


15-61

R0067847

PROFILE

SCALES: HOR 1 IN = 200 FT
VERT 1 IN = 20 FT



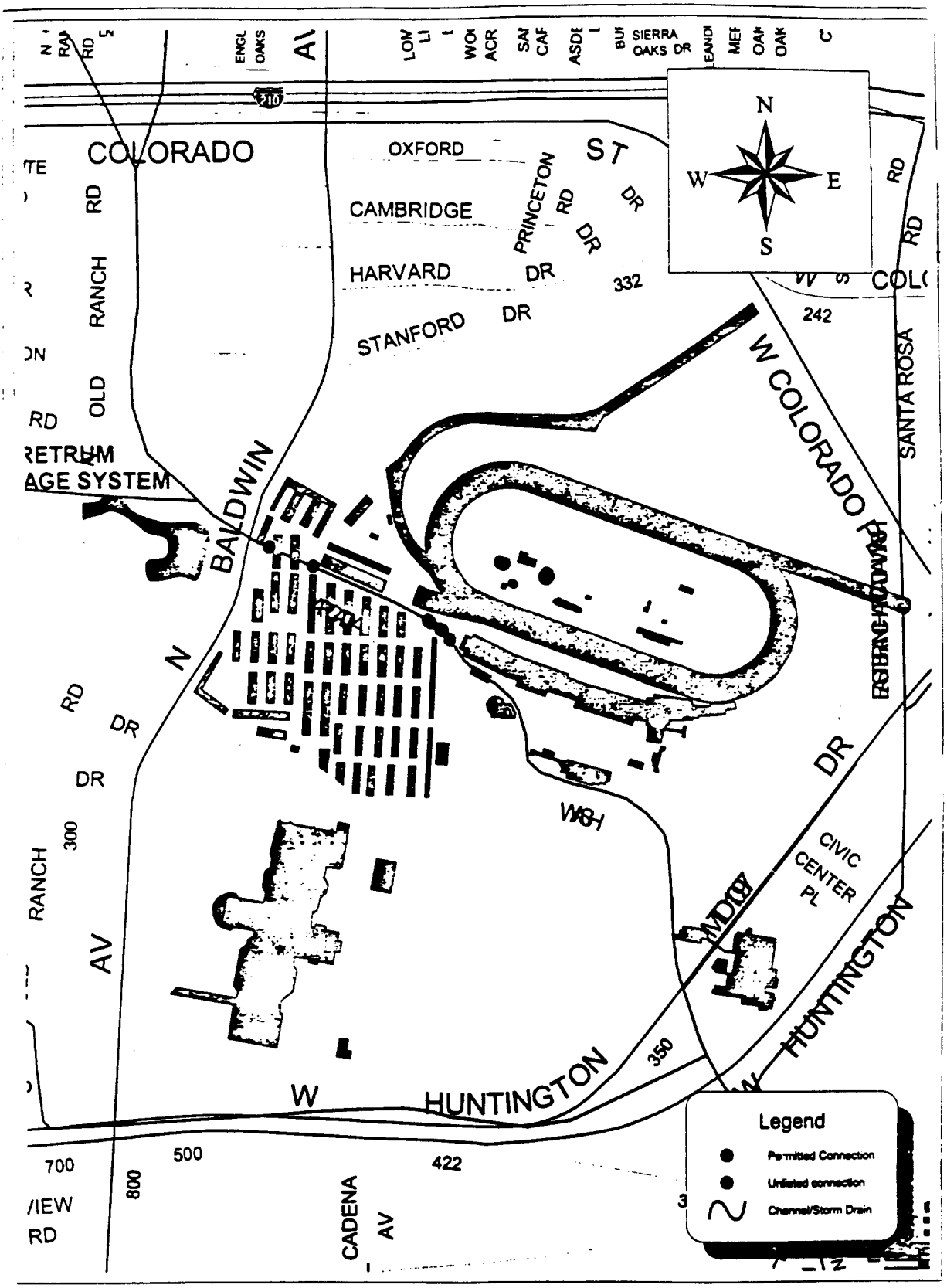
ARCADIA WASH - DETAIL

DOWNSTREAM OF BALDWIN AVE

Note.- Locations of connections are approximate

R0067848

15-62



ARCADIA WASH

COLORADO ST. TO HUNTINGTON DR.

Note.- Locations of connections are approximate

500 0 500 1000 1500 Feet

15-63

R0067849

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# _____

AREA: 3N

BUSINESS NAME: Arcadia Wash - Santa Anita Race Track FILE # 010573-I 10510

STREET #: 285 FR: ___ DR: ___ NAME: Huntington SF Dr. UNIT ___

CITY: Arcadia ZIP: ___ TG: ___

XSTREET: Baldwin CONTACT: ___ TEL: ( )

Visual inspection of Arcadia Wash was done on 9/15/99 to note drain numbers starting at Turf Club #10 to Campus Dr. bridge.

Eliseo Salgado
INSPECTOR

9/15/99
DATE

38-0002 DPW Rev 3/96

15-64

R0067850

Starting point was at Curf Inlet #10

- N11, N12, N13, N13A - Left bank - 36" diameter corrugated metal pipe

  approximately 160' to station 206+85 from N13A

- Station 206+85 - Left bank - 18" diameter reinforced concrete pipe

- N14 - Left bank - 8" diameter corrugated metal pipe (approximately 15' from station 206+85)

- No # - Right bank - 42" diameter reinforced concrete drain (approximately 40' downstream of N14)

- N15 - Left bank - 24" diameter corrugated metal pipe

- N16 (A3) - Left bank - ?" diameter corrugated metal pipe (approximately 40' downstream of N15)

- N15 (H1) - Right bank - 24" diameter corrugated metal pipe (approximately 30' downstream of N16)

- N17 - Left bank - 8" diameter corrugated metal pipe (approximately 25' downstream of 515)

Downstream of unnumbered bridge green ...

- N15 - left bank - 12" diameter corrugated metal pipe

- N19 - left bank - 3" diameter corrugated metal pipe

July 7th - bridge

- N19A - left bank - 6" diameter corrugated metal pipe

- N20, N20A - left bank - 6" diameter corrugated metal pipe (approximately 15'-20' from N19A)
- N21 - left bank - 6" diameter corrugated metal pipe (approx. 60' from N20A)
- N22 - left bank - 6" diameter corrugated metal pipe
- N23 - left bank - 8" diameter - corrugated metal
- No # - right bank - 8" diameter (approximately 20' upstream of S17)
- S17 - right bank - 8" diameter corrugated metal pipe

- N24 - left bank - 12" diameter corrugated metal pipe

- N25 - left bank - 12" diameter corrugated metal pipe

15-66

- N26 - left bank - 8" diameter
  - corrugated metal pipe

Bridge - Jury Club 6

- N27 - left bank - 6" diameter
  - corrugated metal pipe

- N28 - left bank - 6" diameter
  - corrugated metal pipe

- N28A - left bank - 8" diameter
  plastic corrugated pipe

- N28B - left bank - 8" diameter
  plastic corrugated pipe
  (30' downstream of N28A)

Bridge Jury Club 5

- N29 (197+84) - left bank - 8"-10" diameter
  corrugated metal pipe

Bridge Jury Club 4

- S18 (194+45) - right bank - 60" diameter
  reinforced concrete pipe
  (140" downstream of T.C. #4 bridge)
- N30 - left bank - 8"-10" diameter
  corrugated metal pipe
  (50' downstream of S18)

15-67

Bridge - Jury Club 3

- N31 - left bank - 6" diameter corrugated metal pipe (approximately 40' downstream of T.C. #3)
- N32 - left bank - 8" diameter corrugated metal pipe (approximately 100' downstream of N31)
- N33 - left bank - 12" diameter corrugated metal pipe

Bridge - Jury Club 2

- N34 - left bank - 14" - 16" diameter corrugated metal pipe
- N35 - left bank - 18" diameter corrugated metal pipe
- N36 - left bank - 36" diameter reinforced concrete pipe

Bridge - Jury Club #1

- No # - 18" diameter - right bank corrugated metal pipe (65 feet downstream)
- No # - 18" diameter - right bank corrugated metal pipe (75 feet from 1st drain)

15-68

- No # - 18"-20" diameter - right bank
  Corrugated metal pipe
  (3rd drain in T.C. #1) 75' d/s

- No # - 18"-20" diameter - right bank
  Corrugated metal pipe
  (4TH drain in T.C. #1)

- No # - 18"-20" diameter - right bank
  Corrugated metal pipe
  (5TH drain in T.C. #1)

- Station 179+50 - left bank - 36" diameter
  reinforced concrete pipe

- No # - right bank - 18" diameter
  Corrugated metal pipe
  (20' from 179+50 station)

Bridge - Huntington Dr. (South) - B1129

- No # - right bank - 42" diameter
  reinforced concrete pipe

- No # - left bank - 18" diameter
  reinforced concrete pipe
  2ND drain under Huntington Brid.

- No # - left bank - 18" diameter
  reinforced concrete pipe
  3rd drain under Huntington Bri-

- No # - right bank - 42" diameter reinforced concrete pipe (Next to Huntington Dr. North) St.

- No # - (173+66)? left bank - 24" diameter Corrugated metal pipe

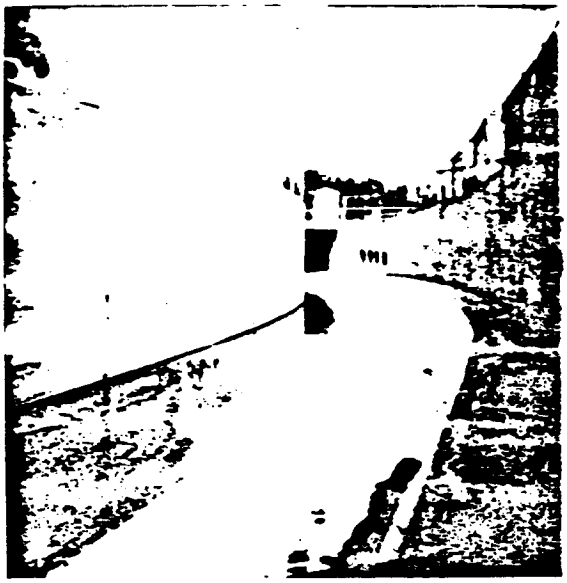
- 171+72 - right bank - 8" diameter corrugated metal pipe (downstream of Arcadia ramp)

- No # - left bank - 18" diameter reinforced concrete pipe (downstream of Arcadia last bar (60' downstream of 171+72)

- No # - right bank - 10" diameter Corrugated metal pipe (upstream of Campus Dr.)

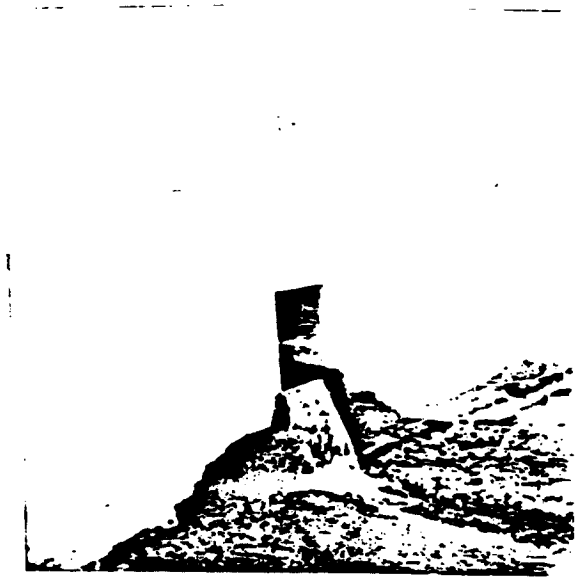
- No # - left bank -8'-20" diameter Corrugated metal pipe (upstream of Campus Dr.)

- No # - right bank - 18" diameter corrugated metal pipe (downstream of Campus Dr.)



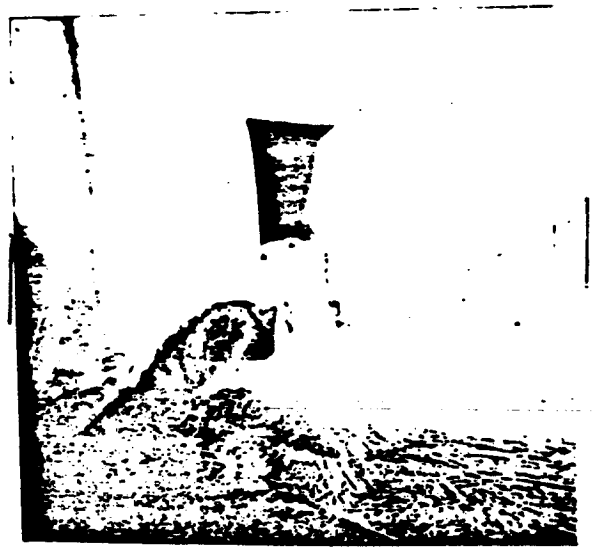
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 1 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 10:28 a.m.
Co/DBA: ARCADIA WASH
Address: _____
Comments: DRAINS N11, N12, N13, N13A - LEFT BANK - 3½" DIAMETER EA. DRAIN



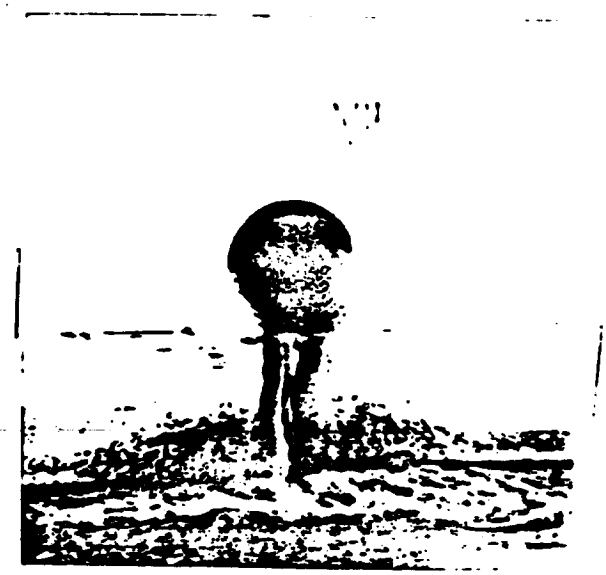
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 2 OF

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 10:22
Co/DBA: ARCADIA WASH
Address: _____
Comments: STATION 206 +85 - LEFT BAN



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 3 OF 35

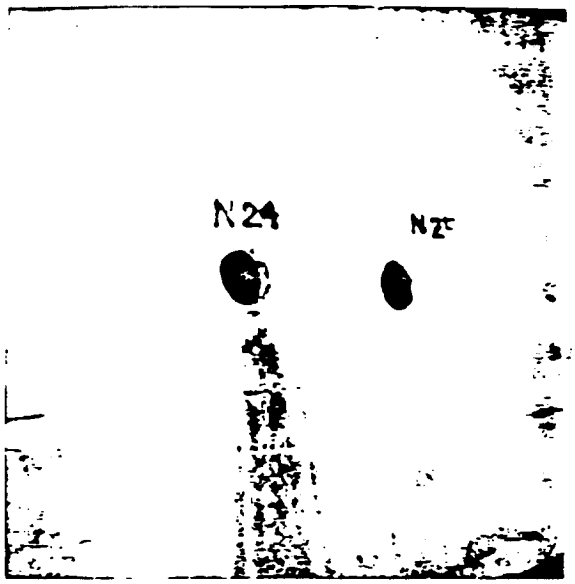
File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 10:07
Co/DBA: ARCADIA WASH
Address: _____
Comments: N8 = - RIGHT BANK
APPROXIMATELY 4' DOWNSTREAM OF N14



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 4 OF 35

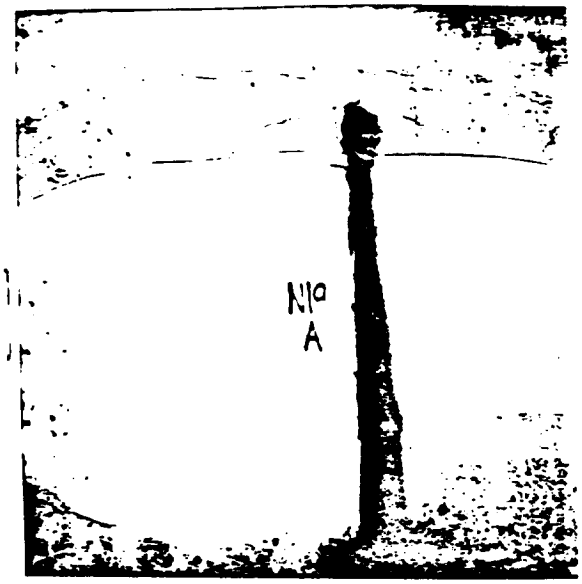
File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 10:05
Co/DBA: ARCADIA WASH
Address: _____
Comments: N15 DRAIN - LEFT BANK

15-71



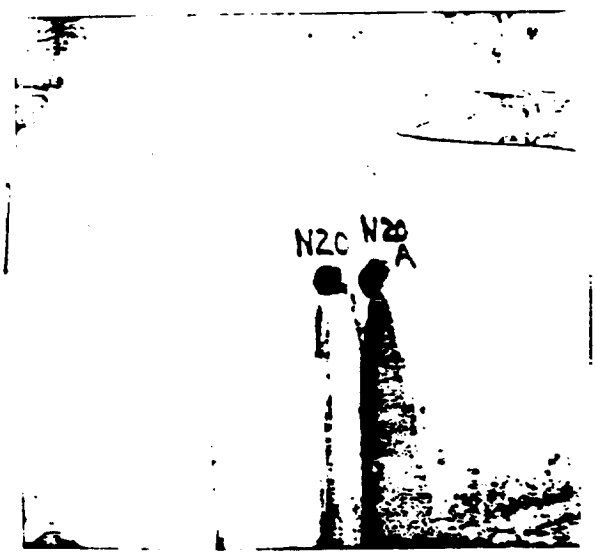
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 5 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 10:25
Co/DBA: [illegible] WASH
Address: _____
Comments: N2- & N25 - LEFT BANK
12" DIAMETER DRAIN



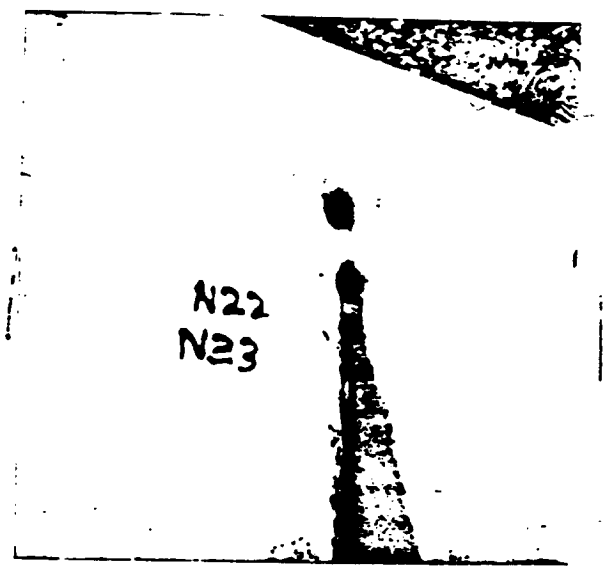
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 6 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 10:42
Co/DBA: ARCADIA WASH
Address: _____
Comments: N19A - LEFT BANK -
NEAR TURF CLUB & BRIDGE



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 7 OF 35

F _____ Date: 9-15-99
E ELVIRA DELGADILLO Time: 10:45
Co/DBA: ARCADIA WASH
Address: _____
Comments: N2. & N20A - LEFT BANK
APPROXIMATELY 15'-20' FROM N19A



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 8 OF 35

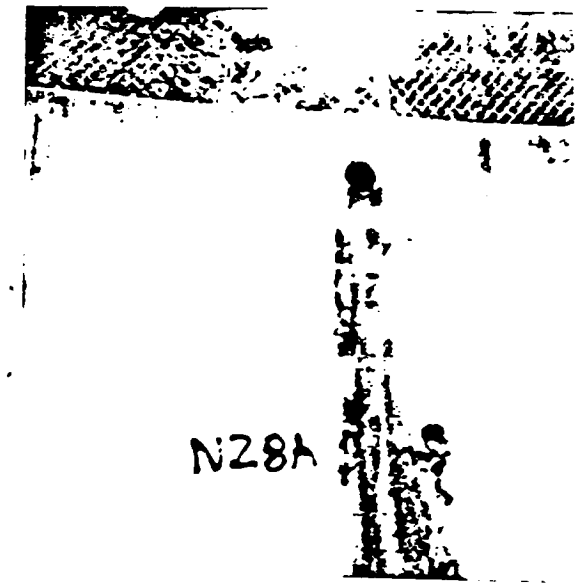
File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 10:46
Co/DBA: ARCADIA WASH
Address: _____
Comments: N22 & N23 - LEFT BANK

15-72

R0067858

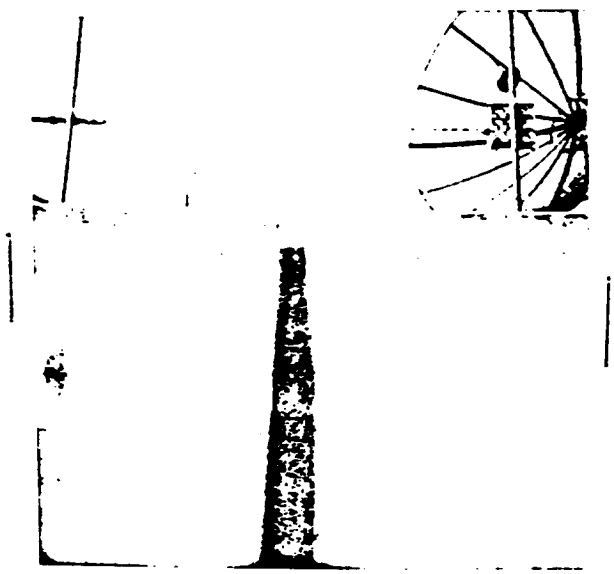
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 9 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 10:55
Co/DBA: ARCADIA WASH
Address: _____
Comments: N27 & N28 - LEFT BANK
NEAR TURF CLUB & BRIDGE



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 10 OF 35

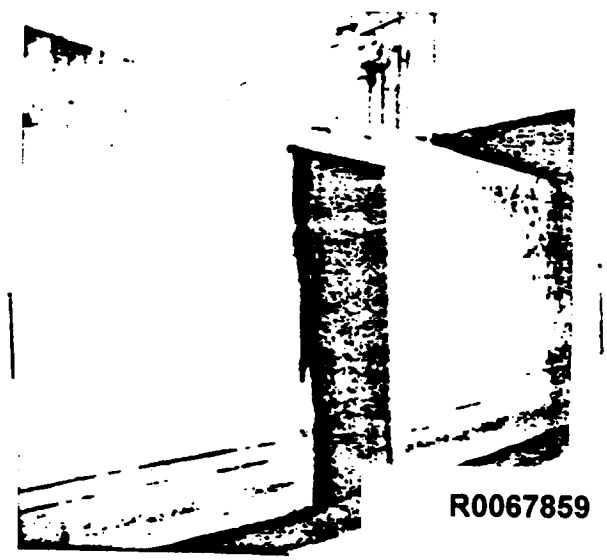
File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 10:55
Co/DBA: ARCADIA WASH
Address: _____
Comments: N28A - LEFT BANK
DOWNSTREAM OF TURF CLUB BRIDGE



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 11 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:05
Co/DBA: ARCADIA WASH
Address: _____
Comments: CHANNEL N/O - BROKEN TO
ALLOW DRAINAGE TO THE WASH. RIGHT BANK
15' FROM N27A DRAIN.

15-73



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 12 OF 35

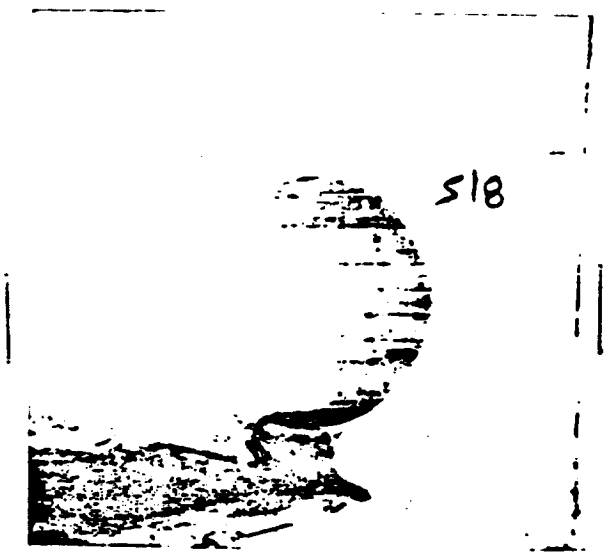
File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:05
Co/DBA: ARCADIA WASH
Address: _____
Comments: DRAINAGE FROM RACE TRACK
TO WASH. RIGHT BANK ACROSS FROM
N18

County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 13 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:05
Co/DBA: ARCADIA WASH
Address: _____
Comments: N 25 E - LEFT BANK - 8" DIAMETER DRAIN DOWNSTREAM OF TURFCLUB 6 BRIDGE

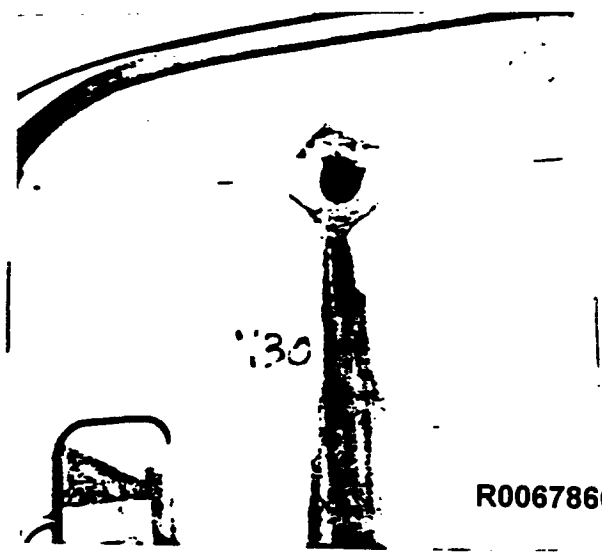
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 14 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:05
Co/DBA: ARCADIA WASH
Address: _____
Comments: N29 - LEFT BANK - DOWNSTREAM OF TURFCLUB 5 BRIDGE



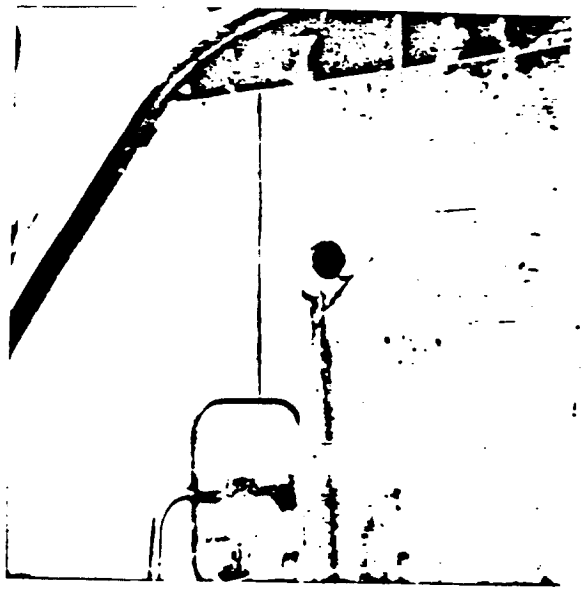
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 15 OF 35

le _____ Date: 9-15-99
ELVIRA DELGA... Time: 11:12
o/D... ARCADIA WASH
ddress: _____
omments: S18 - RIGHT BANK - 6C" DIAMETER DRAIN 14½' DOWNSTREAM OF TURFCLUB 4 BRIDGE.



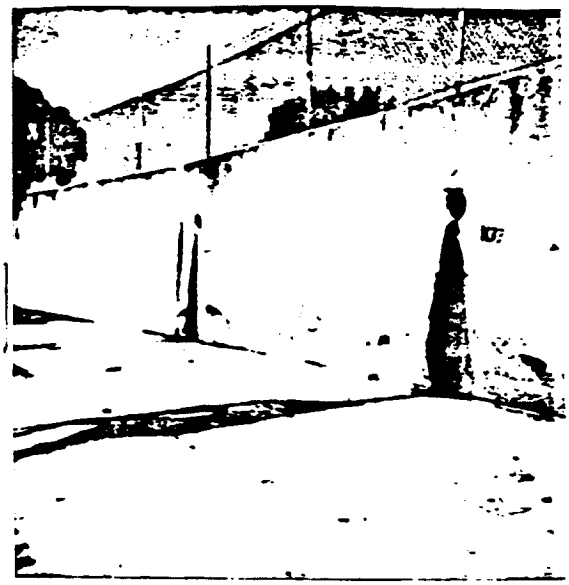
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 16 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:15
Co/DBA: ARCADIA WASH
Address: _____
Comments: N 32 - LEFT BANK 50' DOWNSTREAM OF S18



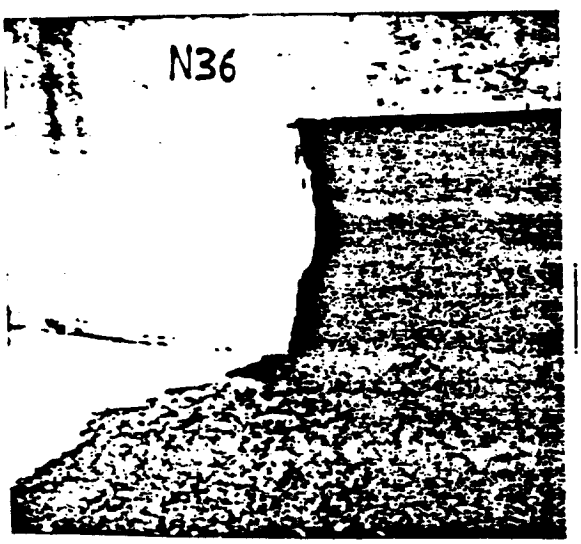
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 17 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:14
Co/DBA: ARCADIA WASH
Address: _____
Comments: N 21 - LEFT BANK - APPROXIMATE 40' DOWNSTREAM OF TURF CLUB 3



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 18 OF 35

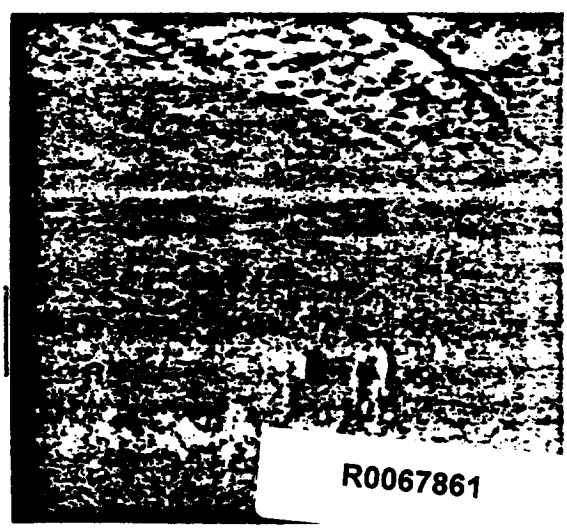
File: _____ Date: 9-15-99
By: E. VIRA DELGADILLO Time: 11:21
Co/DBA: ARCADIA WASH
Address: _____
Comments: N32 & N33 - LEFT BANK APPROXIMATELY 100' DOWNSTREAM OF N°1



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 19 OF 35

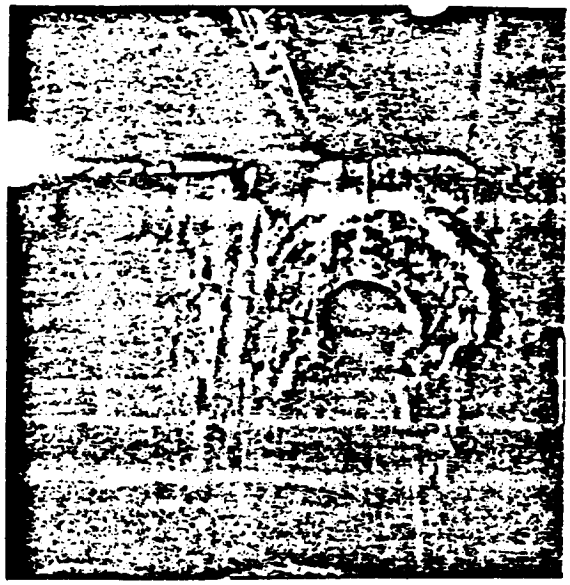
File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:25
Co/DBA: ARCADIA WASH
Address: _____
Comments: N 34 - LEFT BANK - DOWNSTREAM OF TURF CLUB 2

15-75



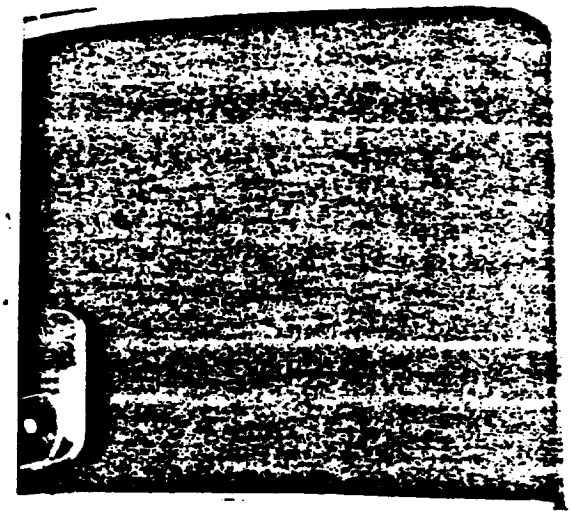
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 21 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:29
Co/DBA: ARCADIA WASH
Address: _____
Comments: N 35 - UNDER TURF CLUB 1 RIGHT BANK - 65 FEET DOWNSTREAM FROM WHERE BRIDGE BEGINS



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 21 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:32
Co/DBA: ARCADIA WASH
Address: _____
Comments: NOE - RIGHT BANK
75' FROM 1ST DRAIN UNDER TURF
CLUB 1 BRIDGE



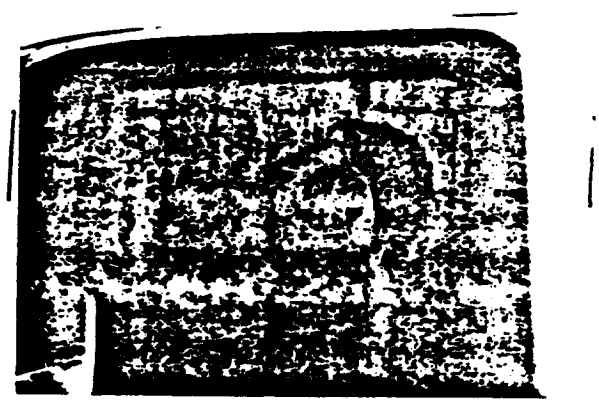
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 22 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:34
Co/DBA: ARCADIA WASH
Address: _____
Comments: NOE - RIGHT BANK - 75'
FROM 2ND DRAIN UNDER TURF CLUB 1
BRIDGE.

R0067862

County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 23 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:35
Co/DBA: ARCADIA WASH
Address: _____
Comments: NOE - RIGHT BANK
4TH DRAIN IN TURF CLUB #1
BRIDGE.



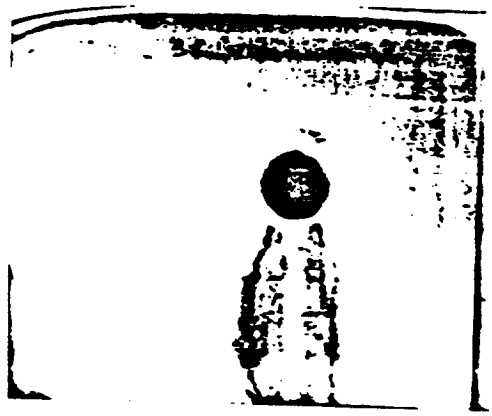
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 24 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:37
Co/DBA: ARCADIA WASH
Address: _____
Comments: NOE - RIGHT BANK
5TH DRAIN IN TURF CLUB #1
BRIDGE

15-76

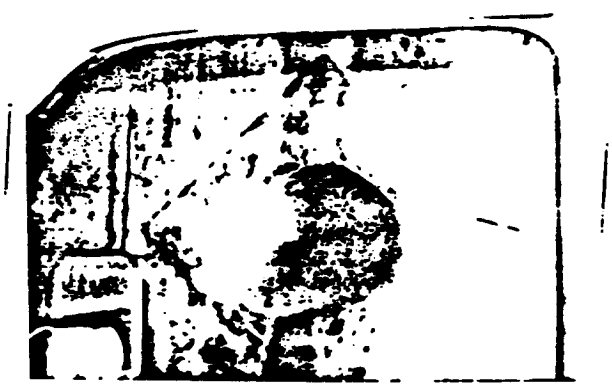
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 25 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:37
Co/DBA: ARCADIA WASH
Address: _____
Comments: 179+50 - LEFT BANK



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 26 OF 35

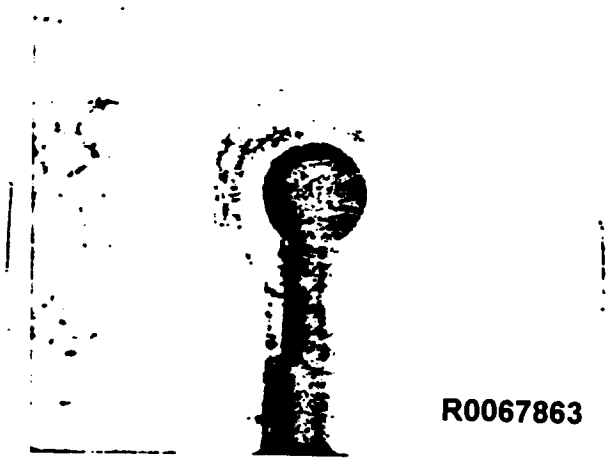
File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:35
Co/DBA: ARCADIA WASH
Address: _____
Comments: N/E - RIGHT BANK - 20' FROM 179+50 DRAIN



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 27 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:41
Co/DBA: ARCADIA WASH
Address: _____
Comments: N/E - RIGHT BANK-
1ST DRAIN UNDER HUNTINGTON SOUTH BRIDGE

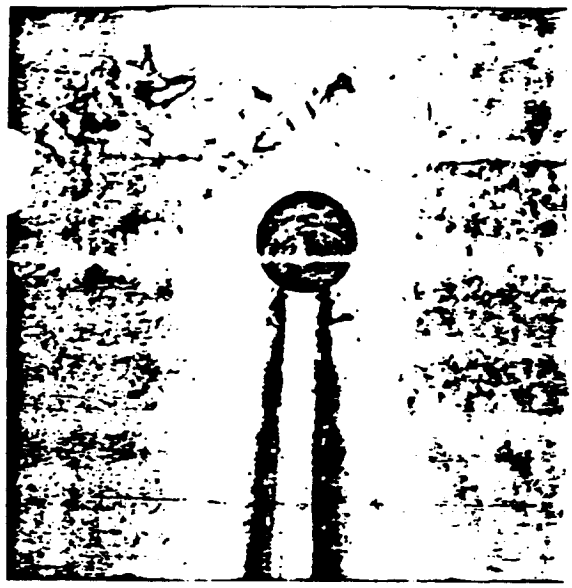
15-77



R0067863

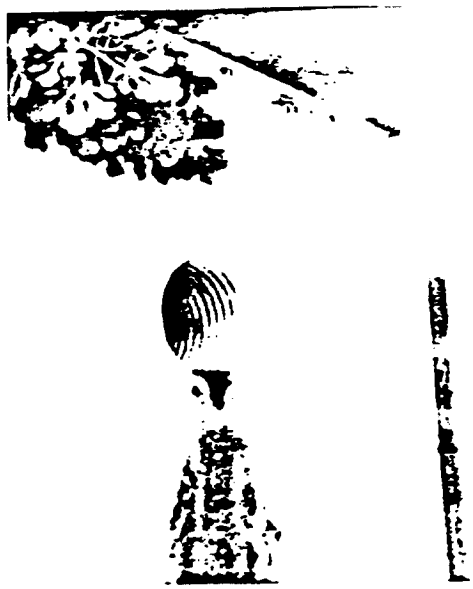
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 28 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:44
Co/DBA: ARCADIA WASH
Address: _____
Comments: N/E - LEFT BANK
2ND DRAIN UNDER HUNTINGTON SOUTH BRIDGE.



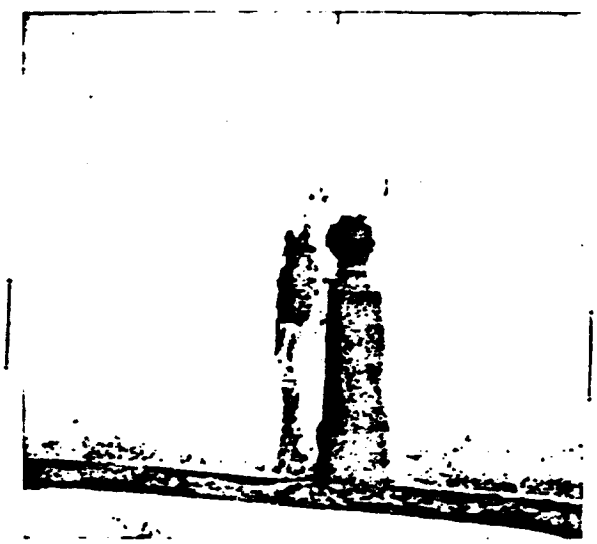
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 29 OF 35

ile: _____ Date: 9-15-99
y: ELVIRA DELGADILLO Time: 11:46
o/DBA: ARCADIA WASH
ddress: _____
omments: ACFT - LEFT BANK-
3RD DRAIN UNDER HUNTINGTON
SOUTH BRIDGE.



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 30 OF 35

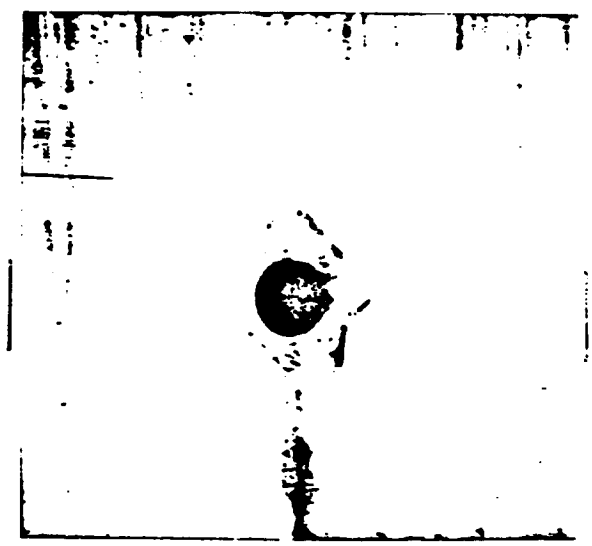
File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:52
Co/DBA: ARCADIA WASH
Address: _____
Comments: 174+66 - LEFT BANK-
UNDER HUNTINGTON NORTH BRIDGE



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 31 OF 35

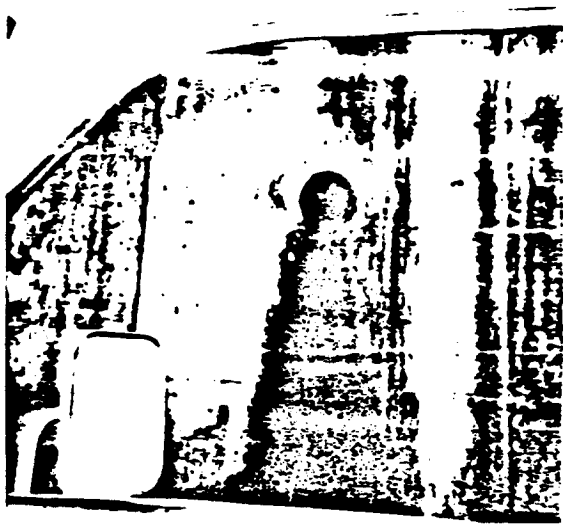
Fi: _____ Date: 9-15-99
B ELVIRA DELGADILLO Time: 11:51
Co/DBA: ARCADIA WASH
Address: _____
Comments: 171+72 - RIGHT BANK
DOWNSTREAM OF ARCADIA RAMP

15-78



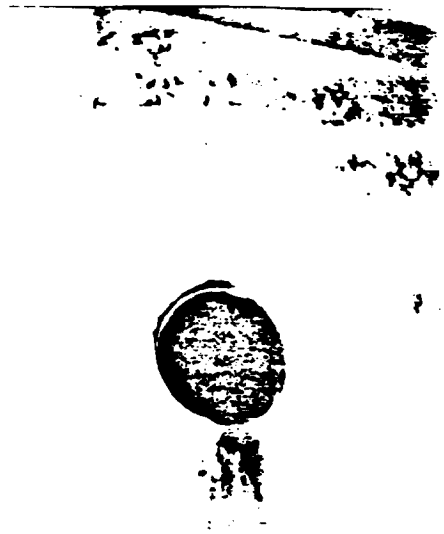
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 32 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:55
Co/DBA: ARCADIA WASH
Address: _____
Comments: ACFT - LEFT BANK - DOWNSTREAM
OF ARCADIA BIKE BRIDGE



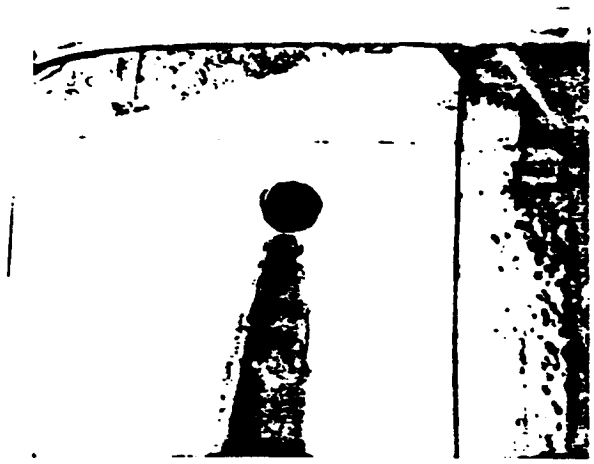
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 22 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:56
Co/DBA: ARCADIA WASH
Address: _____
Comments: RIGHT BACK - NC #
UPSTREAM OF CAMPUS DR. BRIDGE



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 21 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:57
Co/DBA: ARCADIA WASH
Address: _____
Comments: NC # - LEFT BANK-
UPSTREAM OF CAMPUS DR. BRID



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 35 OF 35

File: _____ Date: 9-15-99
By: ELVIRA DELGADILLO Time: 11:58
Co/DBA: ARCADIA WASH
Address: _____
Comments: NC # - RIGHT BANK-
DOWNSTREAM OF CAMPUS DR. BRIDGE

R0067865

15-79

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# _____

AREA: SN

BUSINESS NAME: Santa Anita Race Track FILE # 010573-I10510

STREET #: 285 FR: ___ DR: W NAME: Huntington SF: Dr. UNIT ___

CITY: Arcadia ZIP: ___ TG: ___

XSTREET: Baldwin CONTACT: ___ TEL: ( )

NARRATIVE FROM VIDEO TAPE

First tape was 8/31/99 at approximately 11:00 a.m.

- Entrance to Arcadia Wash was on Huntington Dr. between Huntington Dr. and Campus Dr.

- Debris shown is at entrance of wash north of Campus Dr.

- Cattle entering wash Dennis begins to drive north in the Arcadia Wash

- Dennis shows flow coming from upstream. Low flow curb is located on westside of Channel.

- Dennis makes a comment, "This smells great about 6" deep here" at that point he is downstream of Turf Club Dr.

Eduardo L. Sgadilla
INSPECTOR

9/10/99
DATE

36-0002 DPW Rev 3'96

15-80

R0067866

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# ________

AREA: ________

BUSINESS NAME: ________ FILE # ________

STREET #: ________ FR: ____ DR: ____ NAME: ________ SF: ____ UNIT ____

CITY: ________ ZIP: ________ TG: ________

XSTREET: ________ CONTACT: ________ TEL: ( )

- Dennis makes a comment "This is running about 1/10 as much as when I got here at 9:30." He is approximately 50' South of 206 +85 station.

- Dennis walks north toward drain 206 +85

- Drain 206 +85 begins to flow

- Flow from 206 +85 water has straw, paper, mud, solid material. As flow slows down more solid material comes out.

- Dennis goes back to 1st drain South of 206 +85 showing flow

- Dennis shows flow upstream of 206+85 Dennis makes the comment "Water above is clear."

Elvira Delgadillo
INSPECTOR

9/10/99
DATE

38-0002 DPW Rev 3/96

R0067867

15-81

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.#

AREA:

BUSINESS NAME: FILE #

STREET #: FR: DR: NAME: SF: UNIT

CITY: ZIP: TG:

XSTREET: CONTACT: TEL: ( )

- Dennis begins to go south on Arcadia Wash. As he goes south there is a pile of debris on the west wall.

- Dennis comments "Some stuff that's piled up here" is located near Ivy Club 8.

- Where he shows a large amount of debris & trash he comments, "I've seen dumpsters cleaner than this." Is in the vicinity of Ivy Club 4

- Where the ivy is hanging from above the channel wall is at the entrance to the channel between Huntington & Campus.

- Arcadia wash enters Rio Hondo wash between Lower Azusa & El Monte Airport

Elvira Salgado
INSPECTOR

9/10/99
DATE

35-0002 DPW Rev 3/95

15 - 82

R0067868

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# ____________

AREA: ____________

BUSINESS NAME: ____________ FILE # ____________

STREET #: ______ FR: ____ DR: ____ NAME: ____________ SF: ____ UNIT ______

CITY: ____________ ZIP: ____________ TG: ____________

XSTREET: ____________ CONTACT: ____________ TEL: ( )

- When Dennis enters Rio Hondo he drives South & then he turns & is facing north.

(Second taping was filmed 9/2/99)

- He starts with the entrance to Arcadia Wash between Huntington & Campus Dr.

- Pile of debris - northwest of 206+85

- 1:41 - Pile upstream of Turf Club & on westside of Channel.

1:44 - Under Turf Club 5 pile of debris

1:45 - Downstream of Turf Club 4 pile of debris west side of Channel

Elwin Delgadillo
INSPECTOR

9/10/99
DATE

38-0002 DPW Rev 3/96

15 - 83

R0067869

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# ____________

AREA: ____________

BUSINESS NAME: ____________ FILE # ____________

STREET #: ______ FR: ____ DR: ____ NAME: ____________ SF: ____ UNIT ____

CITY: ____________ ZIP: ____________ TG: ____________

XSTREET: ____________ CONTACT: ____________ TEL: ( )

1:46 - Upstream of N-36
Pile of debris eastside

Elvin Delgadillo
INSPECTOR

9-10-99
DATE

38-0002 DPW Rev 3/96

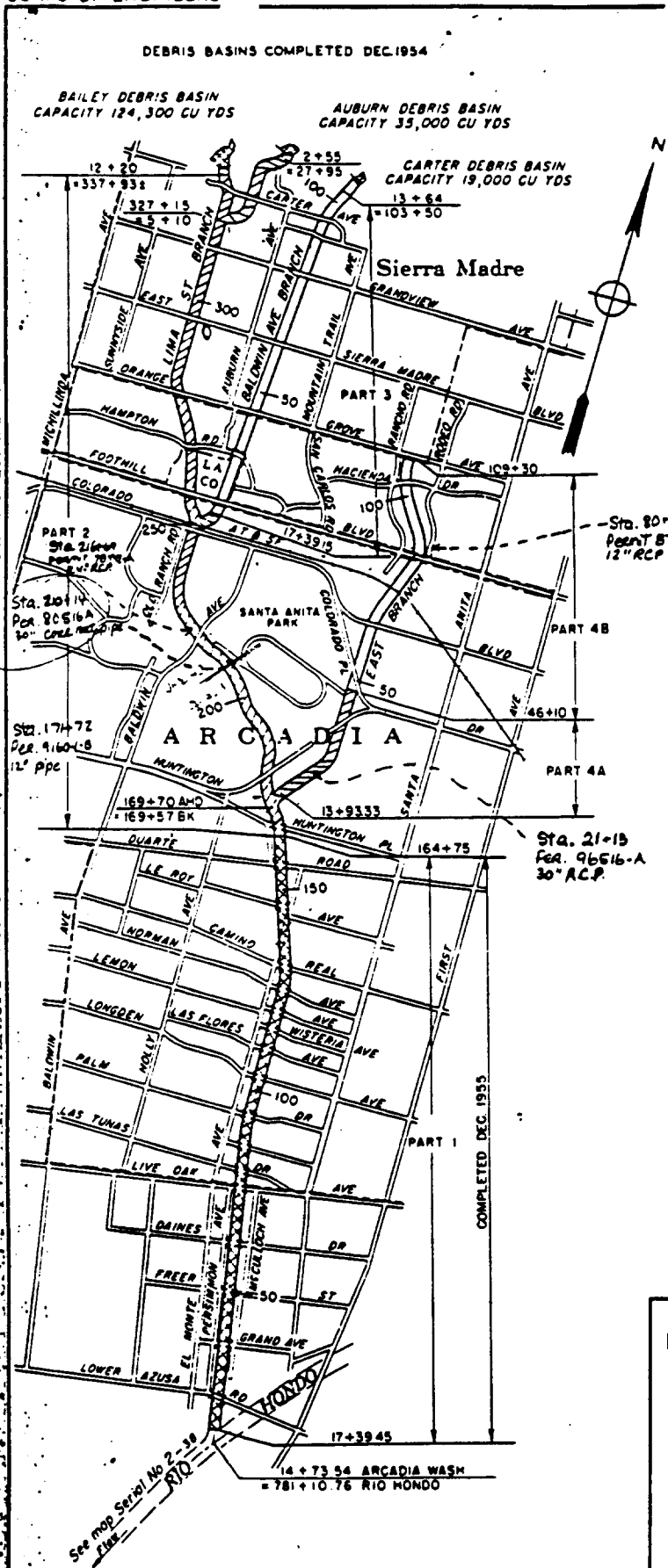
15 - 84

R0067870

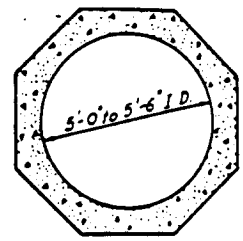
CORPS OF ENGINEERS

U. S. ARM

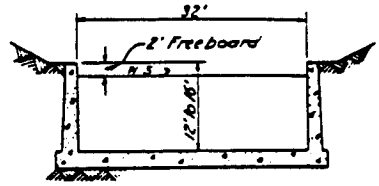
SERIAL NO. 2-2



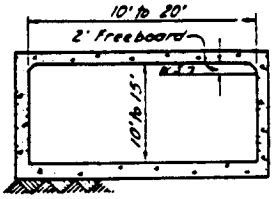
NOTE:
Maintenance of project to be accomplished by the Los Angeles County Flood Control District.



TYPICAL SECTION
AUBURN DEBRIS BASIN TO LIMA ST.



TYPICAL SECTION
CHANNEL SUPERELEVATED ON CURVES



TYPICAL SECTION UNDER STREETS AND RAILROADS

LEGEND

- Work approved but not yet started
- Work in progress
- Work completed
- Bridge not to be replaced by C. of E.

FOR LOCATION SEE E-3, LOS ANGELES COUNTY PROJECT MAP, SERIAL NO. 2

FLOOD CONTROL IMPROVEMENT
LOS ANGELES COUNTY DRAINAGE AREA, CALIF.

ARCADIA WASH SYSTEM CHANNELS AND DEBRIS BASINS

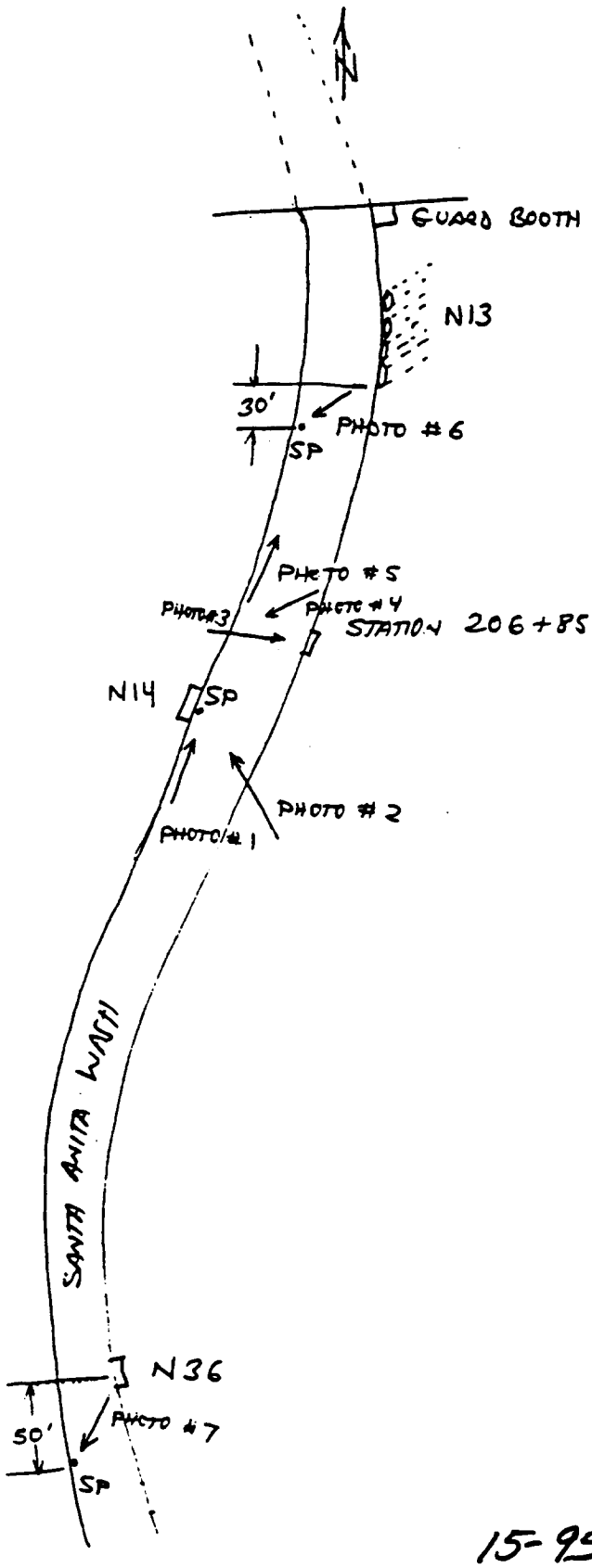
SCALE IN FEET
0 1000 2000

OFFICE OF THE DISTRICT ENGINEER
LOS ANGELES, CALIFORNIA

30 JUNE 1956

R0067871

15-85

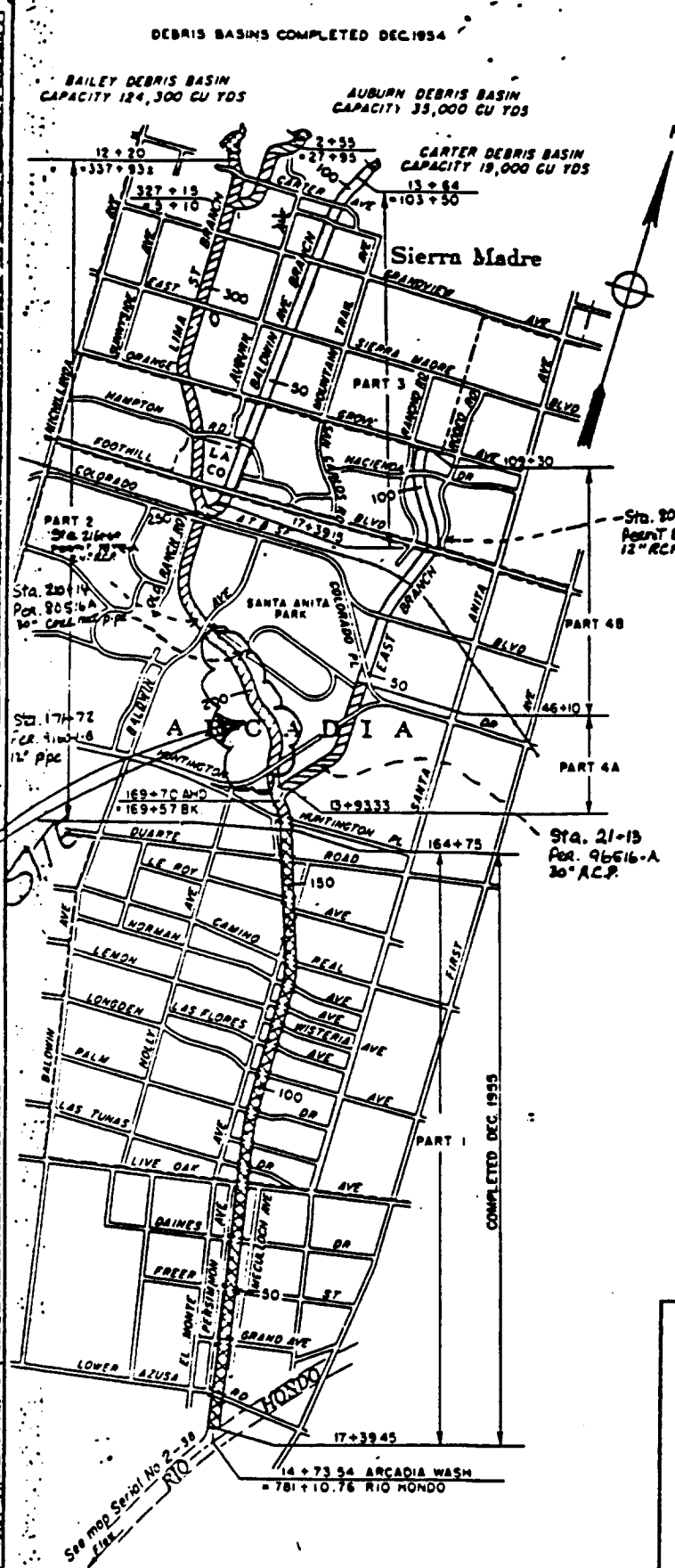


15-95

CORPS OF ENGINEERS

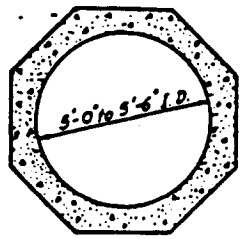
U. S. ARMY

SERIAL NO. 2-2



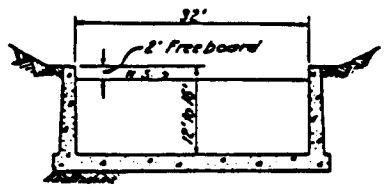
NOTE:

Maintenance of project to be accomplished by the Los Angeles County Flood Control District.



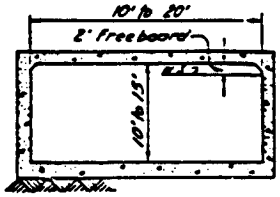
TYPICAL SECTION

AUBURN DEBRIS BASIN TO LIMA ST.



TYPICAL SECTION

CHANNEL SUPERELEVATED ON CURVES



TYPICAL SECTION UNDER STREETS AND RAILROADS

LEGEND

- Work approved but not yet started.
- Work in progress
- Work completed.
- Bridge not to be replaced by C. of E.

FOR LOCATION SEE E-3, LOS ANGELES COUNTY PROJECT MAP, SERIAL NO. 2

FLOOD CONTROL IMPROVEMENT

LOS ANGELES COUNTY DRAINAGE AREA, CALIF.

ARCADIA WASH SYSTEM CHANNELS AND DEBRIS BASINS

SCALE IN FEET

OFFICE OF THE DISTRICT ENGINEER
LOS ANGELES, CALIFORNIA

30 JUNE 1956

R0067873

5 OF 7

5-94

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

ISPECTOR'S REPORT

E:

ZIP:

County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 5 OF 7

e: Date: 9-9-99
DAVE LOBATO Time: 12:12 PM
r SANTA ANITA RACE TRACK
d. 285 W. HUNTINGTON DR. ARCADIA
mments: CLEAR WATER UPSTREAM OF
STATION 206+85

County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 6 OF 7

File: Date: 9-9-99
By: DAVE LOBATO Time: 12:17 PM
Co/DBA: SANTA ANITA RACE TRACK
Address: 285 W. HUNTINGTON DR. AR
Comments: SAMPLING POINT FOR CLEAR UP
FLOW; 30FT. SO. OF N13 - ARBITRARY DESIGNATI

County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 7 OF 7

File: Date: 9-9-99
By: DAVE LOBATO Time: 1:05 PM
Co/DBA: SANTA ANITA RACE TRACK
Address: 285 W. HUNTINGTON DR. ARCADIA
Comments: SAMPLING POINT DOWNSTREAM OF
STATION 206+85 @ N14; 50FT. SO. N36

DAVE LOBATO
INSPECTOR

38-0002 DPW Rev. 3/96

R0067874

15-93

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

ISPECTOR'S REPORT

E:

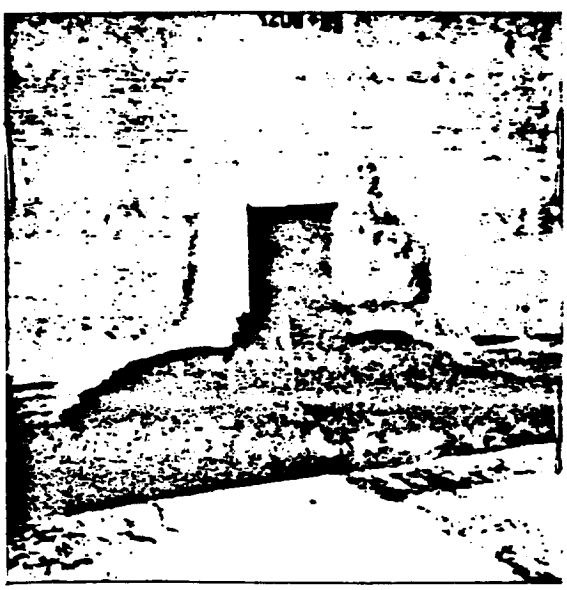
ZIP:

County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 1 OF 7

File:
By: DAVE LOBATO
Co/DBA: SANTA ANITA RACE TRACK
Address: 285 W. HUNTINGTON DR. ARCADIA
Comments: ONGOING FLOW FROM OUTFALL N14 ARBITRARY DESIGNATION - 75 FT. SO. OF 206+85
Date: 9-9-99
Time: 11:05 AM

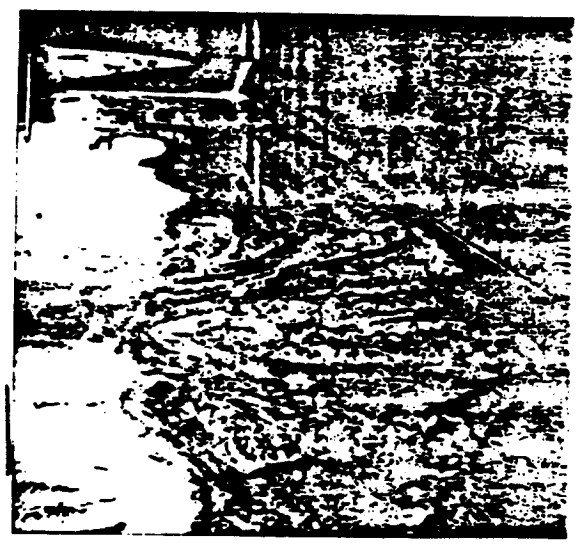
County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 2 OF

File:
By: DAVE LOBATO
Co/DBA: SANTA ANITA RACE TRACK
Address: 285 W. HUNTINGTON DR. ARCADIA
Comments: OUTFALL N14 - 75 FT. SO. OF 206+85
Date: 9-9-99
Time: 11:09 AM



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 3 OF 7

File:
By: DAVE LOBATO
Co/DBA: SANTA ANITA RACE TRACK
Address: 285 W. HUNTINGTON DR. ARCADIA
Comments: ONGOING FLOW FROM STATION 206+85
Date: 9-9-99
Time: 12:06 PM



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 4 OF 7

File:
By: DAVE LOBATO
Co/DBA: SANTA ANITA RACE TRACK
Address: 285 W. HUNTINGTON DR. ARCADIA
Comments: DEBRIS BUILDUP FROM DISCHARGE OF STATION 206+85
Date: 9-9-99
Time: 12:09 PM

15-92

R0067875

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# _____

AREA: _____

BUSINESS NAME: _____ FILE # _____

STREET #: _____ FR: ____ DR: ____ NAME: _____ SF: ____ UNIT _____

CITY: _____ ZIP: _____ TG: _____

XSTREET: _____ CONTACT: _____ TEL: ( )

BOTH OUTFALLS 206+ES AND N14 SHOWED A DEBRIS PATTER OF STRAW AND DIRT WHICH INDICATED A GREATER FLOW RECENTLY (SEE PHOTOS 1, 2, 3 & 4).

SAMPLES WERE TAKEN TO THE LABORATORY IN SIGNAL HILL LATER THAT AFTERNOON.

MR. KWANG SAID THAT THE RACETRACK HAD SUBMITTED A STORMWATER PROPOSAL IN THE PAST, HOWEVER, IT HAS NOT YET BEEN APPROVED. HE SAID HE WOULD LIKE TO HAVE A COPY OF THE VIDEO. IT WAS EXPLAINED TO HIM THAT AS SOON AS EPD COULD PUT A NARRATIVE PACKAGE TOGETHER HE WOULD GET A COPY.

MR. SANDERS STATED THIS TYPE OF DISCHARGE HAS BEEN ONGOING FOR SEVERAL YEARS AND THAT DURING RACING SEASON THE AMOUNT OF DEBRIS AND FLOW IS MUCH GREATER.

MR. SANDERS TOOK SOME VIDEO SHOTS DURING THE SITE VISIT.

DAVE LOBATO
INSPECTOR

9-9-99
DATE

38-0002 DPW Rev 3'96

15-91

R0067876

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# _____

AREA: 3N

BUSINESS NAME: SANTA ANITA RACE TRACK FILE # 010573-I10510

STREET #: 285 FR: ___ DR: W NAME: HUNTINGTON DR. SF: ___ UNIT ___

CITY: ARCADIA ZIP: ___ TG: ___

XSTREET: BALDWIN CONTACT: ___ TEL: ( )

A JOINT INSPECTION WAS MADE WITH MR. KWANG-IL LEE AND HIS ASSISTANT FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD. THIS INSPECTOR WAS ACCOMPANIED BY MR. DENNIS SANDERS FROM THE FLOOD MAINTENANCE DIVISION.

AT THE TIME WE ENTERED THE CHANNEL - ARCADIA WASH - AND ARRIVED IN THE VICINITY OF STATION 206+85 DRY WEATHER FLOW WAS DISCHARGING FROM OUTFALL 206+85 AND ANOTHER OUTFALL ABOUT 75 FT. SOUTH OF STATION 206+85 (NO STATION NUMBER LISTED) WHICH WAS GIVEN AN ABITRARY DESIGNATION AS N14 (SEE PHOTOS 1, 2, 3 & 4).

MR. LEE HAD COME TO TAKE SAMPLES AND THIS INSPECTOR ALSO TOOK DUPLICATE SAMPLES. SAMPLES WERE TAKEN AT N14, 30FT. SOUTH OF N13 (ABITRARY DESIGNATION), AND 50 FT. SOUTH OF N36 (ARBITRARY DESGINATION). SAMPLES AT N14 WAS CLOUDY AND DEBRIS SHOWED STRAW AND DIRT (SP-1 & SP-2). SAMPLES AT 30 FT. SO. OF N13 WERE TAKEN IN CLEAR WATER UPSTREAM OF BOTH N14 AND 206+85 (TAKEN AS A BACKGROUND SAMPLE) (SP-3 & SP-4). SAMPLES WERE ALSO TAKEN 50 FT. SOUTH OF N36.

DAVE LOGATO
INSPECTOR

9-9-99
DATE

15-90

38-0002 DPW Rev 3'96

R0067877

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# _____

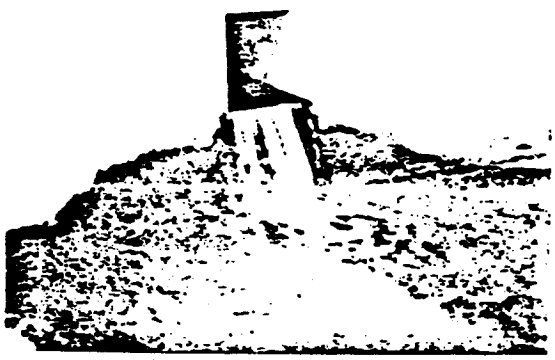
AREA: _____

BUSINESS NAME: _____ FILE # _____

STREET #: _____ FR: ____ DR: ____ NAME: _____ SF: ____ UNIT _____

CITY: _____ ZIP: _____ TG: _____

XSTREET: _____ CONTACT: _____ TEL: ( )



County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 1 OF 3

File: _____ Date: 9-10-99
By: ELVIRA DELGADILLO Time: 9:10 a.m.
Co/DBA: SANTA ANITA RACE TRACK
Address: 285 W. HUNTINGTON DR.
Comments: DISCHARGE TO ARCADIA WASH FROM 206+95 STATION

County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 2 OF 3

File: _____ Date: 9-10-99
By: ELVIRA DELGADILLO Time: 9:10 a.m.
Co/DBA: SANTA ANITA RACE TRACK
Address: 285 W. HUNTINGTON DR.
Comments: SEDIMENT BUILT-UP LEFT SIDE OF CHANNEL NEAR STATION 206+95

Elvira Delgadillo
INSPECTOR

9/10/99
DATE

36-0002 DPW Rev. 3/96

15-89

R0067878

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR S REPORT

ASSC.# _____

AREA: _____

BUSINESS NAME: _____ FILE # _____

STREET #: _____ FR: ____ DR: ____ NAME: _____ SF: ____ UNIT _____

CITY: _____ ZIP: _____ TG: _____

XSTREET: _____ CONTACT: _____ TEL: ( )

County of Los Angeles
Department of Public Works
PHOTOGRAPHIC EVIDENCE 2 OF 3

File: _____ Date: 9-10-99
By: ELVIRA DELGADILLO Time: 9:16 a.m.
Co/DBA: SANTA ANITA RACE TRACK
Address: 285 W. HUNTINGTON
Comments: DISCHARGE TO ARCADIA WASH
SOUTHWEST OF 206 TYS APPROXIMATLY
20' AWAY FROM 206 TYS STATION

Elvira Delgadillo
INSPECTOR

9/10/99
DATE

38-0002 DPW Rev. 3-96

15-88

R0067879

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# _____

AREA: _____

BUSINESS NAME: _____ FILE # _____

STREET #: _____ FR: ____ DR: ____ NAME: _____ SF: ____ UNIT ____

CITY: _____ ZIP: _____ TG: _____

XSTREET: _____ CONTACT: _____ TEL: ( )

An inspection of Arcadia Wash was made on 9/10/99. At time of inspection there was a flow discharging to the wash from Station 206+85 and drain 20' Southwest of Station 206+85. Directly south of Station 206+85 there was an accumulation of sediment. See photo 2. Water flowing from both drains was muddy & had small debris material.

E Cruz Delgadillo
INSPECTOR

9/10/99
DATE

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL PROGRAMS DIVISION

INSPECTOR'S REPORT

ASSC.# ______

AREA: ______

BUSINESS NAME: ______ FILE # ______

STREET #: ______ FR: ____ DR: ____ NAME: ______ SF: ____ UNIT ______

CITY: ______ ZIP: ______ TG: ______

XSTREET: ______ CONTACT: ______ TEL: ( )

- Per Dennis Sanders they removed 40 tons of debris from Arcadia Wash. Starting from Station 209+45 to Campus Dr.

- Portion of channel which is underground as opposed to open is approximately 1/2 mile north of 206+85.

- Wastewater discharged on 8/31/99 approximately 50,000 gallons per Dennis Sanders.

Elvira Delgadillo
INSPECTOR

9/13/99
DATE

36-0002 DPW Rev 3/96

15 -86

R0067881

LOS ANGELES DEPARTMENT OF PUBLIC WORKS

Waste Management Division
Mail Address: P.O. Box 1460, Alhambra, CA 91802-1460

SAMPLE AND CHAIN OF CUSTODY RECORD

Date 9.9.99 Page 1 of 1

JOE BAIOCCO (626) 458-3559
PROJECT MANAGER

PHONE NUMBER

SART
PROJECT NAME

TO BE COMPLETED BY LABORATORY

LAB NO.:

Samples Intact: YES ☑ NO ☐
County Seal(s) Intact: YES ☑ NO ☐
Sample: Ambient ☒ Cooled ☐ Frozen ☐

SAMPLERS: (Signature) David W. Lolat

SAMPLE NUMBER	SAMPLE LOCATION DESCRIPTION	DATE	TIME	SAMPLE TYPE: WATER COMP.	SAMPLE TYPE: WATER GRAB.	SAMPLE TYPE: AIR	SAMPLE TYPE: SOLID	NO. OF CONTAINERS	PRESERVATION	TEST REQUIRED
SP-1	N14 OUTFALL	9.9.99	11:30 AM		✓			1	NO	BOD, COD, Susp. Solids, MBAS
SP-2	N14 OUTFALL	9.9.99	11:40 AM		✓			1	NO	BACTERIA (COLIFORM, FECAL AND TOTAL)
SP-3	30FT. So. N13	9.9.99	12:20 PM		✓			1	NO	BOD, COD, S.S., MBAS
SP-4	30FT. So. N13	9.9.99	12:25PM		✓			1	NO	BACTERIA (COLIFORM, FECAL & TOTAL)
SP-5	50FT. So. N36	9.9.99	1:15PM		✓			1	NO	BOD, COD, S.S., MBAS
SP-6	50FT. So. N36	9.9.99	1:20PM		✓			1	NO	BACTERIA (COLIFORM, FECAL & TOTAL)

15-96

Special Instructions:

CONTACT JOE BAIOCCO BEFORE SAMPLING

SAMPLE COLLECTION INFORMATION

☐ Composite-timed _____ ml/_____ min. intervals
_____ intervals/_____ bottle.
☐ Composite-flow with _____ gallon intervals.
Composite Times:
Start _____ ☐ A.M. ☐ P.M. Date _____
End _____ ☐ A.M. ☐ P.M. Date _____
Sample split with facility ☐ YES ☒ NO

RELINQUISHED BY: (Signature) ~~David W. Lolat~~
RELINQUISHED BY: (Signature) David W. Lolat
RELINQUISHED BY: (Signature)
RECEIVED FOR LABORATORY BY: (Signature)

RECEIVED BY: (Signature) DATE/TIME
RECEIVED BY: (Signature) DATE/TIME
RECEIVED BY: (Signature) DATE/TIME
DATE/TIME 9/9/99 15:14

R0067882

38-0026 DPW (10/

S267721

DISTRIBUTION: WHITE: REPORT, CANARY: LAB, PI... ELD, GOLDENROD: SAMPLE CONTROL/COURIER

I, David Martinez, declare as follows:

1. I have been employed by Los Angeles Turf Club, Inc. ("LATC") for 25 years. During the period of my employment, I have worked at the Santa Anita facility, located at 285 West Huntington Drive, Arcadia, California ("Racetrack"). I began my employment working in the parking lots and have worked as a Racetrack truck driver for the last 23 years. I have personal knowledge of the matters set forth herein, and if called as a witness, could and would competently testify thereto.

2. I submit this declaration in connection with LATC's response to Los Angeles Regional Water Quality Control Board Complaint No. 99-097 filed against Racetrack for Administrative Civil Liability.

3. As a Racetrack truck driver, I drive water trucks and dump trucks used at the Racetrack. On a typical day, I work from 7 a.m. to 3 p.m., operating the water trucks about 90% of the time. As part of my daily routine, I water the different areas around the Racetrack, principally for dust control purposes.

4. The Racetrack has a total of four water trucks. These are two "long-arm" trucks and two "fan" trucks.

5. The "long-arm" trucks hold 3,500 and 3,000 gallons each and are only used to water the track. The "arms" on these trucks extend laterally away from the trucks and are used to deliver water to the track to moisten the turf. There are sprinklers mounted on the arms. The long-arm trucks are not used in the stable areas because the arms could hit and hurt a horse and would not be used for washdown purposes because they are difficult to maneuver and only sprinkle water, which would not clean a dirty surface.

6. The two "fan" trucks deliver water through water jets that are part of a manifold at the back of the truck. There are two fans on one truck which has a water capacity of 2,000 gallons, and four fans on the other truck which has a 2,500 gallon capacity.

7. The larger "fan" truck is used for dust control around the Racetrack,

LATHAM & WATKINS
Paul Singarella (Bar No. 155393)
Estela de Llanos (Bar No. 201838)
650 Town Center Drive, 20th Floor
Costa Mesa, California 92626-1925
Telephone: (714) 540-1235
Facsimile: (714) 755-8290

Attorneys for Petitioner
Los Angeles Turf Club, Inc.

Regional Water Quality Control Board

of the State of California

Los Angeles Region

In the Matter of the Petition of Los Angeles Turf Club, Inc. for Review of Complaint No. 99-097, Administrative Civil Liability California Regional Water Quality Control Board, Los Angeles Region	No. _____ DECLARATION OF DAVID MARTINEZ IN SUPPORT OF PETITIONER'S REQUEST FOR RECONSIDERATION OF ADMINISTRATIVE CIVIL LIABILITY PENALTY AMOUNT

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Los Angeles, CA
January 26, 2000
427th Regular Meeting

ITEM: 16

SUBJECT: Consideration of a Resolution in Support of the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000; and the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Act

DISCUSSION: The Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000, also known as Assembly Bill 18 or the "Parks Bond," has been placed on the March 2000 statewide ballot as **Proposition 12**. This $2.1 billion bond act, if approved, is expected to provide substantial benefits to all Californians by providing cleaner air and water recreational opportunities, safe urban parks, and new wildlife preserves.

On a local level, funding will be available to support a variety of projects in the Los Angeles Region, including $25 million to assist in implementing the Santa Monica Bay Restoration Plan to continue cleanup and restoration of Santa Monica Bay. This funding would be used to enact innovative urban runoff control projects, restore degraded habitats, strengthen public education programs, and carry out other actions critical to the health of the Bay.

Proposition 12 also provides $25 million for Ballona Wetlands, $25 million for the Los Angeles and San Gabriel River Watersheds and $64.2 million for acquisition, enhancement, restoration and protection of coastal resources.

The Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Act, also known as Assembly Bill 1584 or the "Water Bond," has been placed on the March 2000 statewide ballot as **Proposition 13**. This $1.9 billion bond act is aimed at providing safe drinking water supplies throughout the state; increasing the reliability of the water supply in event of drought or emergency; building necessary flood control projects; improving water quality in our rivers, streams and coastal areas; and protecting and restoring fisheries and wildlife habitat along rivers and streams.

Prop. 13 includes $90 million for Coastal Nonpoint Source Control which would provide funding for projects that restore and protect the water quality and environment of coastal waters, estuaries, bays and nearshore waters and groundwaters. Another $90 million has been allocated for Watershed Protection to develop and implement

watershed plans and to implement projects consistent with local watershed management and regional water quality control plans. Finally, support would be available for water recycling projects and for effective, low-cost flood control efforts.

RECOMMENDATION: The attached resolution supporting Propositions 12 and 13 on the March 2000 be adopted.

RESOLUTION OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION IN SUPPORT OF THE SAFE NEIGHBORHOOD PARKS, CLEAN WATER, CLEAN AIR AND COASTAL PROTECTION BOND ACT OF 2000 AND THE SAFE DRINKING WATER, CLEAN WATER, WATERSHED PROTECTION AND FLOOD PROTECTION ACT

WHEREAS, Santa Monica Bay is a treasured local, state and national resource that was nominated and accepted by Congress for inclusion in the Clean Water Act's National Estuary Program in 1988; and

WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region, has served as a member of the Santa Monica Bay Watershed Council, working with other stakeholders to develop and implement a comprehensive conservation and management plan (known as the Santa Monica Bay Restoration Plan) to restore and protect Santa Monica Bay; and

WHEREAS, the Regional Water Quality Control Board is charged with the protection of water quality in the Los Angeles Region, including Santa Monica Bay and upstream watersheds; and

WHEREAS, the Legislature and the Governor of California have placed the $2.1 billion Safe Neighborhood Parks, Clean Water, Clean Air and Coastal Protection Bond Act of 2000 (hereafter entitled the Parks Bond) before the voters on the March 2000 California ballot; and

WHEREAS, the Legislature and the Governor of California have placed the $1.97 billion Safe Drinking Water, Clean Water, Watershed Protection and Flood Protection Act (hereafter entitled the Water Bond) before the voters on the March 2000 California ballot; and

WHEREAS, the Parks Bond has allocated considerable funding for grants to local agencies and non-profit organizations for acquisition, enhancement, restoration and protection of parks, coastal resources, and wildlife habitat; and

WHEREAS, the Parks Bond has specifically allocated $25 million to implement actions consistent with those in the Santa Monica Bay Restoration Plan, thereby providing badly needed funding to carry out activities vital to protecting and restoring the health of Santa Monica Bay and its natural resources, and

WHEREAS, the Water Bond has allocated to the cities and counties of our State, including those within Los Angeles County, grants and loans to protect watersheds, and to restore and protect the water quality and environment of our State's coastal waters, estuaries, bays and near shore waters and groundwaters;

NOW BE IT HEREBY RESOLVED that the California Regional Water Quality Control Board, Los Angeles Region, formally endorses both the Parks Bond and the Water Bond, and encourages all citizens within its jurisdiction to actively support these bonds and work for their passage, thus helping to maintain, enhance, and restore the many beneficial uses of Santa Monica Bay, a vital and integral representative of our State's precious coastal and natural resources.

BY: _____

DATE: _____

SAFE NEIGHBORHOOD PARKS, CLEAN WATER, CLEAN AIR AND COASTAL PROTECTION BOND ACT OF 2000 (VILLARAIGOSA-KEELEY ACT)		
TOTAL	**$2,100,000,000**	
DEPARTMENT OF PARKS AND RECREATION	**$544,750,000**	
a) State Parks Projects	$502,750,000	
b) Natural and Cultural Resource Stewardship projects	$18,000,000	
c) Volunteer participation facilties	$4,000,000	
d) State Park facilities administered by local agencies	$20,000,000	
GRANTS TO LOCAL AGENCIES FOR URBAN PARKS, TRIALS AND RECREATION FACILITIES		
a) Per capital grants to cities, counties and park districts	$388,000,000	
b) Roberti-Z'berg-Harris Urban Open Space Grant program	$200,000,000	
c) Improvement, acquisition, restoration of riparian and riverine habitats	$10,000,000	
d) Park, youth, environmental enhancement projects for low income, at-risk youth	$100,000,000	
e) Non-motorized trail projects	$10,000,000	
f) Urban recreational and cultural centers, zoos, museums, aquariums, and facilities for wildlife, environmental or natural science aquatic education	$71,500,000	
1. Institutions w/ budgets less than $1 million		$2,000,000
2. Facilities seeking accreditation		
3. Facilities that care for injured animals		
4. California Science Center		$10,000,000
5. Facilities for National Marine Sanctuaries		$500,000
6. Discovery Science Center		$10,000,000
7. California Academy of Sciences		$10,000,000
8. Delta Science Center		$2,000,000
9. Turtle Bay Museums, Arboretum on the River		$15,000,000
10. Calif Fairs and Expositions		$4,250,000
11. Kern County Museum		$3,500,000
g) Regional youth soccer and baseball facilities	$15,000,000	
h) Golden Gate Park	$15,000,000	
WILDLIFE CONSERVATION BOARD	**$265,500,000**	
a) Wetlands - Central Valley Habitat Joint Venture	$5,000,000	
b) Wetlands - outside Sacramento-San Joaquin Valley	$5,000,000	
c) Riparian habitat and watershed conservation	$10,000,000	
d) Habitat for threatened or endangered species	$45,000,000	
e) Forest lands, ancient redwoods, oak woodlands	$13,000,000	
f) Habitat and corridors for threatened, protected species	$82,000,000	
g) Natural Community Conservation Partnerships	$100,000,000	
h) Salton Sea Restoration Project	$5,000,000	
STATE COASTAL CONSERVANCY	**$220,400,000**	
a) San Francisco Bay Area Conservancy Program	$25,000,000	
b) Santa Monica Bay Restoration Project	$25,000,000	
c) Grants for acquisition, enhancement, restoration and protection of coastal resources:	$64,200,000	
1. Regional beach erosion reduction		$3,000,000

2. Upper Newport Bay Ecological Reserve Maintenance and Protection Fund		$13,000,000
3. Coastal areas north of Gualala River		$15,000,000
4. Within Santa Cruz, Monterey, SLO or Santa Barbara Counties		$25,000,000
5. Coastal Trail		$5,000,000
6. Guadalupe River Trail and SF Bay Ridge Trail		$2,000,000
d) State Coastal Conservancy for acquisition, restoration etc. that benefit fish and wildlife	$22,000,000	
1. Coastal areas north of Gualala		$10,000,000
2. Restore arroyo, stickleback and steelhead in Orange Co.		$800,000
e) Salmon restoration and protection	$25,000,000	
f) Ballona Wetlands	$25,000,000	
g) Laguna Coast	$12,500,000	
SANTA MONICA MOUNTAINS CONSERVANCY	**$35,000,000**	
COACHELLA VALLEY MOUNTAINS CONSERVANCY	**$5,000,000**	
SAN JOAQUIN RIVER CONSERVANCY	**$15,000,000**	
SAN FRANCISCO BAY CONSERVANCY	**$30,000,000**	
Mount Diablo nonprofit org		$250,000
CALIFORNIA TAHOE CONSERVANCY	**$50,000,000**	
CALIFORNIA CONSERVATION CORPS	**$15,000,000**	
a) For certified local community conservation corps programs	$12,500,000	
b) State Conservation Corps	$2,500,000	
DEPARTMENT OF CONSERVATION	**$25,000,000**	
Agricultural Land Conservation Projects		
DEPARTMENT OF FORESTRY AND FIRE PROTECTION	**$10,000,000**	
For urban forestry programs		
DEPARTMENT OF FISH AND GAME	**$12,000,000**	
a) Waterfowl habitat projects		$5,000,000
b) Wildlife area improvement projects		$5,000,000
c) Removal of nonnative vegetation - ecological reserves		$2,000,000
INTEGRATED WASTE MANAGEMENT BOARD	**$7,000,000**	
Grants to meet accessibility standards at public playgrounds if 50% of funds for equipment using recycled materials		
RESOURCES AGENCY	**$45,850,000**	
a) Sierra Nevada-Cascade Program	$6,250,000	
b) River Parkway and restoration program	$33,500,000	
1. Los Angeles River watershed		$10,000,000
2. San Gabriel River watershed, San Gabriel Mtns and lower LA River		$15,000,000
3 Kern River		$2,500,000
4. Santa Clarita watershed land acquisition		$1,000,000
5. Sacramento River watershed, riparian, wetlands restoration		$3,000,000

6. Visitor center - American River		$2,000,000
c) Resource conservation and urban water recycling Sonoma Co.	$2,000,000	
d) Community centers in San Benito, Galt, Gilroy	$1,100,000	
e) Camp Arroyo, Alameda County	$2,000,000	
f) Wildlife rehab center in San Bernardino Mountains	$1,000,000	

Text

ssed the Assembly September 3, 1999

ssed the Senate September 3, 1999

rrected 9-7-99

SAFE NEIGHBORHOOD PARKS, CLEAN WATER, CLEAN AIR, AND COASTAL PROTECTION BOND ACT OF 2000

act to add Chapter 1.692 (commencing with Section 5096.300) to, and Chapter 1.693 mmencing with Section 5096.400) to, Division 5 of the Public Resources Code, relating to ıncing a program for the acquisition, development, improvement, rehabilitation, restoration, ıancement, and protection of park, recreational, cultural, historical, fish and wildlife, lake, arian, reservoir, and coastal resources, by providing the funds necessary therefor through issuance and sale of bonds of the State of California and by providing for the handling and position of those funds, and declaring the urgency thereof, to take effect immediately.

GISLATIVE COUNSEL'S DIGEST

18, Villaraigosa. Bond: parks, water, and coastal protection act.
(1) Under existing law, programs have been established pursuant to bond acts for, among er things, the development and enhancement of state and local parks and recreational ılities.
This bill would enact the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal ɔtection Bond Act of 2000 (the Villaraigosa-Keeley Act) which, if adopted, would authorize, the purpose of financing a program for the acquisition, development, improvement, ıabilitation, restoration, enhancement, and protection of park recreational, cultural, torical, fish and wildlife, lake, riparian, reservoir, river, and coastal resources, as specified, issuance, pursuant to the State General Obligation Bond Law, of bonds in the amount of 100,000,000.
(2) The bill would require the Secretary of State to submit the bond act to the voters at the rch 7, 2000, statewide general election.
(3) The bill would require that, to the extent permitted by federal law, if the Camp Pendleton rine Base in the County of San Diego ceases to be used as a federal facility, it be ıverted to an open-space area of greenbelt administered by the Department of Parks and creation.
(4) The bill would declare that it is to take effect immediately as an urgency statute.

e people of the State of California do enact as follows:

CTION 1. Chapter 1.692 (commencing with Section 5096.300) is added to Division 5 of the blic Resources Code, to read:

APTER 1.692. SAFE NEIGHBORHOOD PARKS, EAN WATER, CLEAN AIR, AND COASTAL OTECTION BOND ACT OF 2000

IE VILLARAIGOSA-KEELEY ACT)
cle 1. General Provisions

5096.300. This chapter shall be known, and may be cited, as the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000 (the Villaraigosa-Keeley Act).

5096.301. Responding to the recreational and open-space needs of a growing population and expanding urban communities, this act will revive state stewardship of natural resources by investing in neighborhood parks and state parks, clean water protection, and coastal beaches and scenic areas.

5096.302. The Legislature finds and declares all of the following:

(a) Historically, California's local and neighborhood parks often serve as the recreational, social, and cultural centers for cities and communities, providing venues for youth enrichment, senior activities, and family recreation.

(b) Neighborhood and state parks provide safe places to play in the urban neighborhoods, splendid scenic landscapes, exceptional experiences, and world-recognized recreational opportunities, and in so doing, are vital to California's quality of life and economy.

(c) For over a decade, the state's commitment to parks and natural resources has dwindled. California has not kept pace with the needed funding to adequately manage and maintain its multibillion dollar investment in neighborhood, urban, and state parks and natural areas resulting in disrepair and overcrowding of many park facilities and the degradation of wild lands.

(d) The magnificent Pacific Coast, outstanding mountain ranges, and unique scenic regions are the source of tremendous economic opportunity and contribute enormously to the quality of life of Californians.

(e) Continued economic success and enjoyment derived from California's natural resources depends on maintaining clean water, healthy ecosystems, and expanding public access for a growing state.

(f) The backlog of needs for repair and maintenance of local and urban parks exceeds two billion five hundred million dollars and the need for maintenance of state parks exceeds one billion dollars. The state's conservancies and wildlife agencies report a need for habitat acquisition and restoration exceeding $1.8 billion.

(g) This act will begin to address these critical neighborhood park and natural resources needs.

5096.303. The Legislature further finds and declares all of the following:

(a) Air pollution continues to be a major problem in California which harms the health of our residents, costs our economy billions of dollars related to health care costs, reduced agricultural productivity, and damage to our infrastructure, and otherwise decreases the quality of life in our state.

(b) Forests and trees improve air quality by removing carbon dioxide, particulates, and other pollutants from the air, and by producing oxygen.

(c) Park, open-space, and tree planting projects also improve air quality and decrease congestion by reducing sprawl, improving the quality of life in areas that are already developed by helping local agencies implement sound land use plans that promote energy efficiency, and by providing incentives to reduce development in inappropriate areas.

5096.306. It is the intent of the Legislature to strongly encourage every state or local government agency receiving the bond funds allocated pursuant to this chapter for an activity to give full and proper consideration to the use of recycled and reusable products whenever possible with regard to carrying out that activity.

5096.307. (a) Every proposed activity to be funded pursuant to this chapter shall be in compliance with the California Environmental Quality Act (Division 13 (commencing with Section 21000)).

(b) Lands acquired with funds allocated pursuant to this chapter shall be acquired from a willing seller of the land.

5096.3075. Upon a finding by the administering entity that a particular project for which funds have been allocated cannot be completed, or that the funds are in excess of the total needed, the Legislature may reallocate those funds for other high priority needs consistent with this act.

5096.308. As used in this chapter, the following terms have the following meanings:

(a) "Acquisition" means the acquisition from a willing seller of a fee interest or any other interest, including easements and development rights, in real property from a willing seller.

(b) "Board" me[illegible] Secretary of the Resources Agency designated in accordance with subdivision (b) of Section 5096.362.

(c) "Certified local community conservation corps programs" means programs operated by public or private nonprofit agencies pursuant to Section 14406.

(d) "Committee" means the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection (Villaraigosa-Keeley Act) Finance Committee created pursuant to subdivision (a) of Section 5096.362.

(e) "District" means any regional park district, regional park and open-space district, or regional open-space district formed pursuant to Article 3 (commencing with Section 5500) of Chapter 3, any recreation and park district formed pursuant to Chapter 4 (commencing with Section 5780), or an authority formed pursuant to Division 26 (commencing with Section 35100). With respect to any community or unincorporated region that is not included within a district, and in which no city or county provides parks or recreational areas or facilities, "district" also means any other district that is authorized by statute to operate and manage parks or recreational areas or facilities, employs a full-time park and recreation director, offers year-round park and recreation services on lands and facilities owned by the district, and allocates a substantial portion of its annual operating budget to parks or recreation areas or facilities.

(f) "Fund" means the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection (Villaraigosa-Keeley Act) Bond Fund created pursuant to Section 5096.310.

(g) "Historical resource" includes, but is not limited to, any building, structure, site area, place, artifact, or collection of artifacts that is historically or archaeologically significant in the cultural annals of California.

(h) "Program" means the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection (Villaraigosa-Keeley Act) Program established pursuant to this chapter.

(i) "Secretary" means the Secretary of the Resources Agency.

(j) (1) "Stewardship" means the development and implementation of projects for the protection, preservation, rehabilitation, restoration, and improvement of natural systems and outstanding features of the state park system and historical and cultural resources. Those efforts may not include activities that merely supplement normal park operations or that are usually funded from other sources.

(2) (A) "Cultural resources stewardship" may include, but is not limited to, stabilization and protection of historical resources, including archaeological resources, in the state park system. Those resources may include sites, features, ruins, archaeological deposits, historical landscape resources, rock art features, and artifacts making up the physical legacy of California's past.

(B) "Cultural resources stewardship" does not include the rehabilitation, restoration, reconstruction, interpretation, or mitigation of historical resources typically required as part of a development program.

(3) "Natural resources stewardship" may include, but is not limited to, such objectives as the control of major erosion and geologic hazards, the restoration and improvement of critical plant and animal habitat, the control and elimination of exotic species encroachment, the stabilization of coastal dunes and bluffs, and the planning necessary to implement those objectives.

(k) "Wildlife conservation partnership" means a cooperative acquisition, restoration, or management of wildlife habitat for which the Wildlife Conservation Board provides matching funds to leverage other public, private, or nonprofit resources to maximize the conservation benefits to wildlife and wildlife habitat.

5096.309. Pursuant to guidelines issued by the secretary, all recipients of funding pursuant to this chapter shall post signs acknowledging the source of the funds.

Article 2. Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection (Villaraigosa-Keeley Act) Program

5096.310. The proceeds of bonds issued and sold pursuant to this chapter shall be deposited in the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection (Villaraigosa-Keeley Act) Bond Fund, which is hereby created. Unless otherwise specified and except as provided in subdivision (m), the money in the fund shall be available for appropriation by the Legislature, in the manner set forth in this chapter, only for parks and resources improvement, in accordance with the following schedule:

(a) The sum of five hundred two million seven hundred fifty thousand dollars ($502,750,000) to the department for the following purposes:

(1) To rehabilitate, restore, and improve units of the state park system that will ensure that state park system lands and facilities will remain open and accessible for public use.

(2) To develop, improve, rehabilitate, restore, enhance, and protect facilities and trails at existing units of the state park system that will provide for optimal recreational and educational use, activities, improved access and safety, and the acquisition from a willing seller of inholdings and adjacent lands. Adjacent lands are lands contiguous to, or in the immediate vicinity of, existing state park system lands and that directly benefit an existing state park system unit.

(3) For stewardship of the public investment in the preservation of the critical natural heritage and scenic features, and cultural heritage stewardship projects that will preserve vanishing remnants of California 's landscape, and protect and promote a greater understanding of California 's past, and the planning necessary to implement those efforts.

(4) For facilities and improvements to enhance volunteer participation in the state park system.

(5) To develop, improve, and expand interpretive 33 facilities at units of the state park system, including educational exhibits and visitor orientation centers.

(6) To rehabilitate and repair aging facilities at winter 36 recreation facilities pursuant to the Sno-Park program, as provided for in Chapter 1.27 (commencing with Section 5091. 01), that provide for improved public safety.

(7) For projects that improve air quality related to the state park system, including, but not limited to, the purchase of low-emission or advanced technology vehicles and equipment and clean fuel distribution facilities that will avoid or reduce air emissions at state park facilities.

(b) The sum of eighteen million dollars ($18,000,000) to the department to undertake stewardship projects, including cultural resources stewardship and natural resources stewardship projects, that will restore and protect the natural treasures of the state park system, preserve vanishing remnants of California's landscape, and protect and promote a greater understanding of California 's past.

(c) The sum of four million dollars ($4,000,000) to the department for facilities and improvements to enhance volunteer participation in the state park system.

(d) The sum of twenty million dollars ($20,000,000) to the department for grants to local agencies administering units of the state park system under an operating agreement with the department, for the development, improvement, rehabilitation, restoration, enhancement, protection, and interpretation of lands and facilities of, and improved access to, those locally operated units.

(e) The sum of ten million dollars ($10,000,000) to the department for purposes consistent with Section 5079.10, for competitive grants, in accordance with Section 5096.335.

(f) The sum of three hundred eighty-eight million dollars ($388,000,000) to the department for grants, in accordance with Sections 5096332, 5096333, and 5096.336, on the basis of population, for the acquisition, development, improvement, rehabilitation, restoration enhancement, and interpretation of local park and recreational lands and facilities, including renovation of recreational facilities conveyed to local agencies resulting from the downsizing or decommissioning of federal military installations.

(g) The sum of two hundred million dollars ($200,000,000) to the department for grants to cities, counties, and districts for the acquisition, development, rehabilitation, and restoration of park and recreation areas and facilities pursuant to the Roberti-Z'berg-Harris Urban Open-Space and Recreational Program Act (Chapter 3.2 (commencing with Section 5620)).

(h) The sum of ten million dollars ($10,000,000) to the department for grants, in accordance with Section 5096.337, for the improvement or acquisition and restoration of riparian habitat, riverine aquatic habitat, and other lands in close proximity to rivers and streams for river and stream trail projects undertaken in accordance with Section 78682.2 of the Water Code, and for

rposes of Section 7048 of the Water Code.
(i) The sum of ten million dollars ($10,000,000) to the department for grants, in accordance h Section
96.337, for the development, improvement, rehabilitation, restoration, enhancement, and erpretation of nonmotorized trails for the purpose of increasing public access to, and joyment of, public areas for increased recreational opportunities. Not less than one million e hundred thousand dollars ($1,500,000) of this amount shall be allocated toward the mpletion of a project that links existing bicycle and pedestrian trail systems to major urban blic transportation systems, to promote increased recreational opportunities and nmotorized commuter usage in the City of Whittier. Of this amount, no less than two hundred venty-five thousand dollars ($275,000) shall be allocated to the East Bay Regional Park istrict toward the completion of the Iron Horse Trail. Of this amount, not less than one million llars ($1,000,000) shall be allocated to a regional park district for the completion of a bike il in the City of Concord.
(j) Th e sum of one hundred million dollars ($100,000,000) to the department for grants to blic agencies and nonprofit organizations for park, youth center, and environmental hancement projects that benefit youth in areas that lack safe neighborhood parks, open ace, and natural areas, and that have significant poverty.
(k) The sum of two million five hundred thousand dollars ($2,500,000) to the California nservation Corps to complete capital outlay and resource conservation projects and ministrative costs allocable to the bond
ided projects.
(l) The sum of eighty-six million five hundred thousand dollars ($86,500,000) to the partment for the following purposes:
(1) The sum of seventy-one million five hundred thousand dollars ($71,500,000) for grants, accordance with Sections 5096339 and 5096.340, for urban recreational and cultural nters, including, but not limited to, zoos, museums, aquariums, and facilities for wildlife, vironmental, or natural science aquatic education or projects that combine curation of chaeological, paleontological, and historic resources with education and basic and applied search, and that emphasize specimens of California's extinct prehistoric plants and animals.
(2) The sum of fifteen million dollars ($15,000,000) for grants for regional youth soccer and seball facilities operated by nonprofit organizations. Priority shall be given to those grant ojects that. utilize existing school
cilities or recreation facilities and serve disadvantaged youth.
(m) Notwithstanding Section 13340 of the Government Code, the sum of two hundred ty-five million five hundred thousand dollars ($265,500,000) is, except as provided in ction 5096350, hereby continuously appropriated to the Wildlife Conservation Board, hout regard to fiscal years, in accordance with Section 5096.350.
(n) The sum of fifty million dollars ($50,000,000) to the California Tahoe Conservancy, in cordance with
ction 5096.351.
(o) The sum of two hundred twenty million four hundred thousand dollars ($220,400,000) to e State Coastal Conservancy, in accordance with Section 5096352.
(p) The sum of thirty-five million dollars ($35,000,000) to the Santa Monica Mountains nservancy, in
cordance with Section 5096.353.

(q) The sum of five million dollars ($5,000,000) to the Coachella Valley Mountains nservancy, in accordance with Section 5096.354.
(r) The sum of fifteen million dollars ($15,000,000) to the San Joaquin River Conservancy, accordance with Section 50963.55.
(s) The sum of twelve million five hundred thousand dollars ($12,500,000) to the California nservation Corps for grants for the certified local community conservation corps program to mplete capital outlay and resource conservation projects.
(t) Th e sum of twenty-five million dollars ($25,000,000) to the Department of Conservation ccordance with Section 5096.356.
(u) The sum of ten million dollars ($10,000,000) to the Department of Forestry and Fire Protection for urban
forestry programs in accordance with Section 4799.12. The grants made pursuant to this subdivision shall be for costs associated with the purchase and planting of trees, and up to three years of care which ensures the long-term viability of those trees.
(v) Notwithstanding Section 711 of the Fish and Game Code, the sum of twelve million dollars' ($12,000,000) to the Department of Fish and Game for the following purposes:
(1) The sum of five million dollars ($5,000,000) for expenditure in accordance with subdivision (a) of Section 5096.357.
(2) The sum of five million dollars ($5,000,000) for expenditure in accordance with subdivision (b) of Section 5096.357.
(3) The sum of two million dollars ($2,000,000) to remove nonnative vegetation harmful to ecological reserves in San Diego County.
(w) The sum o thirty million dollars ($30,000,000) of shall be available for purposes of Chapter 4.5 (commencing with Section 31160) of Division 21. Two hundred fifty thousand dollars ($250,000) shall, be allocated to Mount Diablo State Park.

(x) The sum of seven million dollars ($7,000,000) to the California Integrated Waste Management Board for
grants to local agencies to assist them in meeting state and federal accessibility standards relating to public
playgrounds if the local agency guarantees that 50 percent of the grant funds will be used for the improvement or replacement of playground equipment or facilities through the use of recycled materials and that matching funds in an amount equal to not less than 50 percent of the total amount of those grant funds will be provided through either public or private funds or in-kind contributions. The board may reduce this matching fund requirement to not less than 25 percent if it determines that the 50 percent requirement would impose an extreme financial hardship on the local agency applying for the grant. The board may expend the funds allocated pursuant to this subdivision, upon appropriation by the Legislature, for the purposes specified herein.
(y) The sum of fifteen million dollars ($15,000,000) to a city for rehabilitation, restoration, or enhancement to a city park that is over 1,000 acres that serves an urban area of over 750,000 population in northern California and that provides recreational, cultural, and scientific resources.
(z) (1) The sum of six million two hundred fifty thousand dollars ($6,250,000) to the secretary to administer grants to the Sierra Nevada-Cascade Program, in accordance with Section 5096.34.7.
(2) The sum of thirty-three million five hundred thousand dollars ($33,500,000) to the secretary to administer a river parkway and restoration program to assist local agencies and other districts to plan, create, and conserve river parkways. The secretary shall make funds available in accordance with Sections 7048 and 78682.2 of the Water Code, and any other applicable authority, for the following purposes:
(A) Twenty-five million dollars ($25,000,000) for the acquisition or restoration of public lands within the Los
Angeles River Watershed, the San Gabriel River Watershed, and the San Gabriel Mountains and to provide open space, nonmotorized trails, bike paths, and other low-impact recreational uses and wildlife and habitat restoration and protection. Ten million dollars ($10,000,000) shall be allocated for the Los Angeles River Watershed, and fifteen million dollars ($15,000,000) shall be allocated for the San Gabriel River Watershed and the San Gabriel Mountains and lower Los Angeles River.
(B) Tw o million five hundred thousand dollars ($2,500,000) for river parkway projects along the Kern River between the mouth of the Kern Canyon and I-5.
(C) One million dollars ($1,000,000) for land acquisition in the Santa Clarita Watershed.
(D) Three million dollars ($3,000,000) for watershed, riparian, and wetlands restoration along the Sacramento River in Yolo, Glenn, and Colusa Counties.
(E) Two million dollars ($2,000,000) for the construction of a visitor center at a state recreation area encompassing a body of water along the American River.
(3) The sum of two million dollars ($2, 000, 000) to the secretary for resource conservation

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and urban water
recycling that addresses multicounty regional recreational needs, provides habitat restoration, and enjoys joint sponsorship by multiple local agencies and nonprofit organizations in the County of Sonoma.

(4) The sum of one million one hundred thousand dollars ($1,100,000) to the secretary, one hundred thousand dollars ($100,000) of which shall be made available to fund a community center in San Benito County, one hundred thousand dollars ($100,000) of which shall be made available to fund a veterans park in San Benito County, five hundred thousand dollars ($500,000) of which shall be made available to fund a community center in the City of Galt, and four hundred thousand dollars ($400,000) of which shall be made available to fund a community center in the City of Gilroy.

(5) The sum of two million dollars ($2,000,000) to the secretary for Camp Arroyo in Alameda County.

(6) The sum of one million dollars ($1,000,000) to the secretary to construct a rehabilitation center for injured endangered and indigenous wild animals at the Wildhaven Center in the San Bernardino Mountains.

Article 3. State Park System Program

5096.320. The Legislature hereby - recognizes that public financial resources are inadequate to meet all capital outlay needs of the state park system and that the need for the acquisition, development, restoration, rehabilitation, improvement, and protection of state, park system lands and facilities has increased to the point that their continued well-being and the realization of their full public benefit is in jeopardy.

(a) The department shall annually submit to the Legislature and to the secretary a report, consisting of a prioritized listing and comparative evaluation of needs.

(b) Projects approved by the secretary shall be forwarded by the secretary to the Director of Finance for inclusion in the Budget Bill.

5096.322. (a) No later than November 1, 2001, the director shall determine the amount of funding that is necessary to complete all deferred maintenance projects within each unit of the state park system.

(b) Except as provided in subdivision (c), no proceeds of the bonds issued and sold pursuant to this chapter may be used to acquire improved property for a unit of the state park system until 75 percent of the amount determined pursuant to subdivision (a) has been appropriated, and allocated to complete deferred maintenance projects within that unit from an appropriated funding source other than the proceeds of the bonds issued and sold pursuant to this chapter.

(c) Real property may be acquired under this chapter for a unit of the state park system that does not meet the requirements of subdivision (b) only if the director finds, with respect to that unit, that a unique opportunity is presented to acquire real property that will constitute a significant improvement of the state park system.

(d) As used in this section, "deferred maintenance project" means any project identified in the department's 2001 Deferred Maintenance Assessment that rehabilitates or repairs a facility to a safe and usable condition for the visiting public.

5096.323. Fifty million dollars ($50,000,000) of the funds allocated pursuant to subdivision (a) of Section 5096.310 shall be expended for the acquisition of land from willing sellers that are a high priority for both the state parks system and for habitat purposes, with priority given to projects that protect habitat for rare, threatened, or endangered species pursuant to a natural community conservation plan adopted pursuant to Chapter 10 (commencing with Section 2800) of Division 10 of the Fish and Game Code, if the acquisition of the land is conducted in conjunction with a natural community conservation plan approved by the Department of Fish and Game prior to January 1, 1999, or if the acquisition is approved by statute. Notwithstanding paragraph (2) of subdivision (a) of Section 5096.310, those land acquisitions may be for either new or existing units of the state park system.

SEC. 2. Section 5096.324 is added to the Public Resources Code, to read:

5096.324. Funds appropriated to the department pursuant to subdivision (a) of Section 5096.310 shall be made available for the following purposes:

(a) The sum of fifteen million dollars ($15,000,000) to preserve and restore a unit of the state parks system that preserves and restores cultural and historical immigration resources in northern California.

(b) The sum of two million six hundred thousand dollars ($2,600,000) to construct visitor centers in state parks, state recreation areas, and state historic parks. The department shall give priority to projects at Chino Hills State Park and California Citrus State Historic Park.

(c) Up to six hundred fifty thousand dollars ($650,000) for playground equipment upgrades in state recreation areas.

(d) The sum of two hundred fifty thousand dollars ($250,000) for restoration of state reserves that maintain the state flower.

(e) The sum of one million dollars ($1,000,000) for restoration of state beaches.

(f) The sum of five million dollars ($5,000,000) for restoration, study, and curation of paleontological, archaeological, and historical resource site protection. Priority shall be given to projects that combine curation of archaeological, paleontological, and historical resources with education and basic and applied research, and that emphasize specimens of California's extinct prehistoric plants and animals.

(g) The sum of two million seven hundred fifty thousand dollars ($2,750,000), two million five hundred thousand dollars ($2,500,000) of which shall be allocated for capital outlay projects at the Empire Mine State Historic Park, and two hundred fifty thousand dollars ($250,000) of which shall be allocated for Columbia State Historic Park.

(h) The sum of ten million dollars ($10,000,000) for the acquisition of lands from willing sellers of lands that are forested with redwoods or that will enhance the protection or preservation of the redwood forest ecosystem. The department shall give preference to projects where matching contributions in funding from other public agencies, private parties, or nonprofit organizations are available.

(i) Up to five hundred thousand dollars ($500,000) to construct trails, trailheads, and parking, and to provide nonvehicular public access between the Bear and Mendoza Ranch open-space and adjacent Henry Coe State Park.

Article 4. Grant Program

5096.331. The Legislature hereby recognizes that public financial resources are inadequate to meet all of the funding needs of local public park and recreation providers and that there is an urgent need for safe, open,
and accessible local park and recreational facilities and for the increased recreational opportunities that provide positive alternatives to social problems. Accordingly, it is declared to be the policy of this state that the funds allocated pursuant to subdivisions (f) and (g) of Section 5096.310 to local agencies shall be appropriated primarily for projects that accomplish all of the following:

(a) Rehabilitate facilities at existing local parks that will provide for more efficient management and reduced operational costs. This may include grants to local agencies for the renovation of recreational facilities conveyed to local agencies resulting from the downsizing and decommissioning of federal military installations.

(b) Develop facilities that promote positive alternatives for youth and that promote cooperation between local park and recreation service providers and youth-serving nonprofit organizations.

(c) Promote family oriented recreation, including art activities.

(d) Provide for open, safe, and accessible local park lands, facilities, and botanical gardens.

5096.332. (a) Sixty percent of the total funds available for grants pursuant to subdivision (f) of Section 5096.310 shall be allocated to cities and to districts other than a regional park district, regional park and open space district, or regional open-space district. Each city's and

ict's allocation shall be in the same ratio as the city's or district's population is to the bined total of the state's population that is included in incorporated areas and corporated areas within the district, except that each city or district shall be entitled to a num allocation of thirty thousand dollars ($30,000). In any instance in which the boundary city overlaps the boundary of such a district, the population in the area of overlapping dictions shall be attributed to each jurisdiction in proportion to the extent to which each ales and manages parks and recreational areas and facilities for that population. In any nce in which the boundary of a city overlaps the boundary of such a district, and in the of overlap the city does not operate and manage parks and recreational areas and lies, all grant funds shall be allocated to the district.

) Each city and each district subject to subdivision (a) whose boundaries overlap shall elop a specific plan for allocating the grant funds in accordance with the formula specified bdivision (a). If, by April 1, 2001, the plan has not been agreed to by the city and district submitted to the department, the director shall determine the allocation of the grant funds ng the affected jurisdictions.

i.333. (a) Forty percent of the total funds available for grants pursuant to subdivision (f) of ion 5096.310 shall be allocated to counties and regional park districts, regional park open-space districts, or regional open-space districts formed pursuant to Article 3 mencing with Section 5500) of Chapter 3.

) Each county's allocation under subdivision (a) shall be in the same ratio as the county's ulation, except that each county shall be entitled to a minimum allocation of one hundred thousand dollars ($150,000).

:) In any county that embraces all or part of the territory of a regional park district, regional and open-space district, or regional open-space district, whose board of directors is not county board of supervisors, the amount allocated to the county shall be apportioned veen that district and the county in proportion to the population of the county that is uded within the territory of the district and the population of the county that is outside the tory of the district.

d) In any county that currently embraces all or a part of the territory of a regional n-space district and an authority formed pursuant to Division 26 (commencing with Section 00), the allocation shall be distributed between the county and these entities as follows:

1) First, the funds shall be apportioned between the district and the county in proportion to population of the county that is included within the territory of the district, and the portion of the population of the county that is outside the district. The amounts resulting this calculation shall be known as the district's share, and the county's first balance. The ict's share shall be allocated to the district. The county's first balance shall be further ortioned as provided in paragraph (2).

2) The county's first balance, as determined in accordance with paragraph (1), shall be er apportioned between the authority and the county in proportion to the population of the ity that is included within the territory of the authority, and the proportion of the population e county that is outside the authority. The amounts resulting from this calculation shall be wn as the authority's share, and the county's second balance.

3) The authority's share shall be divided equally between the county and the authority. The ity shall receive all of the county's second balance.

3.334. Notwithstanding Section 5096.331, of the funds allocated on the basis of population uant to subdivision (f) of Section 5096.310 within counties with a population of five million ons or more, not less than 75 percent of the total amount, shall be available as follows:

a) Not less than 20 percent for land acquisition, construction, development, and abilitation of at-risk

h recreation facilities. As used in this section, "at-risk youth" means persons who have not ned the age of 21 years and are at high risk of being involved in, or are involved in, one or e of the following: gangs, juvenile delinquency, criminal activity, substance abuse, lescent pregnancy, or school failure or dropout.

b) Not less than 40 percent for projects within the most economically disadvantaged areas, h may include projects along river parkways, conservation corridors, and parkways along dors of economic significance.

c) Not less than 10 percent for urban reforestation projects.

(d) Not more than 5 percent for projects that convert publicly owned land to a neighborhood park providing open-space, recreational, cultural, and festival opportunities, if the bond proceeds do not exceed 25 percent of the total project cost and there is a 75 percent funding match.

5096.335. Funds authorized pursuant to subdivision (e) of Section 5096.310 shall be administered by the State Office of Historic Preservation and shall be available as grants, on a competitive basis, to cities, counties, districts, local agencies formed for park purposes pursuant to a joint powers agreement between two or more local entities, and nonprofit organizations for the acquisition, development, rehabilitation, restoration, and interpretation of historical resources.

5096.336. (a) Of the funds authorized pursuant to subdivision (f) of Section 5096.310, three hundred thirty-eight million dollars ($338,000,000) shall be available for grants to cities, counties, and districts on the basis of their populations, as determined by the department in cooperation with the Department of Finance, on the basis of the most recent verifiable census data and other population data that the department may require to be furnished by the applicant city, county, or district.

(b) Of the funds authorized pursuant to subdivision (f) of Section 5096.310, fifty million dollars ($50,000,000) available for grants pursuant to subdivision (f) of Section 5096.310 shall be allocated to cities and districts in urbanized counties providing park and recreation services within jurisdictions of 200,000 or less in population. For purposes of this subdivision, "urbanized counties" means a county with a population of 200,000 or greater.

SEC 3. Section 5096337 is added to the Public Resources Code, to read:

5096.337. (a) Funds authorized pursuant to subdivisions (h), (i), and (z) of Section 5096310 shall be available as grants, on a competitive basis, to cities, counties, districts, local agencies formed for park purposes pursuant to a joint powers agreement as defined in subdivision (b), and other districts, as defined in subdivision (c).

(b) For purposes of this section, "local agency" means any local agency formed for park purposes pursuant to a joint powers agreement between two or more local entities, excluding school districts.

(c) For purposes of this section, "other district include any district authorized to provide park, recreational, or open-space services, or a combination of those services, except a school district.

5096.338. The funds allocated pursuant to subdivision (j) of Section 5096.310 shall, upon appropriation in the annual Budget Act, be available for existing or new entities or programs designated by statute for grants to public agencies and nonprofit organizations, and for related administrative costs. At least 50 percent of the funds shall be available for grants to local public agencies and districts.

SEC 4. Section 5096.339 is added to the Public Resources Code, to read:

5096.339. (a) Not less than 11 percent of the funds authorized in paragraph (1) of subdivision (i) of Section 5096.310 shall be available as grants administered by the department to cities, counties, and nonprofit organizations for the development, rehabilitation, or restoration of facilities accredited by the American Zoo and Aquarium Association (AZA) and operated by cities, counties, and nonprofit organizations, and to cities, counties, and nonprofit organizations for the development, rehabilitation, or restoration of zoos and aquariums operated by cities, counties, and nonprofit organizations, but not yet accredited by the AZA. This program shall be known, and may be cited, as the Dr. Paul Chaffee Zoological Program. Allocation in awarding grants pursuant to this section shall be in accordance with the following schedule:

(1) Individual grants of up to one million dollars ($1,000,000), or an amount to be determined by dividing 95 percent of the total zoo and aquarium funds available pursuant to this subdivision by the number of AZA accredited institutions at the time of enactment of this section, shall be made available to zoos and aquariums that are AZA accredited.

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(2) Not less than [illegible]cent or two million dollars ($2,000,000), whichever is greater, of the funds available
pursuant to this subdivision shall be reserved for institutions with annual operating budgets of less than one million dollars ($1,000,000).

(3) Not more than 5 percent of the total funds available pursuant to this subdivision, shall be made available as grants to zoos and aquariums that have initiated the AZA accreditation process but are not yet accredited at the time of the enactment of this section. Grants awarded under this subdivision shall be dedicated to projects which will enhance the institution's ability to meet standards of AZA accreditation.

4) Not more than 5 percent of the total funds available pursuant to this subdivision shall be granted for publicly owned or nonprofit zoos and wildlife centers that may not be accredited, but that care for animals that have been injured or abandoned and that cannot be returned to the wild. To be eligible for this portion of those funds, applicants shall demonstrate that they serve a regional area, foster the environmental relationships of animals within that region, and operate outreach and onsite programs communicating those objectives to the public.

(b) At least ten million dollars ($10,000,000) of the funds allocate pursuant to paragraph (1) of subdivision

(1) of Section 5096.310 shall be provided to the California Science Center for implementation of the Exposition Master Plan. Three million dollars ($3,000,000) of this amount shall be made available to the California African-American Museum for completion of its education and visitor facility in Exposition Park and seven million dollars ($7,000,000) of this amount shall be made available for the California Science Center School.

(c) Not less than five hundred thousand dollars ($500,000) of the funds allocated pursuant to paragraph

(1) of subdivision (1) of Section 5096.310 shall be available as grants for facilities for education programs focused on the National Marine Sanctuaries along California 's coast.

(d) Not less than forty-four million seven hundred fifty thousand dollars ($44,750,000) of the funds allocated pursuant to paragraph (1) of subdivision (7) of Section 5096.310 shall be made available for the following
purposes:

(1) At least ten million dollars ($10,000,000) shall be provided to the Discovery Science Center in Santa Ana for capital improvement.

(2) At least ten million dollars ($10,000,000) shall be provided to the California Academy of the Sciences for capital improvement projects.

(3) At least two million dollars ($2,000,000) shall be provided toward the creation of the Delta Science Center to carry out significant marine and delta aquatic education and interpretive programs.

(4) At least fifteen million dollars ($15,000,000) shall be provided to the Alliance of Redding Museums for capital improvements for the Turtle Bay-Museums and the Arboretum on the River

(5) An individual grant of four million two hundred fifty thousand dollars ($4,250,000) shall be made to the
California Division of Fairs and Expositions of the Department of Food and Agriculture for capital outlay to
assist with an approved contract entered into on or before January 1, 2000, for an exposition or state fair relocation in any county with a population greater than 5,000,000.

(6) The sum of three million five hundred thousand dollars ($3,500,000) to enhance the two-acre historical exhibit at the Kern County Museum.

5096.340. (a) Not less than 11 percent of the funds authorized in paragraph (1) of subdivision (l) of Section 5096.310 shall be available as grants on a competitive basis to cities, counties, and nonprofit organizations for the development or rehabilitation of real property consisting of urban recreational and cultural centers, museums, and facilities for wildlife education or environmental education.

(b) To be eligible for funding, a project shall initially be nominated by a Member of the

Legislature for study by the department. The department shall study each proposal nominated and, prior to the April 1 preceding the fiscal year in which funds are proposed to be appropriated, shall submit to the Legislature a prioritized listing and comparative evaluation of all projects nominated prior to the preceding July 1.

(c) In establishing priorities of projects, the department shall consider any favorable project characteristics, including, but not limited to, all of the following:

(1) The project will interpret one or more important California historical, cultural, economic, or resource themes or an important historical, cultural, economic, technological, or resource theme in a major region of California. Higher priority shall be assigned to projects whose themes are not interpreted in any existing museum or have demonstrable deficiencies in their presentation in an existing museum.

(2) The project is proposed to be operated on lands that are already in public ownership or on lands that will be acquired and used for the project in conjunction with adjoining public lands.

(3) Projects that are closely related geographically to the resources, activity, structure, place, or collection of objects to be interpreted, and are close to population centers and access routes.

(4) Projects that are in, or close to, population centers or are adjacent to, or readily served by, a state highway or other mode of public transportation.

(5) Projects for which there are commitments, or the serious likelihood of commitments, of funds or the donation of land or other property suitable for the project.

(d) The department shall annually forward a list of the highest priority projects to the Department of Finance for inclusion in the Budget Bill.

e) An application for a grant for a cooperative museum project shall be submitted jointly by the city, county, or other public agency, an institute of higher learning, or a nonprofit organization that cooperatively is operating, or will operate, the project.

5096.341. (a) The director shall prepare and adopt criteria and procedures for evaluating applications for grants allocated pursuant to subdivisions (f), (g), (h), (i), and (l) of Section 5096.310. Individual applications for funds shall be submitted to the department for approval as to their conformity with the requirements of this chapter. The application shall be accompanied by certification from the planning 'agency of the applicant that the project for which the grant is requested is consistent with the park and recreation element of the applicable city or county general plan or the district park and recreation plan, as the case may be, and will satisfy a high priority need. To utilize available grant funds as effectively as possible, overlapping or adjoining jurisdictions are encouraged to combine projects and submit a joint application.

(b) Any applicant may allocate all or a portion of its per capita share for a regional or state project.

(c) The director shall annually forward a statement of the total amount to be appropriated in each fiscal year for projects approved for grants pursuant to subdivisions (f), (g), (h), (i), and (l) of Section 5096.310 to the Director of Finance for inclusion in the Budget Bill. A list of eligible jurisdictions and the amount of grant funds to be allocated to each shall also be made available by the department.

(d) (1) Funds appropriated for grants pursuant to subdivisions (f), (g), (h), (i), and (l) of Section 5096.310 shall be encumbered by the recipient within three years from the date that the appropriation became effective. Regardless of the date of encumbrance of the granted funds, the recipient is expected to complete all funded projects within eight years of the effective date of the appropriation.

(2) Commencing with the Budget Bill for the 2009-10 fiscal year, any grant funds appropriated pursuant to subdivisions (f), (g), (h), (i), and (l) of Section 5096.310 that have not been expended by the grantee shall revert to the fund and be available for appropriation by the Legislature for one or more of the categories specified in Section 5096.310 that the Legislature determines to be of the highest priority statewide.

5096.342. (a) Grant funds appropriated pursuant to subdivisions (f), (g), (h), (i), and (l) of Section 5096.310 may be expended by the grantee only for projects on lands owned by, or subject to a lease or other interest held by, the grantee.

(b) If a grant applicant does not have fee title to the lands, the applicant shall demonstrate

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the satisfaction of the department that the proposed project will provide public benefits that e commensurate with the type and duration of the interest in land that is held by the pplicant.

5096.343. (a) Except as provided in subdivision (c), no grant funds authorized pursuant to ubdivisions (f), (g), (h), (i), and (l) of Section 5096.310 may be disbursed unless the applicant is agreed, in writing, to both of the following:

(1) To maintain and operate the property funded pursuant to this chapter for a period that is mmensurate with the type of project and the proportion of state funds and local matching nds or property allocated to the capital costs of the project. With the approval of the partment, the grantee, or the grantee's successor in interest in the property, may transfer e responsibility to maintain and operate the property in accordance with this section.

(2) To use the property only for the purposes for which the grant was made and to make no her use or sale or other disposition of the property, except as authorized by specific act of e Legislature.

(b) The agreements specified in subdivision (a) shall not prevent the transfer of the operty from the applicant to a public agency, if the successor public agency assumes the ligations imposed by those agreements.

(c) If the use of the property is changed to a use that is not permitted by the category from uch the grant funds were appropriated, or if the property is sold or otherwise disposed of, an mount equal to (1) the amount of the grant, (2) the fair market value of the real property, or the proceeds from the sale or other disposition, whichever is greater, shall be used by the antee for a purpose authorized by that category, pursuant to agreement with the department specified in subdivision (a), or shall be reimbursed to the fund and be available for propriation by the Legislature only for a purpose authorized by that category. If the property ld or otherwise disposed of is less than the entire interest in the property funded with the unt, an amount equal to either the proceeds from the sale or other disposition of the interest the fair market value of the interest sold or otherwise disposed of, whichever is greater, all be used by the grantee for a purpose authorized by the category from which the funds re appropriated, pursuant to agreement with the department as specified in subdivision (a), shall be reimbursed to the fund and be available for appropriation by the Legislature only for rse authorized by that category.

C. 5. Section 5096.344 is added to the Public Resources Code, to read:

5096.344. All grants, gifts, devises, or bequests to the state, that are conditioned upon ng used for park,
nservation, recreational, agricultural, or other such purposes, may be accepted and eived on behalf of the
te by the appropriate departmental director, with the approval of the Director of Finance, d those grants, gifts, devises, or bequests may be available, upon appropriation by the gislature, for expenditure for the
poses specified in Section 5096310.

C. 6 Section 5096.345 is added to the Public Resources Code, to read:

5096.345. Except for funds continuously appropriated by this chapter, all appropriations of ds pursuant to
ction 5096.310 for purposes of the program shall be included in the Budget Bill for the 01-02 fiscal year, and each succeeding fiscal year, for consideration by the Legislature, and ll bear the label "Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal tection (Villaraigosa-Keeley Act) Fund." The Budget Bill section shall contain separate ns for each project, each class of project, or each element of the program for which an propriation is made.

cle 4.5. Clean Air Improvement Program

5096.346. (a) In allocating funds pursuant to subdivision (u) of Section 5096.310, the Department of Forestry and Fire Protection shall give preference to the planting of trees that provide greater air quality benefits and to urban forestry projects that provide greater energy conservation benefits.

(b) The Department of Forestry and Fire Protection shall consult with the State Air Resources Board in developing guidelines for the allocation of grant funds pursuant to subdivision (u) of Section 5096.310 that promote air quality benefits.

(c) State and local agencies shall consider potential air quality benefits when allocating funds received pursuant to this chapter.

Article 4.6. Sierra Nevada-Cascade Mountain Region

SEC. 7. Section 5096.347 is added to the Public Resources Code, to read:

5096.347. (a) The Legislature hereby finds and declares that the Sierra Nevada and Cascade Mountain
Region constitutes a unique and important environmental, anthropological, cultural, scientific, educational, recreational, scenic, water, watershed, and wildlife resource that should be held in trust for the enjoyment of, and appreciated by, present and future generations.

(b) The secretary shall administer grants to the Sierra Nevada-Cascade Program to assist local governments, agencies, districts, and nonprofit organizations working in collaboration with those local governments, agencies, and districts to plan, create, and conserve the Sierra Cascade natural ecosystem. The secretary shall make funds available on a competitive basis for all of the following activities:

(1) The acquisition and restoration of riparian habitat in accordance with Sections 7048 and 78682.2 of the Water Code to improve water quality, and to protect, restore, or rehabilitate watersheds, streams wetlands, or other aquatic habitat.

(2) Capital improvement projects that provide park and recreational opportunities.

(3) Access to trails and public lands, in accordance with Article 6 (commencing with Section 5070) of Chapter 1 of Division 5.

(4) Acquisition of park lands or recreational facilities.

(c) The secretary shall give priority to fund up to two million dollars ($2,000,000) for Commons Beach improvements on properties owned or administered by local agencies in the Lake Tahoe area, that will provide
improved lake access, bicycle and pedestrian trail linkages, and interpretative facilities.

(d) The secretary may provide the following capital outlay grants:

(1) Five hundred thousand dollars ($500,000) for capital outlay to an incorporated city all or part of the
territory of which is located within five miles of the boundary line between San Joaquin County and Sacramento County.

(2) Two hundred fifty thousand dollars ($250,000) to the department for the renovation of a state historical
point of interest near the intersection of Jack Tone Road and State Highway 88.

(e) For the purposes of this article, the Sierra Nevada-Cascade Mountain Region includes those portions of Fresno County, Kern County, Stanislaus County, and Tulare County, and counties with populations of less than 250,000 as of the 1990 United States Census, that are located in the mountains, the foothills, and the area adjacent to the geologic formations of the Sierra Nevada and Cascade mountain ranges.

Article 4.7 Murray-Hayden Urban Parks and Youth Service Program

SEC. 8. Section 5096.348 is added to the Public Resources Code, to read:

5096.348. (a) Notwithstanding any other provision of this chapter, funds allocated pursuant to subdivision (j)
of Section 5096.310 shall be allocated, upon appropriation by the Legislature, for parks, park facilities, or environmental youth service centers that are within the immediate proximity of a neighborhood that has been
identified by the department as having a critical lack of park or open space lands or

deteriorated park f. , that are in an area of significant poverty and unemployment, and that have a shortage of services for youth. Priority shall be given to capital projects that employ neighborhood residents and at-risk youth.

(b) (1) Fifty percent of the funds allocated pursuant to subdivision 6) of Section 5096.310 shall be made available on a competitive basis to heavily urbanized counties and cities or to nonprofit organizations or park districts in those counties and cities, in compliance with subdivision (a) and the matching requirements of the Roberti-Z'berg-Harris Urban Open-Space and Recreation Program Act (Chapter 3.2 (commencing with Section 5620).

(2) No more than 10 percent of the amounts made available pursuant to paragraph (1) shall be allocated to fund grants pursuant to Chapter 2.5 (commencing with Section 990) of Part I of Division 2 of the Welfare and Institutions Code, at least 50 percent of which shall be granted to youth service organizations eligible for tax-exempt status pursuant to Section 501(c)(3) of the Internal Revenue Code that are chartered by a national youth service organization.

Article 5. Wildlife Program

SEC 9. Section 5096.350 is added to the Public Resources Code, to read:

5096.350. (a) Funds appropriated pursuant to subdivision (m) of Section 5096.310 shall be available for expenditure by the Wildlife Conservation Board for the acquisition, development, rehabilitation, restoration, and protection of real property benefiting fish and wildlife, for the acquisition, restoration, or protection of habitat that promotes recovery of threatened, endangered, or fully protected species, maintains the genetic integrity of wildlife populations, and serves as corridors linking otherwise separate habitat to prevent habitat fragmentation, and for grants and related state administrative costs pursuant to the Wildlife Conservation Law of 1947 (Chapter 4 (commencing with Section 1300) of Division 2 of the Fish and Game Code), for the following purposes:

(1) Ten million dollars ($10,000,000) for the acquisition or restoration of wetland habitat, as follows:

(A) Five million dollars ($5,000,000) for the acquisition, preservation, restoration, and establishment, or any combination thereof, of habitat for waterfowl or other wetlands-associated wildlife, as provided for in the Central Valley Habitat Joint Venture Component of the North American Waterfowl Management Plan and the Inland Wetlands Conservation Program, notwithstanding Section 711 of the Fish and Game Code. Preference shall be given to projects involving the acquisition of perpetual conservation easements, habitat development projects on lands which will be managed primarily as waterfowl habitat in perpetuity; waterfowl habitat development projects on agricultural lands; the reduction of fishery impacts resulting from supply diversions that have a direct benefit to wetlands and waterfowl habitat; or programs to establish permanent buffer areas, including, but not limited to, agricultural lands that are necessary to preserve the acreage and habitat values of existing wetlands.

(B) Five million dollars ($5,000,000) for the acquisition, development, restoration, and protection of wetlands and adjacent lands, or any combination thereof, located outside the Sacramento-San Joaquin Valley.

(2) Ten million dollars ($10,000,000) for the development, acquisition from a willing seller, or restoration of riparian habitat and watershed conservation programs.

(3) Forty-five million dollars ($45,000,000), upon appropriation by the Legislature, for the restoration, or acquisition from a willing seller, of habitat for threatened and endangered species or for the purpose of promoting the recovery of those species. Five million dollars ($5,000,000) of that amount shall be for the acquisition of property along the central coast containing coastal terrace prairie, federally listed spineflower state listed San Francisco popcorn flower, and candidates for federal listing including ohlone tiger beetle and opler's longhorned moth. No funds may be expended pursuant to this paragraph for the acquisition of real property or other actions taken pursuant to Chapter 10 (commencing with Section 2800) of the Fish and Game Code.

(4) Thirteen million dollars ($13,000,000) for the acquisition from a willing s. restoration of forest lands, including, but not limited to, ancient redwoods and oak woodlands. Not more than five million dollars ($5,000,000) of this amount shall be expended on the federal Legacy Forest Program (16 U S C Sec 2103) to meet federal matching requirements and not less than five million dollars ($5,000,000) of this amount shall be allocated for the preservation of oak woodlands. Not more than five million dollars ($5,000,000) of this amount shall be expended on the federal Legacy Forest Program (16 U S C Sec 2103) to meet federal matching requirements and not less than five million dollars ($5,000,000) of this amount shall be allocated for the preservation of oak woodlands.

(5) Eighty-two million five hundred thousand dollars ($82,500,000), upon appropriation by the Legislature, to match funds contributed by federal or local agencies or nonprofit organizations for the acquisition, restoration, or protection of habitat or habitat corridors that promote the recovery of threatened, endangered, or fully protected species. Projects funded pursuant to this paragraph may include restoration projects authorized pursuant to Public Law 105-372, the Salton Sea Reclamation Act of 1998. The board shall require matching contributions of funds, real property, or other resources from other public agencies, private parties, or nonprofit organizations, at a level designed to obtain the maximum conservation benefits to wildlife and wildlife habitat. No funds may be expended pursuant to this paragraph for the acquisition of real property or other actions taken pursuant to Chapter 10 (commencing with Section 2800) of the Fish and Game Code.

6) One hundred million dollars ($100,000,000), upon appropriation by the Legislature, for the purpose of funding the acquisition of real property subject to a natural community conservation plan adopted pursuant to Chapter 10 (commencing with Section 2800) of the Fish and Game Code, if the acquisition of the real property is conducted in conjunction with a natural community conservation plan approved by the Department of Fish and Game prior to January 1, 1999, or if the acquisition is approved by statute.

(7) Five million dollars ($5,000,000) for environmental restoration projects for the following purposes approved pursuant to the Salton Sea Restoration Project authorized by Public Law 105-372, the Salton Sea Reclamation Act of 1998, and identified in the Final Environmental Impact Statement of the Salton Sea Restoration Project:

(A) Reduce and stabilize the overall salinity of the Salton Sea.

(B) Stabilize the surface elevation of the Salton Sea.

(C) Reclaim, in the long term, healthy fish and wildlife resources and their habitats.

(D) Enhance the potential for recreational uses of the Salton Sea.

(b) Not more than 5 percent of the funds authorized for expenditure by this section may be used for public access and wildlife-oriented public use projects.

Article 6. Lake Tahoe Program

5096.351. (a) The Legislature has recognized the need to protect and restore the fragile environment at Lake Tahoe, and the Tahoe Regional Planning Agency has prepared an Environmental Improvement Program that outlines a capital outlay approach to help achieve environmental thresholds in the Lake Tahoe Basin, which allocates funding responsibilities over the first 10 years of the program in the amounts of approximately two hundred seventy-four million dollars ($274,000,000) to the State of California, two hundred ninety-seven million dollars ($297,000,000) to the federal government, eighty-two million dollars ($82,000,000) to the State of Nevada, one hundred one million dollars ($101,000,000) to local governments, and one hundred fifty-three million dollars ($153,000,000) to the private sector.

(b) Funds allocated pursuant to subdivision (n) of Section 5096.310 shall be available for expenditure for the development, restoration, acquisition from a willing seller, and enhancement of re al property, by the California Tahoe Conservancy within the Lake Tahoe region pursuant to Title 7.42 (commencing with Section 66905) of the Government Code for the following purposes:

(1) Protecting the natural environment through preservation of environmentally sensitive lands, soil erosion control, restoration or enhancement of watershed lands, and restoration of

enhancement of streams and other natural areas.
(2) Providing public access and public recreation opportunities.
(3) Enhancing and restoring wildlife areas.
(c) The provision of these funds is to meet applicable state responsibilities pursuant to the Tahoe Regional Planning Agency's Environmental Improvement Program.
(d) The allocation of these funds has been made in the expectation that the federal government, the State of Nevada, local jurisdictions, and the private sector will fulfill their respective obligations pursuant to the Environmental Improvement Program. The secretary shall report annually to the Legislature on the progress of the development and implementation of the Environmental Improvement Program, and the provision of these funds may be restricted in the event that the parties are found to be making inadequate progress or are not making good faith efforts towards fulfilling their respective obligations.

Article 7. Coastal Protection Program

SEC. 10. Section 5096.352 is added to the Public Resources Code, to read:

5096.352. Funds allocated pursuant to subdivision (o) of Section 5096.310 shall be available for expenditure by the State Coastal Conservancy pursuant to Division 21(commencing with Section 31000) for the acquisition from a willing seller, preservation, restoration, and enhancement of real property or an interest in real property in coastal areas and watersheds within its jurisdiction and the development of public use facilities in those areas in accordance with the following schedule:
(a) Twenty-five million dollars ($25,000,000) for projects funded pursuant to the San Francisco Bay Area Conservancy Program established pursuant to Chapter 4.5 (commencing with Section 31160) of Division 21.
(b) (1) Twenty-five million dollars ($25,000,000) shall be made available to the Santa Monica Bay Restoration Project to fund grants to public entities and nonprofit organizations to implement storm water and urban runoff pollution prevention programs, habitat restoration, and other priority actions specified in the
Santa Monica Restoration Plan. The Santa Monica Bay Watershed Council shall determine project eligibility and establish grant priority.
(2) The Santa Monica Bay Watershed Council or the State Coastal Conservancy may require the grant
recipient to provide a portion of matching funds for any funding received. The council or the state conservancy
may use the funds as matching funds for federal or other grant funding.
(c) Sixty-four million two hundred thousand dollars ($64,200,000) of the funds available may be expended by the State Coastal Conservancy directly or as grants to government entities and nonprofit organizations for the
purposes of Division 21 (commencing with Section 31000), and for the following and related purposes, including, but not limited to, the acquisition, enhancement, restoration, protection, and development of coastal resources, beaches, waterfronts, and public accessways in accordance with the following schedule:
(1) An amount not to exceed three million dollars ($3,000,000) may be expended on regional approaches to reduce beach erosion. Up to thirteen million dollars ($13,000,000) shall be made available for the restoration and protection of the Upper Newport Bay Ecological Reserve.

(2) At least fifteen million dollars ($15,000,000) shall be expended in coastal areas north of the Gualala River.
(3) At least twenty-five million dollars ($25,000,000) shall be expended within Santa Cruz, Monterey, San Luis Obispo, or Santa Barbara Counties. One million dollars $1,000,000) shall be allocated to the City of Monterey to fund public access and open space along the waterfront for the Window on the Bay.
(4) At least five million dollars ($5,000,000) shall be expended on completion of the Coastal Trail.

(5) Two million dollars ($2,000,000) shall be dedicated to projects for the Guadalupe River Trail and the San
Francisco Bay Ridge Trail.
(d) Twenty-two million dollars ($22,000,000) may be expended by the State Coastal Conservancy directly or as grants to government entities and nonprofit organizations consistent with Division 21 (commencing with Section 31000), and for administrative costs in connection therewith, for the acquisition, development, rehabilitation, restoration, enhancement, and protection of real property, or other actions that benefit fish and wildlife. At least ten million dollars ($10,000,000) of those funds shall be expended in coastal areas north of the Gualala River. Eight hundred thousand dollars ($800,000) shall be spent to restore the arroyo chub, partially
armored stickleback, and southern steelhead fisheries to their native creeks of San Mateo Creek, and its tributary Devil Canyon Creek, and San Onofre Creek located in San Diego county.
(e) Twenty-five million dollars ($25,000,000) shall be available, upon appropriation by the Legislature, to the
State Coastal Conservancy and the Department of Fish and Game for direct expenditure and for grants to public agencies and nonprofit organizations to protect, restore, acquire, and enhance habitat for salmon. These funds may be used to match federal funding available for those purposes.
(f) Twenty-five million dollars ($25,000,000) of the funds shall be allocated to acquire, protect, and restore wetlands projects that are a minimum of 400 acres in size in any county with a population greater than 5,000,000.
(g) Twelve million five hundred thousand dollars ($12,500,000) shall be allocated to acquire land needed to connect important coastal watershed and scenic areas in the Laguna Coast Wilderness Park.

Article 8. Mountain Resource Program

SEC. 11. Section 5096353 is added to the Public Resources Code, to read:

5096.353. Funds allocated pursuant to subdivision (p) of Section 5096.310 shall be available to the Santa Monica Mountains Conservancy for capital outlay and grants for the acquisition from a willing seller, enhancement, and restoration of natural lands, improvement of public recreation facilities, and for grants to local agencies and nonprofit organizations to increase access to parks and recreational opportunities for underserved urban communities, in accordance with the following schedule:
Thirty-five million dollars ($35,000,000) to acquire, improve, or restore park, wildlife, or natural areas, including areas near or adjacent to units of the state park system wherever such units may be situated within a local jurisdiction within the Santa Monica Mountains Zone or Rim of the Valley Trail Corridor.
5096.354. Funds allocated pursuant to subdivision (q) of Section 5096.310 shall be available to the Coachella Valley Mountains Conservancy for expenditure for the acquisition, development, enhancement, and protection of land, and for administrative costs incurred in connection therewith, in accordance with Division 23.5 (commencing with Section 33500).

Article 9. San Joaquin River Program

5096.355. Funds allocated pursuant to subdivision (r) of Section 5096.310 shall be available to the San Joaquin River Conservancy for expenditure of the acquisition, development, enhancement, and protection of land, and for administrative costs incurred in connection therewith, in accordance with Division 22.5 (commencing with Section 32500).

Article 10. Agriculture Program

SEC. 12. Section 5096.356 is added to the Public Resources Code, to read:

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5096.356. (a) Funds allocated pursuant to subdivision (l) of Section 5096.310 shall be available to the Department of Conservation for grants, on a competitive basis, to state and local agencies and nonprofit organizations for farmland protection and administration of the Agricultural Land Stewardship Program Act of 1995 (Division 10.2 (commencing with Section 102,00)), or its successor program. This purpose shall include, but not be limited to, the placement of improvements and acquisition of agricultural conservation easements and other interests in land pursuant to the Agricultural Land Stewardship Program.

(b) At least 20 percent of the funds allocated pursuant to subdivision (l) of Section 5096.310 shall be available for projects that preserve agricultural lands and protect water quality in the counties that serve the San Pablo Bay.

Article 11. Fish and Game Program

SEC. 13. Section 5096.357 is added to the Public Resources Code, to read:

5096.357. (a) Funds allocated pursuant to paragraph (1) of subdivision (y) of Section 5096.310 shall be
available to the Department of Fish and Game for the development, enhancement, restoration, and preservation of land pursuant to Sections 1580 and 10503 of, and subdivision (b) of Section 1525 of, the Fish and Game Code. The provision of these funds shall be in accordance with an expenditure plan developed by the Department of Fish and Game and approved by the Department of Finance.

(b) Funds allocated pursuant to paragraph (2) of subdivision (y) of Section 5096.310 shall be made available to the Department of Fish and Game for the exclusive purpose of acquiring habitat preservation and enhancement agreements on private wetlands to the California Waterfowl Habitat Program-Phase II and administrative costs incurred in connection therewith. Expenditure of those funds shall be consistent with the purposes identified in Section 3702 of the Fish and Game Code.

Article 12. California Indian Tribe Participation

5096.358. To the extent funds authorized pursuant to this chapter are available for competitive grants to local government entities, federally recognized California Indian tribes may apply for those grants, the tribe's application shall be considered on its merits, and the tribes shall expend any funds received for the purpose authorized by this chapter for which the funds are made available.

Article 13. Fiscal Provisions

SEC. 14. Section 5096.360 is added to the Public Resources Code, to read:

5096.360. Bonds in the total amount of two billion one hundred million dollars ($2,100,000,000), not including the amount of any refunding bonds issued in accordance with Section 5096.370, or so much thereof as is necessary, may be issued and sold to provide a fund to be used for carrying out the purposes set forth in Section 5096.310 and to be used to reimburse the General Obligation Bond Expense Revolving Fund pursuant Section 16724.5 of the Government Code. The bonds, when sold, shall be and constitute a valid and binding obligation of the State of California, and the full faith and credit of the State of California is hereby pledged for the punctual payment of the principal of, and interest on, the bonds as the principal and interest become due and payable. Pursuant to this section, the Treasurer shall sell the bonds authorized by the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection (The Villaraigosa-Keeley Act) Finance Committee created pursuant to subdivision (a) of Section 5096.362 at any different times that are necessary to service expenditures appropriated pursuant to this chapter.

5096.361. The bonds authorized by this chapter shall be prepared, executed, issued, sold, paid, and redeemed as provided in the State General Obligation Bond Law (C. , , (commencing with Section 16720) of Part 3 of Division 4 of Title 2 of the Government Code), and all of the provisions of that law apply to the bonds and to this chapter and are hereby incorporated in this chapter as though set forth in full in this chapter.

5096.362. (a) Solely for the purpose of authorizing the issuance and sale, pursuant to the State General Obligation Bond Law, of the bonds authorized by this chapter, the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection (Villaraigosa-Keeley Act) Finance Committee is hereby created. For purposes of this chapter, the Safe Neighborhood Parks, Clean Water, Clean Air and Coastal Protection (Villaraigosa-Keeley Act) Finance Committee is "the committee" as that term is used in the State General Obligation Bond Law. The committee consists of the Controller, the Director of Finance, and the Treasurer, or their designated representatives. The Treasurer shall serve as chairperson of the committee. A majority of the committee may act for the committee.

(b) For purposes of the State General Obligation Bond Law, the secretary is designated the "board."

5096.363. The committee shall determine whether or not it is necessary or desirable to issue bonds authorized pursuant to this chapter to carry out Section 5096.310 and, if so, the amount of bonds to be issued and sold. Successive issues of bonds may be authorized and sold to carry out those actions progressively, and it is not necessary that all of the bonds authorized to be issued be sold at any one time.

5096.364. There shall be collected each year and in the same manner and at the same time as other state revenue is collected, in addition to the ordinary revenues of the state, a sum in an amount required to pay the principal of, and interest on, the bonds maturing each year. It is the duty of all officers charged by law with any duty in regard to the collection of the revenue to do and perform each
and every act which is necessary to collect that additional sum.

5096.365. Notwithstanding Section 13340 of the Government Code, there is hereby appropriated from the General Fund in the State Treasury, for the purposes of this chapter, an amount that will equal the total of the following:

(a) The sum annually necessary to pay the principal of, and interest on, bonds issued and sold pursuant to this chapter, as the principal and interest become due and payable.

(b) The sum necessary to carry out Section 5096.366, appropriated without regard to fiscal years.

5096.366. For purposes of carrying out this chapter, the Director of Finance may authorize the withdrawal from the General Fund of an amount or amounts not to exceed the amount of the unsold bonds that have been authorized to be sold for the purpose of carrying out this chapter. Any amount withdrawn shall be deposited in the fund. Any money made available under this section shall be returned to the General Fund from proceeds received from the sale of bonds for the purpose of carrying out this chapter.

5096.367. Pursuant to Chapter 4 (commencing with Section 16720) of Part 3 of Division 4 of Title 2 of the Government Code, the cost of bond issuance shall be paid out of the bond proceeds. These costs shall be shared proportionally by each program funded through this bond act.

5096.367.5. Actual costs incurred in connection with administering programs authorized under the categories specified in Section 5096.310 shall be paid from the funds authorized by this act.

SEC. 16. Section 5096.368 is added to the Public Resources Code, to read:

5096.368. The secretary may request the Pooled Money Investment Board to make a loan from the Pooled Money Investment Account, including other authorized forms of interim financing that include, but are not limited to, commercial paper, in accordance with Section 16312 of the Government Code, for purposes of carrying out this chapter. The amount of the request shall not exceed the amount of the unsold bonds that the committee, by resolution, has authorized to be sold for the purpose of carrying out this chapter. The secretary shall execute any documents required by the Pooled Money Investment Board to obtain and repay the loan. Any amounts loaned shall be deposited in the fund to be allocated by the board in accordance with this chapter.

5096.369. All money deposited in the fund that is derived from premium and accrued

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est on bonds sold shall be reserved in the fund and shall be available for transfer to the eral Fund as a credit to expenditures for bond interest.
096.370. The bonds may be refunded in accordance with Article 6 (commencing with ion 16780) of Chapter 4 of Part 3 of Division 4 of Title 2 of the Government Code, which is rt of the State General Obligation Bond Law. Approval by the voters of the state of the ance of the bonds described in this chapter includes the approval of the issuance of any ds to refund any bonds originally issued under this chapter or any previously issued nding bonds.
096.371. Notwithstanding any provision of this chapter or the State General Obligation d Law, if the Treasurer sells bonds pursuant to this chapter that include a bond counsel ion to the effect that the interest on the bonds is excluded from gross income for federal purposes, subject to designated conditions, the Treasurer may maintain separate accounts he investment of bond proceeds and the investment earnings on those proceeds. The asurer may use or direct the use of those proceeds or earnings to pay any rebate, penalty, ther payment required under federal law or to take any other action with respect to the stment and use of bond proceeds required or desirable under federal law to maintain the exempt status of those bonds and to obtain any other advantage under federal law on ait of the funds of this state.
096.372. (a) The Legislature hereby finds and declares that, inasmuch as the proceeds the sale of bonds authorized by this chapter are not "proceeds of taxes" as that term is d in Article XIII B of, the California Constitution, the disbursement of these proceeds is not ect to the limitations- imposed by that article.
b) Funds provided pursuant to this chapter, and any appropriation or transfer of those s, shall not be deemed to be a transfer of funds for the purposes of Chapter 9 mencing with Section 2780) of Division 3 of the Fish and Game Code.
SEC. 1.5. Chapter 1.693 (commencing with Section 5096.400) is added to Division 5 of the lic Resources Code, to read:

APTER 1.693. CAMP PENDLETON MARINE BASE

096.400. To the extent permitted by federal law, if the Camp Pendleton Marine Base in County of San Diego ceases to be used as a federal facility, it shall be converted to an n-space area or greenbelt that shall be administered by the department.
SEC. 2. Section I of this act shall take effect upon adoption by the voters of the Safe ghborhood -Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000 (the raigosa-Keeley Act), as set forth in Section I of this act.
SEC. 3. (a) Notwithstanding the requirements of any other provision of law, the Secretary tate shall submit Section I of this act to the voters at the March 7, 2000, statewide general tion.
b) Notwithstanding Section 13115 of the Elections Code, if Section I of this act is placed he ballot by the Legislature for the March 7, 2000, statewide general election after the -day deadline set forth in Section 9040 of the Elections Code, it shall be placed on the l following all other ballot measures in the order in which it qualified as determined by ter number.
c) The Secretary of State shall include, in the ballot pamphlets mailed pursuant to Section 4 of the Elections Code, the information specified in Section 9087 of the Elections Code rding the bond act contained in Section I of this act. If that inclusion is not possible, the retary of State shall publish a supplemental ballot pamphlet regarding this act to be mailed the ballot pamphlet. If the supplemental ballot pamphlet cannot be mailed with the ballot phlet, the supplemental ballot pamphlet shall be mailed separately.
SEC. 4. (a) Notwithstanding any other provision of law, with respect to the Safe ghborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000 (the raigosa-Keeley Act), all ballots of the election shall have printed thereon and in a square eof, exclusively the words, "Safe Neighborhood Parks, Clean Water, Clean Air, and stal Protection Bond Act of 2000 (the Villaraigosa-Keeley Act)" and in the same square er those words, the following in 8-point type: "This act provides two billion one hundred on dollars ($2,100,000,000) to protect land around lakes, rivers, and streams and the coast to improve water quality and ensure clean drinking water, to protect forests and plant trees to improve air quality, to preserve open space and farmland threatened by unplanned development, to protect wildlife habitats, and to repair and improve the safety of state and neighborhood parks. [At this point, the Attorney General shall include the financial impact summary prepared pursuant to Section 9087 of the Elections Code and Section 88003 of the Government Code]." Opposite the square, there shall be left spaces in which the voters may place a cross in the manner required by law to indicate whether they vote for or against the act.

(b) Notwithstanding Sections 13247 and 13281 of the Elections Code, the language in subdivision (a) shall be the only language included in the ballot label for the condensed statement of the ballot title, and the Attorney General shall not supplement, subtract from, or revise that language, except that the Attorney General may include the financial impact summary prepared pursuant to Section 9087 of the Elections Code and Section 88003 of the Government Code. The ballot label is the condensed statement of the ballot title and the financial impact summary.

(c) Notwithstanding Section 13282 of the Elections Code, the public shall be permitted to examine the condensed statement of the ballot title in subdivision (a) for not more than eight days, and the financial impact statement from the time it is received by the Secretary of State until the end of the eight days. Any voter may seek a writ of mandate for the purpose of requiring any statement of the ballot label, or portion thereof, to be amended or deleted only within that eight-day period.

(d) Where the voting in the election is done by means of voting machines used pursuant to law in a manner that carries out the intent of this section, the use of the voting machines and the expression of the voter's choice by means thereof are in compliance with this section.

SEC. 5. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the Constitution and shall go into immediate effect. The facts constituting the necessity are:

In order that the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000 (the Villaraigosa-Keeley Act), set forth in Section I of this act, may be submitted for voter approval at the earliest possible time, and in order to make provision for the use of a federal military facility as soon as possible, it is necessary that this act take effect immediately.

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SAFE DRINKING WATER, CLEAN WATER, WATERSHED PROTECTION, AND FLOOD PROTECTION ACT	Totals	Specified expenditures within account
TOTAL	**$ 1,970,000,000**	
Safe Drinking Water Program Revolving Fund (CaDHS)	**$ 70,000,000**	
Loans and grants to suppliers		
Technical Assistance Account		$ 2,000,000
FLOOD PROTECTION PROGRAM ACCOUNT	**$ 292,000,000**	
Floodplain Mapping Subaccount (DWR)	$ 2,500,000	
Agriculture and Open Space Mapping Subaccount (Dept. of Conservation)	$ 2,500,000	
Flood Protection Corridor Subaccount (Dept of Water Resources, grants to local public agencies, nonprofit organizations)	$ 70,000,000	
- For acquisition, restoration, enhancement and protection of real property for the purposes of flood control protection, agricultural land preservation and wildlife habitat protection		
- Highest priorities - flood protection, Agricultural Land Stewardship Program, wildlife habitat protection or restoration		
Education, technical assistance to cities and counties re National Flood Insurance Program		$ 1,000,000
Flood protection for street and highways (City of Santee)		$ 5,000,000
Delta Levee Rehabilitation Program Subaccount	$ 30,000,000	
Local assistance, delta levee maintenance subventions		$ 15,000,000
Special flood protection projects (Delta Islands), subsidence studies and monitoring, administration		$ 15,000,000
Flood Control Subventions Program Subaccount	$ 45,000,000	
- Allocated only to counties of Contra Costa, Fresno, Kern, Los Angeles, Marin, Napa, Orange, Riverside, San Bernardino, San Diego, Santa Clara, Sonoma and Ventura		
Urban Stream Restoration Program Subaccount (DWR)	$ 25,000,000	
(a) Grants to local agencies and nonprofit organizations for effective, low-cost flood control projects		
(b) Grants to local community conservation corps and other nonprofit corps for local stream clearance, flood mitigation and cleanup activities		
Flood Protection Programs		
State Capital Protection Subaccount (Sacramento Area Flood Control Agency)	$ 20,000,000	
San Lorenzo River Flood Control Subaccount (Santa Cruz)	$ 2,000,000	
Yuba River Flood Protection Subaccount (DWR or Reclamation Bd to local entity)	$ 90,000,000	
- Flood protection projects		$ 70,000,000
- Local share of levee repairs Sutter County		$ 2,600,000
- Mitigation of adverse impacts to fish, wildlife, habitat (CaDFG)		$ 20,000,000
Arroyo Pasajero Watershed Subaccount	$ 5,000,000	

WATERSHED PROTECTION ACCOUNT	**$**	**468,000,000**		
			At least $35 million to small	
Watershed Protection Subaccount (SWRCB)	$	90,000,000	communities	
- Assist in implementing watershed plans to reduce flooding, control erosion, improve water quality, improve aquatic and terrestrial species habitat, restore natural systems of groundwater recharge, native vegetation, water flows, riparian zones, beneficial uses of state waters				
- Grants to municipalities, local agencies or nonprofit organizations to develop local watershed management plans or to implement projects consistent with local watershed management and regional water quality control plans				
- 60% for projects in Los Angeles, Orange, Riverside, San Diego, San Bernardino, and Ventura Counties			$	54,000,000
- to Pajaro River Watershed Flood Prevention Authority for hydrologic study			$	2,000,000
- to Sonoma County for Russian River Watershed - to develop and implement community-based watershed management activities			$	1,000,000
- Clover Creek Flood Protection and Environmental Enhancement Project			$	5,000,000
- Clear Lake Watershed			$	2,000,000
Water and Watershed Education Program Subaccount	$	8,000,000		
San Joaquin Valley Water Institute (CalSt Fresno)			$	3,000,000
Delta Science Center (DWR)			$	2,000,000
Watershed Science Laboratory for long-term monitoring and research re north delta and tributary watersheds (UC)			$	3,000,000
River Protection Subaccount	$	95,000,000		
- At least 60% for projects located in major metropolitan areas				
San Joaquin River Parkway			$	10,000,000
Kern River Parkway			$	25,000,000
Santa Ana River Watershed Subaccount (SAWPA)	$	235,000,000		
- for basin water banking, contaminant and salt removal, removal of nonnative plants, creation of open space and wetlands, water conservation programs, storm water capture and management, planning and implementation of a flood control program				
Lake Elsinore and San Jacinto Watershed Subaccount (JPA)	$	15,000,000		
- for watershed monitoring, storm channel modification, nutrient control, aeration, wetlands restoration and enhancement, wildlife habitat enhancement, fishery enhancement, for related planning and administration costs				
Coastal Watershed Salmon Habitat Subaccount (CaDFG)	$	25,000,000		
- to protect, restore, acquire and enhance habitat for salmon				

CLEAN WATER AND WATER RECYCLING PROGRAM	**$**	**355,000,000**		
Nonpoint Source Pollution Control Program Subaccount (SWRCB)	$	100,000,000		
- for grants, not to exceed $5 million, to prepare and implement local nonpoint source plans				
- for loans, not to exceed $500,000 to finance construction of animal nutrient management projects			$	5,000,000
- 60% of funds to be allocated to projects in Riverside, Ventura, Los Angeles, San Diego, Orange, San Bernardino Counties				
- for research and source identification (w/ DPR and OEHHA)			$	2,000,000
- for mitigation of effects of pesticides			$	8,000,000
Clean Water Program (SWRCB)				
State Revolving Fund Loan Subaccount	$	30,500,000		
Small Communities Grant Subaccount	$	34,000,000		
Wastewater Construction Grant Subaccount	$	35,500,000		
Water Recycling Program Subaccount (SWRCB)	$	40,000,000		
- loans to municipalities for design and construction of water recycling projects				
- grants for facility planning studies for water recycling projects				
- plans, surveys, research, development and studies				
Coastal Nonpoint Source Control Subaccount (SWRCB)	$	90,000,000		
- for projects that restore and protect the water quality and environmental of coastal waters, estuaries, bays and near shore waters and groundwaters				
- studies and implementation of recommendations to address coastal nonpoint source pollution in tidal marshes and coastal waters (City of Huntington Beach)			$	4,000,000
Loans and grants, not to exceed $5 million per project, for:				
- projects that ensure coastal waters meet bacteriological standards;				
- comprehensive monitoring, collecting and analyzing ambient water quality				
- improvements to existing sewer collection systems and septic systems				
- projects to implement storm water and runoff pollution reduction and prevention programs				
- project consistent with state NPS program, CZARA, 319				
San Diego Regional Conveyance Facility			$	3,000,000
Seawater Intrusion Control Subaccount	$	25,000,000		
WATER CONSERVATION PROGRAM ACCOUNT	**$**	**155,000,000**		
Agricultural Water Conservation Program	$	35,000,000		
Groundwater Recharge Facilities program	$	30,000,000		
Infrastructure Rehabilitation Program	$	60,000,000		
Urban Water Conservation Program	$	30,000,000		

WATER SUPPLY, RELIABILITY AND INFRASTRUCTURE PROGRAM	**$**	**630.000,000**
Conjunctive Use Subaccount	$	200.000.000
Bay-Delta Multipurpose Water Management Subaccount	$	250,000,000
Interim Water Reliable Supply and Water Quality Infrastructure and Management Subaccount	$	180,000.000

SAFE DRINKING WATER, CLEAN WATER, WATERSHED PROTECTION AND FLOOD PROTECTION BOND

Assembly Bill No. 1584

CHAPTER 725

An act to amend Sections 13480, 14058, and 78621 of, to add Division 26 (commencing with Section 79000) to, to add and repeal Section 1812.6 of, and to repeal and add Sections 78626, 78648.12, and 78675 of, the Water Code, relating to financing a safe drinking water, water quality, flood protection, and water reliability program, by providing the funds necessary therefor through the issuance and sale of bonds of the State of California and by providing for the handling and disposition of those funds, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor October 7, 1999. Filed with Secretary of State October 10, 1999.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1584, Machado. Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Act; water resources.

Under existing law, various bond acts have been approved by the voters to provide funds for water projects, facilities, and programs.

This bill would enact the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Act which, if adopted, would authorize, for purposes of financing a safe drinking water, water quality, flood protection, and water reliability program, the issuance, pursuant to the State General Obligation Bond Law, of bonds in the amount of $1,970,000,000. The bill would also provide for the use of prescribed bond funds, and funds repaid to the state pursuant to certain loan contracts, for specified programs established by this act.

The bill would require the Secretary of State to submit the bond act to the voters at the March 7, 2000, statewide direct primary election.

The bill would amend a provision relating to the calculations of the interest rate to be applied to certain loans from the State Water Pollution Control Revolving Fund.

The bill would require the Imperial Irrigation District, the Coachella Valley Water District, and the Metropolitan Water District of Southern California to sign and adopt a prescribed quantification agreement on or before October 15, 1999, and, if the districts do not do so, would require the Governor or his sole designee to promulgate a quantification settlement by January 1, 2000, as specified. The bill would impose specified duties on the Governor with respect to the agreement or settlement.

The bill would declare that it is to take effect immediately as an urgency statute.

The people of the State of California do enact as follows:

SECTION 1. Division 26 (commencing with Section 79000) is added to the Water Code, to read:

DIVISION 26. SAFE DRINKING WATER, CLEAN WATER, WATERSHED PROTECTION, AND FLOOD PROTECTION ACT

CHAPTER 1. SHORT TITLE

79000. This division shall be known and may be cited as the Costa-Machado Water Act of 2000.

CHAPTER 2. DEFINITIONS

79005. Unless the context otherwise requires, the definitions set forth in this chapter govern the construction of this division.

79006. "Bay-delta" means the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.

79007. "Board" means the State Water Resources Control Board.

79008. "CALFED" refers to the consortium of state and federal agencies with management and regulatory responsibilities in the bay-delta that are developing a long-term solution to water management, environmental, and other problems in the bay-delta watershed.

79009. "Clean Water Act" means the federal Clean Water Act (33 U.S.C. Sec. 1251 et seq.), and includes any amendments thereto.

79010. "Committee" means the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Finance Committee created by Section 79212.

79011. "Delta" means the Sacramento-San Joaquin Delta.

79012. "Department" means the Department of Water Resources.

79013. "Fund" means the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Fund created by Section 79019.

CHAPTER 3. SAFE DRINKING WATER, CLEAN WATER, WATERSHED PROTECTION, AND FLOOD PROTECTION BOND FUND

79019. The proceeds of bonds issued and sold pursuant to this division shall be deposited in the Safe Drinking Water, Clean Water,

Watershed Protection, and Flood Protection Bond Fund, which is hereby created.

Chapter 4. Safe Drinking Water Program

Article 1. Definitions

79020. Unless the context otherwise requires, the following definitions govern the construction of this chapter.

(a) "Federal act" means the federal Safe Drinking Water Act (42 U.S.C. Sec. 300f et seq.), and includes any amendments thereto.

(b) "State department" means the State Department of Health Services.

(c) "Supplier" means any person, partnership, corporation, association, public agency, or other entity, including any Indian tribe having a federally recognized governing body carrying out substantial governmental duties in and powers over any area, that owns or operates a public water system.

Article 2. Safe Drinking Water State Revolving Fund

79021. The sum of seventy million dollars ($70,000,000) is hereby transferred from the fund to the Safe Drinking Water State Revolving Fund created by Section 116760.30 of the Health and Safety Code.

Article 3. Safe Drinking Water Program

79022. (a) The money transferred to the Safe Drinking Water State Revolving Fund pursuant to Section 79021, except as otherwise provided in Sections 79022.7 and 79025, shall be used by the state department for loans and grants to suppliers for the purposes of undertaking infrastructure improvements and related actions to meet safe drinking water standards, in accordance with the Safe Drinking Water State Revolving Fund Law of 1997 (Chapter 4.5 (commencing with Section 116760) of Part 12 of Division 104 of the Health and Safety Code).

(b) A supplier that is eligible for grants under Section 300j-12(i) of the federal act (42 U.S.C. Sec. 1452(i)) may concurrently make application for funds annually appropriated under the federal act and for bond proceeds made available under this chapter. The state department shall not place a public water system on the priority list for project funding or enter into a contract and award a grant or loan if a supplier has previously received a grant for public water system expenditure for the same project under Section 300j-12(i) of the federal act (42 U.S.C. Sec. 1452(i)) or if the supplier does not have a public water system permit pursuant to Section 116525 of the

Health and Safety Code. The state department may place a public water system on the priority list for funding if a supplier has not otherwise received a letter of commitment to make a grant from the Administrator of the Environmental Protection Agency after 180 days from the date of the original submission of an application for a grant under Section 300j-12(i) of the federal act (42 U.S.C. Sec. 1452(i)).

(c) The Legislature finds and declares that Indian tribes shall be encouraged to cooperate with an adjacent public water system to determine whether the delivery of water from the public water system to the Indian tribe would be feasible and cost-effective in comparison to the improvement of a public water system owned or operated by the Indian tribe. The determination of feasibility shall include an assessment of whether the tribal water supplier possesses adequate financial, managerial, and technical capability to ensure the delivery of pure, wholesome, potable water to consumers. The Legislature further finds and declares that public water suppliers shall be encouraged to investigate opportunities for Indian tribes to deliver water beyond trust land boundaries to consumers that may not be economically served by a public water system.

(d) The state department shall encourage loan or grant applicants, where feasible, to consider the consolidation of small public water systems and community water systems with other public water systems to reduce the cost of service and improve the level of protection for consumers.

(e) To the extent that loans under this chapter that are made to a public water system regulated by the Public Utilities Commission bear a lower interest rate than that supplier could receive from nongovernmental sources, the Public Utilities Commission shall ensure that the entire benefit of the interest rate differential shall benefit the rate payers of that system by including the lower interest rate when establishing the water system's weighted average cost of capital.

79022.5. Any repayment of loans made pursuant to this article, including interest payments, and all interest earnings on or accruing to, any money resulting from the implementation of this chapter in the Safe Drinking Water State Revolving Fund shall be deposited in that fund and shall be available for the purposes of this chapter.

79022.7. Notwithstanding Item No. 4260-115-0001 of Section 2.00 of the Budget Act of 1999 (Chapter 50, Statutes of 1999), no money transferred to the Safe Drinking Water State Revolving Fund pursuant to this article may be transferred to the General Fund.

79023. There is hereby created in the Safe Drinking Water State Revolving Fund the Technical Assistance Account.

79024. Of the funds transferred pursuant to Section 79021, the sum of two million dollars ($2,000,000) is hereby transferred from the

Safe Drinking Water State Revolving Fund to the Technical Assistance Account.

79025. (a) Notwithstanding Section 13340 of the Government Code, the money in the Technical Assistance Account is hereby continuously appropriated, without regard to fiscal years, to the state department, to provide technical assistance to public water systems in the state in accordance with Section 300j-12(g)(2) of the federal act (42 U.S.C. Sec. 1452(g)(2)). For the purposes of this section, "technical assistance" includes assistance to disadvantaged communities, including Indian tribes.

(b) In carrying out its responsibilities under subdivision (a), the state department may do any of the following:

(1) Assess the technical, managerial, and financial capability of a disadvantaged community.

(2) Assist an applicant in the preparation of an application for funding under Chapter 4.5 (commencing with Section 116760) of Part 12 of Division 104 of the Health and Safety Code or Section 300j-12(i) of the federal act (42 U.S.C. Sec. 1452(i)).

(3) Conduct workshops in locations in or near disadvantaged communities to provide information regarding grants or loans for the design and construction of projects for public water systems.

79026. Not more than 3 percent of the total amount deposited in the account may be used to pay costs incurred in connection with the administration of this chapter.

CHAPTER 5. FLOOD PROTECTION PROGRAM

Article 1. Flood Protection Account

79030. For the purposes of this chapter, "account" means the Flood Protection Account created by Section 79031.

79031. The Flood Protection Account is hereby created in the fund. The sum of two hundred ninety-two million dollars ($292,000,000) is hereby transferred from the fund to the account.

Article 2. Floodplain Mapping Program

79033. (a) There is hereby created in the account the Floodplain Mapping Subaccount.

(b) The sum of two million five hundred thousand dollars ($2,500,000) is hereby transferred from the account to the Floodplain Mapping Subaccount for the purposes of implementing this article.

79033.2. (a) There is hereby created in the account the Agriculture and Open Space Mapping Subaccount.

(b) The sum of two million five hundred thousand dollars ($2,500,000) is hereby transferred from the account to the Agriculture and Open Space Mapping Subaccount.

79033.4. The money in the Floodplain Mapping Subaccount, upon appropriation by the Legislature to the department, may be used by the department for the purpose of assisting local land-use planning, and to avoid or reduce future flood risks and damages. The use of the funds in that subaccount by the department shall include, but is not limited to, all of the following:

(a) Mapping newly identified floodplains.

(b) Mapping rural areas with potential for urbanization.

(c) Mapping flood hazard areas with undefined 100-year flood elevations.

(d) Updating outdated floodplain maps.

(e) Accelerating mapping of riverine floodplains, alluvial fans, and coastal flood hazard areas.

(f) Collecting topographic and hydrographic survey data.

79033.6. (a) The money in the Agriculture and Open Space Mapping Subaccount, upon appropriation by the Legislature to the Department of Conservation, may be used by the Department of Conservation for the purposes of assisting local land-use planning by making available Important Farmland Series maps and Interim Farmland maps, as those terms are defined in Section 65570 of the Government Code. The information provided by the Department of Conservation is intended for local government use in conjunction with floodplain and flood hazard maps developed by the department to protect agricultural land resources coincident with avoidance or reduction of future flood risk and damage to residential or commercial land uses. The use of the funds in that subaccount by the Department of Conservation shall include, but is not limited to, all of the following:

(1) Accelerating production of Important Farmland Series maps and Interim Farmland maps.

(2) Increasing the coverage and availability of soil surveys conducted by the United States Natural Resource Conservation Service.

(3) Increasing topographic, soil, and agricultural crop data collection and enhancing data gathering capability.

(4) Developing integrated mapping that incorporates Important Farmland Series mapping and Interim Farmland mapping data with other relevant information, including, but not limited to, floodplain or flood hazard information, planning designation, and other land and natural resource data.

(b) For the purposes of this article, "maps" and "mapping" may include digital map files.

Article 2.5. Flood Protection Corridor Program

79035. (a) There is hereby created in the account the Flood Protection Corridor Subaccount.

(b) For the purposes of this article, "subaccount" means the Flood Protection Corridor Subaccount created by subdivision (a)

79036. The sum of seventy million dollars ($70,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79037. (a) The money in the subaccount, upon appropriation by the Legislature to the department, may be used by the department for flood control projects through direct expenditure for the acquisition, restoration, enhancement, and protection of real property for the purposes of flood control protection, agricultural land preservation, and wildlife habitat protection, and for grants to local public agencies or nonprofit organizations for these purposes, and for related administrative costs.

(b) The money in the subaccount, upon appropriation by the Legislature, shall be used for the protection, creation, and enhancement of flood protection corridors through all of the following actions:

(1) Acquiring easements and other interests in real property from willing sellers to protect or enhance flood protection corridors and floodplains while preserving or enhancing the agricultural use of the real property.

(2) Setting back existing flood control levees and, in conjunction with undertaking those setbacks, strengthening or modifying existing levees.

(3) Acquiring interests in real property from willing sellers located in a floodplain that cannot reasonably be made safe from future flooding.

(4) Acquiring easements and other interests in real property from willing sellers to protect or enhance flood protection corridors while preserving or enhancing the wildlife value of the real property.

79038. (a) For the purposes of this article, the department shall give highest priority to projects that include either of the following:

(1) Projects that have been assigned high priority for completion by the department for flood protection purposes and by the Department of Conservation for purposes of preserving agricultural land in accordance with the Agricultural Land Stewardship Program Act of 1995 (Division 10.2 (commencing with Section 10200) of the Public Resources Code).

(2) Projects that have been assigned high priority for completion by the department for flood protection purposes and by the Department of Fish and Game for wildlife habitat protection or restoration purposes.

(b) For restoration, enhancement, and protection projects, the services of the California Conservation Corps or community conservation corps shall be used whenever feasible.

79039. (a) In order to ensure that property acquired under paragraph (1) of subdivision (b) of Section 79037 remains on the

county tax rolls and in agricultural use to the greatest extent practicable, the acquisition of easements shall be the preferred method of acquiring property interests under that paragraph unless the acquisition of a fee interest is required for management purposes or the landowner will only consider the sale of a fee interest in the land. No acquisition of a fee interest shall be undertaken under paragraph (1) of subdivision (b) of Section 79037 until all practical alternatives have been considered by the department.

(b) Any proceeds received from the disposal of a fee interest acquired under this article shall be deposited into the subaccount.

79040. Any acquisition pursuant to this article shall be from a willing seller.

79041. Prior to acquiring an easement or other interest in land pursuant to this article, the project shall include a plan to minimize the impact on adjacent landowners. The plan shall include, but not be limited to, an evaluation of the impact on floodwaters, the structural integrity of affected levees, diversion facilities, customary agricultural husbandry practices, and timber extraction operations, and an evaluation with regard to the maintenance required of any facilities that are proposed to be constructed or altered.

79042. Prior to acquiring an easement or other interest in land pursuant to this article, a public hearing in the local community shall be held. Notification shall be given to the county board of supervisors of the affected county, adjacent landowners, affected water districts, local municipalities, and other interested parties, as determined by the department.

79043. Money in the subaccount may be used, upon appropriation by the Legislature, to repair breaches in the flood control system developed pursuant to this article or caused by the development of an easement program financed through this section and to repair water diversion facilities or flood control facilities damaged by a project developed pursuant to this section or financed pursuant to this section.

79044. (a) (1) In expending grant money pursuant to this article to acquire an interest in any particular parcel of land, a local public agency or nonprofit organization may use the money to establish a trust fund in the amount of not more than 20 percent of the amount of money paid for the acquisition. Interest from the trust fund shall be used only to maintain the lands that are acquired pursuant to this chapter.

(2) A local public agency or nonprofit organization that acquires land with money from the subaccount and transfers the land to another public agency or nonprofit organization shall also transfer the ownership of the trust fund that was established to maintain that land.

(b) If the local public agency or nonprofit organization does not establish a trust fund pursuant to subdivision (a), it shall certify to the

department that it can maintain the land to be acquired from funds otherwise available to the agency or organization.

(c) This section does not apply to state agencies.

79044.5. (a) It is the intent of the Legislature to address the problem of soaring federal flood insurance rates by assisting local governments to meet technical requirements for participation in the National Flood Insurance Program and the National Flood Insurance Program's Community Rating System.

(b) Notwithstanding any other provision of this article, of the funds transferred pursuant to Section 79036, the sum of one million dollars ($1,000,000) is hereby continuously appropriated, without regard to fiscal years, to the department, as follows:

(1) Five hundred thousand dollars ($500,000) to educate and provide technical assistance to cities and counties regarding the National Flood Insurance Program and the enrollment process.

(2) Five hundred thousand dollars ($500,000) to educate and provide technical assistance to cities and counties currently enrolled in the National Flood Insurance Program with regard to the National Flood Insurance Program's Community Rating System and the implementation of activities creditable under that system.

79044.6. Notwithstanding any other provision of this article, the sum of five million dollars ($5,000,000), upon appropriation by the Legislature to the department, shall be allocated by the department to the City of Santee for the purposes of flood protection for streets and highways.

79044.7. Not more than 5 percent of the total amount deposited in the subaccount may be used to pay costs incurred in connection with the administration of this article.

79044.9. The department may adopt regulations to carry out this article.

Article 3. Delta Levee Rehabilitation Program

79045. (a) There is hereby created in the account the Delta Levee Rehabilitation Subaccount.

(b) For the purposes of this article, "subaccount" means the Delta Levee Rehabilitation Subaccount created by subdivision (a).

79046. The sum of thirty million dollars ($30,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article pursuant to Section 12986.

79047. Notwithstanding Section 13340 of the Government Code, the money in the subaccount is hereby continuously appropriated, without regard to fiscal years, to the department, as follows:

(a) Fifteen million dollars ($15,000,000) for local assistance under the delta levee maintenance subventions program under Part 9 (commencing with Section 12980) of Division 6, and for the administration of that assistance.

(b) Fifteen million dollars ($15,000,000) for special flood protection projects under Chapter 2 (commencing with Section 12310) of Part 4.8 of Division 6, subsidence studies and monitoring, and for the administration of this subdivision. Allocation of these funds shall be for flood protection projects on Bethel, Bradford, Holland, Hotchkiss, Jersey, Sherman, Twitchell, and Webb Islands, and at other locations in the delta.

(c) Any funds that are made available under subdivision (a) may be used to reimburse local agencies for the state's share of costs for eligible projects completed on or after July 1, 1998.

79048. The expenditure of funds under this article is subject to Chapter 1.5 (commencing with Section 12306) of Part 4.8 of Division 6.

79049. Of the funds appropriated pursuant to subdivision (a) or (b) of Section 79047, not more than 5 percent may be expended by the department to repair levee road pavement if the damage is attributable to flood control maintenance.

79050. No expenditure of funds may be made under this article unless the Department of Fish and Game makes a written determination as part of its review and approval of a plan or project pursuant to Section 12314 or 12987. The Department of Fish and Game shall make its determination in a reasonable and timely manner following the submission of the project or plan to that department. For the purposes of this article, an expenditure may include more than one levee project or plan.

79051. For the purposes of this article, a levee project includes levee improvements and related habitat improvements undertaken in the delta at a location other than the location of that levee improvement.

79052. Following the date on which a program for the bay-delta is adopted by CALFED, the remaining funds in the subaccount shall be used for levee rehabilitation improvement projects that, to the greatest extent possible, are consistent with the program adopted by CALFED.

Article 4. Flood Control Subventions Program

79055. (a) There is hereby created in the account the Flood Control Subventions Subaccount.

(b) For the purposes of this article, "subaccount" means the Flood Control Subventions Subaccount created by subdivision (a).

79056. The sum of forty-five million dollars ($45,000,000) is hereby transferred from the fund to the subaccount.

79057. (a) Notwithstanding Section 13340 of the Government Code, or any other provision of law, the money in the subaccount is hereby continuously appropriated, without regard to fiscal year, to the department to pay for the state's share of the nonfederal costs of

flood control and flood prevention projects adopted and authorized as of January 1, 1999, under The State Water Resources Law of 1945 (Chapter 1 (commencing with Section 12570) and Chapter 2 (commencing with Section 12639) of Part 6 of Division 6), The Flood Control Law of 1946 (Chapter 3 (commencing with Section 12800) of Part 6 of Division 6), and The California Watershed Protection and Flood Prevention Law (Chapter 4 (commencing with Section 12850) of Part 6 of Division 6), including the credits and loans to local agencies pursuant to Sections 12585.3 and 12585.4, subdivision (d) of Section 12585.5, and Sections 12866.3 and 12866.4, and to implement Chapter 3.5 (commencing with Section 12840) of Part 6 of Division 6.

(b) The money in the subaccount shall be allocated only to projects in the Counties of Contra Costa, Fresno, Kern, Los Angeles, Marin, Napa, Orange, Riverside, San Bernardino, San Diego, Santa Clara, Sonoma, and Ventura.

(c) It is the intent of the Legislature that the state's share of the nonfederal costs of projects for flood control and flood prevention adopted and authorized after January 1, 2001, shall not exceed that portion of the nonfederal costs authorized pursuant to Chapter 1 (commencing with Section 12570) of Part 6 or any amendments thereto.

Article 5. Urban Stream Restoration Program

79060. (a) There is hereby created in the account the Urban Stream Restoration Subaccount.

(b) For the purposes of this article, "subaccount" means the Urban Stream Restoration Subaccount created by subdivision (a).

79061. The sum of twenty-five million dollars ($25,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79062. The money in the subaccount, upon appropriation by the Legislature to the department, may be used by the department for both of the following:

(a) Grants to local agencies and nonprofit organizations for effective, low-cost flood control projects pursuant to Section 7048.

(b) Grants to local community conservation corps and other nonprofit corporations for local stream clearance, flood mitigation, and cleanup activities.

79062.5. Notwithstanding any other provision of law, regulations set forth in Chapter 2.4 (commencing with Section 451.1) of Division 2 of Title 23 of the California Code of Regulations that are in effect on March 8, 2000, may be used to carry out this article.

Article 6. Capital Area Flood Protection Program

79065. The Legislature hereby finds and declares all of the following:

(a) Since Sacramento, the state capital, was founded over 150 years ago, it has suffered from flood disasters because of inadequate flood protection. Each year, the State Capitol and more than 1,300 other government-owned buildings and infrastructure of the capital region are at risk because of their location in the worst protected urban area in the country.

(b) The State of California's investment of money and other resources in the state's seat of government is important to preserve and protect.

(c) It is in the best interest of this state to invest in a cost-shared program to protect life and property in the state capital from flooding, thus resulting in opportunities for sustainable economic development and continued protection of the state's natural resources.

(d) The Congress and the President of the United States have recognized the national importance of increasing the level of the state capital's flood protection by authorizing projects in the Water Resources Development Act of 1999.

79065.2. (a) There is hereby created in the account the State Capital Protection Subaccount.

(b) For purposes of this article, "subaccount" means the State Capital Protection Subaccount created by subdivision (a).

79065.4. The sum of twenty million dollars ($20,000,000) is hereby transferred from the account to the subaccount for the purposes of this article.

79065.6. The money in the subaccount, upon appropriation by the Legislature to the Sacramento Area Flood Control Agency, may be used by the Sacramento Area Flood Control Agency to pay the state's share of the costs of flood management projects authorized by the United States to improve the level of flood protection in the state capital region.

79065.8. No money deposited in the subaccount may be used to pay the costs incurred in connection with the administration of this article.

Article 7. San Lorenzo River Flood Control Program

79067. (a) There is hereby created in the account the San Lorenzo River Flood Control Subaccount.

(b) For purposes of this article, "subaccount" means the San Lorenzo River Flood Control Subaccount created by subdivision (a).

79067.2. The sum of two million dollars ($2,000,000) is hereby transferred from the account to the subaccount for the purposes of this article.

79067.4. The money in the subaccount, upon appropriation by the Legislature to the department, shall be allocated by the department to the City of Santa Cruz to pay for the state's share of the costs of flood management projects authorized by the United States to improve the level of flood protection in the Santa Cruz region.

Article 8. Yuba Feather Flood Protection Program

79068. Unless the context otherwise requires, the definitions set forth in this section govern the construction of this article.

(a) "Nonstructural improvements" are projects that are intended to reduce or eliminate susceptibility to flooding by preserving or increasing the flood-carrying capacity of floodways, and include such measures as levees, setback levees, floodproofing structures, and zoning, designating, or acquiring flood prone areas.

(b) "Structural improvements" are projects that are intended to modify flood patterns and rely primarily on constructed components, and include such measures as levees, floodwalls, and improved channels.

(c) "Subaccount" means the Yuba Feather Flood Protection Subaccount created by Section 79068.2.

79068.2. There is hereby created in the account the Yuba Feather Flood Protection Subaccount.

79068.4. The sum of ninety million dollars ($90,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79068.6. Seventy million dollars ($70,000,000) in the subaccount, upon appropriation by the Legislature to the department or Reclamation Board, shall be used by the department or Reclamation Board to fund one or more of the following flood protection projects to be implemented by a local public entity that has legal authority and jurisdiction to implement a flood control program along the Yuba and Feather Rivers and their tributaries:

(a) The construction or improvements of weirs, bypasses, and channels.

(b) The construction of levees or improving publicly maintained levees, including, but not limited to, setback levees, training walls, floodwalls, and streambank protection projects, which provide flood protection or flood damage reduction.

(c) The modification or reoperation of existing dams and waterworks, including spillways or other capital outlay facilities, for the purpose of increased efficiency in managing flood waters.

(d) The installation of tailwater suppression systems, detention basins, relief wells, test wells, flood warning systems, and telemetry devices.

(e) The relocation or floodproofing of structures within floodplains, which meet or exceed a community's floodplain regulations, pursuant to the National Flood Insurance Program.

(f) Implementation of watershed projects, which provide flood protection or flood damage reduction.

(g) The construction of, or improvement to, a state or interstate highway, county road, or a levee road, that is designated a flood emergency evacuation route, or that provides access to a levee for emergency vehicles, flood fights, or levee repair and maintenance, or a project that protects such a road or highway.

(h) The purchase of lands, easements, and rights-of-way.

(i) Capital costs of environmental mitigation.

79068.8. No expenditures of state funds may be made under this article until the department or the Reclamation Board determines that all of the following requirements have been met:

(a) There is a final environmental document prepared pursuant to the California Environmental Quality Act (commencing with Section 21000 of the Public Resources Code).

(b) The project is in compliance with the California Endangered Species Act (Chapter 1.5 (commencing with Section 2050) of Division 3 of the Fish and Game Code), as demonstrated by documentation such as comments received from the Department of Fish and Game, a permit obtained from the Department of Fish and Game or other appropriate evidence.

(c) The local project proponent agrees to pay at least that portion of the nonfederal capital costs of the project required by Section 12585.5.

(d) The local project proponent agrees to operate and maintain the completed project.

(e) The local project proponent enters into an agreement indemnifying and holding the state, its agencies, officers and employees free and harmless from any and all liability arising out of the design, construction, operation and maintenance of the project.

(f) The project is recommended for implementation by the department or the Reclamation Board.

79068.10. All of the following factors shall be considered by the department and the Reclamation Board for prioritizing projects:

(a) Potential loss of life from flooding.

(b) Increased flood protection or flood damage reduction for areas that have the greatest flood risk or have experienced repetitive flood loss.

(c) The local community is a small community with financial hardship.

(d) Projects that provide multiple benefits.

(c) Projects that are implemented in accordance with the Sacramento/San Joaquin River Basins Comprehensive Study.

(f) Projects that are implemented pursuant to the completion of feasibility studies conducted by the United States Army Corps of Engineers or local agencies.

(g) Projects along the Yuba and Feather Rivers and their tributaries.

(h) Projects that address regional flood problems.

(i) Projects along the Colusa Drain and its tributaries.

(j) Minimizing impacts to the environment.

79068.12. Of the fund appropriated pursuant to Section 79068.6, two million six hundred thousand dollars ($2,600,000) in the subaccount shall be used for the local share of levee repairs and enhancements in Sutter County.

79068.14. (a) Twenty million dollars ($20,000,000) in the subaccount, upon appropriation to the Department of Fish and Game, may be used by that department, if it determines that any flood control project undertaken pursuant to this article would result in a reduction of, or damage to, fish, wildlife, or riparian habitat, to protect, improve, restore, create, or enhance fish, wildlife, and riparian habitat of a comparable type to that which was reduced or damaged.

(b) Any land acquired pursuant to this section shall be acquired from willing sellers.

79068.16. If all of the funds appropriated pursuant to Section 79068.6 are encumbered, and any funds described in Section 79068.14 are not needed for the purposes of that section, as stated in writing by that department to the Legislature, the Legislature may appropriate the funds not needed for the purposes of Section 79068.14 for the purposes of Article 4 (commencing with Section 79055).

79068.18. Not more than 5 percent of the total amount deposited in the subaccount may be used to pay the costs incurred in connection with the administration of this chapter.

79068.20. The department and board may adopt regulations to carry out this article.

Article 9. Arroyo Pasajero Watershed Program

79069. The Legislature hereby finds and declares all of the following:

(a) The Arroyo Pasajero Watershed incurred unprecedented flooding in 1995 that resulted in a loss of lives due to a bridge failure on Interstate Highway Route 5 (I-5).

(b) Flooding in the watershed cause damage to important federal, state, and local public facilities, including the Lemoore Naval Air Station, Interstate Highway Route 5 (I-5), the California Aqueduct, and critical local roads and highways, as well as private property.

(c) It is of statewide importance to undertake projects to eliminate future flooding in the watershed in order to protect life and property and to protect the drinking water supply of southern California.

79069.2. Unless the context otherwise requires, the definitions set forth in this section govern construction of this article.

(a) "Subaccount" means the Arroyo Pasajero Watershed Subaccount created pursuant to Section 79069.4.

(b) "Watershed" means the Arroyo Pasajero Watershed.

79069.4. There is hereby created in the account the Arroyo Pasajero Watershed Subaccount. The sum of five million dollars ($5,000,000) is hereby transferred from the account to the subaccount for the purposes of this article.

79069.6. The money in the subaccount, upon appropriation by the Legislature to the department, shall be used by the department for projects that improve flood protection for State Highway Route 269 in the area north of the City of Huron or improve flood control for the California Aqueduct in the area of the Arroyo Pasajero Crossing.

79069.8. For the purposes of carrying out projects pursuant to this article, the department is encouraged to utilize the services of the California Conservation Corps or community conservation corps or both.

79069.10. Not more than 5 percent of the total amount deposited in the subaccount may be used to pay costs incurred in connection with the administration of this article.

79069.12. The department may adopt regulations to carry out this article.

Chapter 6. Watershed Protection Program

Article 1. Watershed Protection Account

79070. For the purposes of this chapter, "account" means the Watershed Protection Account created by Section 79071.

79071. The Watershed Protection Account is hereby created in the fund. The sum of four hundred sixty-eight million dollars ($468,000,000) is hereby transferred from the fund to the account.

Article 2. Watershed Protection Program

79075. (a) There is hereby created in the account the Watershed Protection Subaccount.

(b) For the purposes of this article, "subaccount" means the Watershed Protection Subaccount created by subdivision (a).

79076. The sum of ninety million dollars ($90,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79077. The purposes of this article are to provide funds to assist in implementing watershed plans to reduce flooding, control erosion, improve water quality, and improve aquatic and terrestrial species habitats, to restore natural systems of groundwater recharge, native vegetation, water flows, and riparian zones, to restore the beneficial uses of waters of the state in watersheds, and to provide matching funds for federal grant programs.

79078. Unless the context otherwise requires, the following definitions govern the construction of this article:

(a) "Local agency" means any city, county, city and county, district, or other political subdivision of the state.

(b) "Local watershed group" means a group consisting of owners and managers of land within the watershed of interest, local, state, and federal government representatives, and interested persons, other than landowners, who reside or work within the watershed of interest, and may include other persons, organizations, nonprofit corporations, and businesses.

(c) "Local watershed management plan" means a document prepared by a local watershed group that sets forth a strategy to achieve an ecologically stable watershed, and that does all of the following:

(1) Defines the geographical boundaries of the watershed.

(2) Describes the natural resource conditions within the watershed.

(3) Describes measurable characteristics for water quality improvements.

(4) Describes methods for achieving and sustaining water quality improvements.

(5) Identifies any person, organization, or public agency that is responsible for implementing the methods described in paragraph (4).

(6) Provides milestones for implementing the methods described in paragraph (4).

(7) Describes a monitoring program designed to measure the effectiveness of the methods described in paragraph (4).

(d) "Municipality" has the same meaning as defined in the Clean Water Act and also includes the state or any agency, department, or political subdivision thereof, and applicants eligible for technical assistance under Section 319 (33 U.S.C. Sec. 1329) or grants under Section 320 of the Clean Water Act (33 U.S.C. Sec. 1330).

(e) "Nonprofit organization" means any California corporation organized under Section 501(c)(3) or 501(c)(5) of the Internal Revenue Code.

(f) "Regional board" means a regional water quality control board.

79079. The money in the subaccount, upon appropriation by the Legislature to the board, may be used by the board for grants to

municipalities, local agencies, or nonprofit organizations in accordance with this article. The grants shall be used to develop local watershed management plans or to implement projects that are consistent with local watershed management and regional water quality control plans. The board shall ensure that activities funded by these grants will be coordinated with activities undertaken by state and federal agencies, and with other appropriate watershed efforts.

79079.5. The funds used for the purposes described in Section 79079 shall be allocated as follows:

(a) Sixty percent to projects in the Counties of Los Angeles, Orange, Riverside, San Diego, San Bernardino, and Ventura.

(b) Forty percent to projects in counties not described in subdivision (a).

79080. (a) A municipality, local agency, or nonprofit organization may only receive a grant under this article if the board determines that both of the following apply:

(1) The municipality, local agency, or nonprofit organization has adequate legal authority to manage the grant money.

(2) The municipality, local agency, or nonprofit organization is a member of a local watershed group.

(b) Grants may be awarded for projects that implement methods for attaining watershed improvements or for a monitoring program described in a local watershed management plan in an amount not to exceed five million dollars ($5,000,000) per project. At least 85 percent of the total amount in the subaccount shall be used for capital outlay projects described in this subdivision.

(c) Eligible projects under this article may do any of the following:

(1) Reduce chronic flooding problems or control water velocity and volume using vegetation management or other nonstructural methods.

(2) Protect and enhance greenbelts and riparian and wetlands habitats.

(3) Restore or improve habitat for aquatic or terrestrial species.

(4) Monitor the water quality conditions and assess the environmental health of the watershed.

(5) Use geographic information systems to display and manage the environmental data describing the watershed.

(6) Prevent watershed soil erosion and sedimentation of surface waters.

(7) Support beneficial groundwater recharge capabilities.

(8) Otherwise reduce the discharge of pollutants to state waters from storm water or nonpoint sources.

(d) (1) Grants may be awarded to municipalities, local agencies, or nonprofit organizations for the development of local watershed management plans in amounts not to exceed two hundred thousand dollars ($200,000) per local watershed management plan.

(2) Funding under this subdivision may be used to develop components of local watershed management plans that contribute to the development or implementation of species recovery plans.

(e) Grants may be awarded to meet requirements for nonfederal matching funds set forth in Section 205(j) of the Clean Water Act (33 U.S.C. Sec. 1285(j)) or Section 319(h) of the Clean Water Act (33 U.S.C. Sec. 1329(h)).

(f) Projects funded under this article shall be designed to withstand substantial flooding and shall include a minimum 10-year maintenance program and shall demonstrate the potential to provide watershed benefits for 20 years.

(g) A proponent of a project funded from the subaccount, except a grant recipient pursuant to subdivision (d), shall be required to submit to the board a monitoring and reporting plan that does all of the following:

(1) Describes the baseline water quality of the waterbody impacted.

(2) Describes the manner in which the proposed watershed restoration activities are implemented.

(3) Determines the effectiveness of the watershed restoration activities in preventing or reducing pollution.

(4) Determines, to the extent feasible, the changes in the pattern of flow in affected streams, including reduction of flood flows and increases in spring, summer, and fall flows that result from the implementation of the project.

(5) Determines, to the extent feasible, the economic benefits resulting from changes determined pursuant to paragraph (3) or (4).

(h) (1) A grant applicant shall inform the board with regard to necessary public agency approvals, entitlements, and permits that may be necessary to implement the project. The municipality, local agency, or nonprofit organization shall certify to the board, at the appropriate time, that those approvals, entitlements, and permits have been granted.

(2) A grant applicant shall notify, in writing, adjoining landowners of its request for funding under this article and the scope of the project for which the funding is requested. If this paragraph requires notification of more than 200 landowners, notification may be made by letter to the owners of record of the 200 largest parcels and by publication for at least 20 days in a local newspaper of general circulation. Upon completion of the notification required under this paragraph, the municipality, local agency, or nonprofit organization shall inform the board that the notification has occurred.

(i) The board may adopt regulations to carry out this article.

(j) In awarding grants under this article, the board shall consider the extent to which projects do the following:

(1) Consider the entire ecosystem to be protected or restored.

(2) Include definable targets and desired future conditions.

(3) Support local community institutional capacity to restore the watershed.

(4) Include community decisionmaking by affected stakeholders in project design and fund allocation.

(5) Help protect intact or nearly intact ecosystems and watersheds.

(6) Consider the economic benefits of the restoration project or program.

(7) Address the root causes of degradation, rather than the symptoms.

(8) Maximize the use of other restoration funds.

(9) Include an educational component, if appropriate.

(10) Improve the quality of drinking water and support other beneficial uses of waters of the state, including coastal waters.

79081. A grant recipient shall obtain written permission from the landowners of the parcel of land upon which the project is proposed to be carried out. The written permission shall expressly consent to the actions described in the grant application.

79082. Not more than 25 percent of a grant may be awarded in advance of actual expenditures.

79083. (a) A grant recipient shall submit to the board a report upon the completion of the project or activity funded under this article. The report shall summarize the completed project and identify additional steps necessary to achieve the purposes of the local watershed management plan. The board shall make the report available to interested federal, state, and local agencies and other interested parties.

(b) The board shall prepare and submit to the Governor a biennial report regarding the implementation of this article. The biennial report shall include, at a minimum, a discussion relating to the extent to which the purposes described in Section 79077 are being furthered by the implementation of this article.

79084. (a) Of the funds transferred pursuant to Section 79076, at least thirty-five million dollars ($35,000,000) shall be for grants to small communities.

(b) For the purposes of this article, "small community" means a municipality with a population of 10,000 persons or less, a rural county, or a reasonably isolated and divisible segment of a larger municipality where the population of the segment is 10,000 persons or less, with a financial hardship as determined by the board.

(c) If the board determines that any of the funds made available for grants under this section will not be encumbered for that purpose on or before January 1, 2007, the board may use these funds for other purposes of this article.

79085. The board shall give added consideration to projects that utilize the services of the California Conservation Corps, community

conservation corps, or other local nonprofit entities employing underprivileged youths.

79085.5. Notwithstanding any other provision of this article, the following amounts from the subaccount, upon appropriation by the Legislature, shall be allocated as follows:

(a) The sum of two million dollars ($2,000,000) to the board for allocation to the Pajaro River Watershed Flood Prevention Authority for a hydrologic study with regard to the Pajaro River Watershed.

(b) The sum of one million dollars ($1,000,000) to the board for allocation to the County of Sonoma to develop and implement community-based watershed management activities that will protect, restore, and enhance the environmental and economic value of the Russian River Watershed in the County of Sonoma.

(c) The sum of five million dollars ($5,000,000) to the board for the Clover Creek Flood Protection and Environmental Enhancement Project to provide for the acquisition, restoration, and conservation of low-flow stream channel, open water, seasonal wetlands, riparian habitat, oak woodland regeneration, and grassland meadow preservation.

(d) The sum of two million dollars ($2,000,000) to the board to rehabilitate and improve the Clear Lake Watershed by funding one or more of the following projects or activities: Clear Lake Basin 2000 Project, aeration, wetlands restoration, fishery enhancement, and wastewater treatment, or for grants awarded by the board to local public agencies for any of these purposes. The first priority for funding under this subdivision is for a grant award to fund eligible expenses of the Basin 2000 Project.

(e) To the maximum extent feasible, the watershed restoration and flood control projects described in this subdivision shall do one or more of the following:

(1) Preserve agricultural land.

(2) Protect and enhance wildlife habitat.

(3) Protect and enhance recreational and environmental education resources.

(4) Protect lake water quality.

79086. Notwithstanding any other provision of law, the board shall terminate any grant where it is determined that the project is not providing the proposed watershed benefits.

79087. Not more than 5 percent of the total amount deposited in the subaccount may be used to pay costs incurred in connection with the administration of this article.

79088. Where recovery plans for coho salmon, steelhead trout, or other threatened or endangered aquatic species exist, projects funded under this article shall be consistent with those plans, and to the extent feasible, shall seek to implement actions specified in those plans.

Article 3. Water and Watershed Education Program

79090. (a) There is hereby created in the account the Water and Watershed Education Subaccount.

(b) For the purposes of this article, "subaccount" means the Water and Watershed Education Subaccount created by subdivision (a).

79091. The sum of eight million dollars ($8,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79092. Three million dollars ($3,000,000) in the subaccount, upon appropriation by the Legislature to the department, may be used by the department for allocation to California State University, Fresno for the purposes of establishing and furthering the purposes of the San Joaquin Valley Water Institute at that campus.

79093. Two million dollars ($2,000,000) in the subaccount, upon appropriation by the Legislature to the department, shall be used by the department for the development of a Delta Science Center, including, but not limited to, all of the following components:

(a) Public educational opportunities.

(b) Wildlife and habitat enhancement.

(c) Preservation of agricultural lands.

(d) Enhanced levee protection and rehabilitation.

(e) Water quality improvements.

(f) Nonstructural flood protection.

79094. Three million dollars ($3,000,000) in the subaccount, upon appropriation by the Legislature to the University of California, may be used for the purpose of site acquisition, construction, and equipping of a Watershed Science Laboratory, for long-term monitoring and research with regard to the hydrology, geomorphology, water quality and aquatic and riparian ecology of the north delta and its tributary watersheds.

Article 4. River Protection Program

79100. (a) There is hereby created in the account the River Protection Subaccount.

(b) For the purposes of this article, "subaccount" means the River Protection Subaccount created by subdivision (a).

79101. The sum of ninety-five million dollars ($95,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79102. The money in the subaccount, upon appropriation by the Legislature, may be used to meet the requirements of Article 6 (commencing with Section 78682) of Chapter 6 of Division 24.

79103. At least 60 percent of the funds transferred pursuant to Section 79101 shall be used for projects that are located in, or in close proximity to, major metropolitan areas.

79103.2. Notwithstanding any other provision of this article, of the funds transferred pursuant to Section 79101, ten million dollars ($10,000,000) shall, upon appropriation to the department, be allocated to the San Joaquin River Parkway Conservancy for the purposes of the San Joaquin River Parkway.

79103.4. Notwithstanding any other provision of this article, of the funds transferred pursuant to Section 79101, two million five hundred thousand dollars ($2,500,000) in the subaccount shall be used by the department, upon appropriation, for the purpose of the Kern River Parkway Project between the mouth of Kern Canyon and Interstate Highway Route 5.

79104. Not more than 3 percent of the total amount deposited in the subaccount may be used to pay the costs incurred in connection with the administration of this article.

Article 5. Southern California Integrated Watershed Program

79104.20. The Legislature hereby finds and declares all of the following:

(a) The Santa Ana Watershed is experiencing increased water demands due to significant population growth that has caused undue infrastructure dependence and strain on imported water supplies.

(b) Regional programs have been developed to address the problems facing the watershed. These programs have four main elements, as follows:

(1) Storage of more than one million acre-feet of water from wet years in groundwater storage basins.

(2) Conservation, including water use efficiency and reclamation, that results in the substantial development of new usable supplies.

(3) Desalting and treatment of brackish water to allow poor quality water to be reclaimed and used.

(4) Enhancement of native habitat along the river and its tributaries.

(c) The water supply programs proposed by the Santa Ana Watershed Project Authority will develop significant new water supply and storage capabilities, thereby reducing the imported water needs of urban southern California, especially during dry years.

79104.22. (a) There is hereby created in the account the Santa Ana River Watershed Subaccount.

(b) For purposes of this article, "subaccount" means the Santa Ana River Watershed Subaccount created by subdivision (a).

79104.24. The sum of two hundred thirty-five million dollars ($235,000,000) is hereby transferred from the account to the su[illegible]count.

79104.26. The money in the subaccount, upon appropriation by the Legislature to the board, may be used by the board for allocation to the Santa Ana Watershed Project Authority for all of the following projects for the purposes of rehabilitating and improving the Santa Ana River Watershed:

(a) Basin water banking in one or more of the following basins: Chino, Colton, Orange County, Riverside, San Bernardino, and San Jacinto.

(b) Contaminant and salt removal through reclamation and desalting in Orange County, San Jacinto, or other basins in the watershed.

(c) Removal of nonnative plants, and the creation of new open space and wetlands.

(d) Programs for water conservation and efficiency and storm water capture and management.

(e) Planning and implementation of a flood control program to protect agricultural operations and adjacent property , to assist in abating the effects of waste discharges into waters of the state, consistent with the requirements of Section 13442.

79104.30. It is the intent of the Legislature to urge the federal government to allocate funds for projects to improve the Santa Ana River Watershed to match the state's financial commitment to the projects described in this article.

79104.32. It is the intent of the Legislature that the expenditure of the funds under this article be made through a broad-based watershed stakeholder process.

79104.34. Not more than 3 percent of the total amount deposited in the subaccount may be used to pay costs incurred by the board in connection with the administration of this article.

Article 6. Lake Elsinore and San Jacinto Watershed Program

79104.100. (a) There is hereby created in the account the Lake Elsinore and San Jacinto Watershed Subaccount.

(b) For the purposes of this article, "subaccount" means the Lake Elsinore and San Jacinto Watershed Subaccount created by subdivision (a).

79104.102. The sum of fifteen million dollars ($15,000,000) is hereby transferred from the account to the subaccount.

79104.104. The money in the subaccount, upon appropriation by the Legislature to the board, may be used by the board to rehabilitate and improve the Lake Elsinore Watershed and San Jacinto Watershed and the water quality of Lake Elsinore by funding one or more of the following projects: watershed monitoring, storm channel modification, nutrient control, aeration, wetlands restoration and enhancement, wildlife habitat enhancement, fishery enhancement, calcium quicklime treatment, and sediment removal, or for grants

awarded by the board to the Santa Ana Watershed Project Authority, other joint powers authorities, or local public agencies for any of these purposes, and for related planning and administrative costs.

79104.106. To the maximum extent feasible, the watershed management and flood control projects described in Section 79104.104 shall do one or more of the following:

(a) Preserve agricultural land.

(b) Protect wildlife habitat.

(c) Protect and enhance recreational resources.

(d) Improve lake water quality.

79104.108. It is the intent of the Legislature to urge the federal government to allocate funds for projects to improve the Lake Elsinore Watershed and San Jacinto Watershed, and lake water quality by matching the state's financial commitment to those projects.

79104.110. The funds appropriated pursuant to Section 79104.104 shall be allocated to a joint powers agency consisting of the City of Lake Elsinore, the Santa Ana Watershed Project Authority, the Elsinore Valley Municipal Water District and other agencies for implementation of programs to improve the water quality and habitat of Lake Elsinore, and its back basin consistent with the Lake Elsinore Management Plan.

79104.114. Not more than 3 percent of the total amount deposited in the subaccount may be used to pay costs incurred in connection with the administration of this article.

Article 7. Coastal Watershed Salmon Habitat Program

79104.200. (a) There is hereby created in the account the Coastal Watershed Salmon Habitat Subaccount.

(b) For the purpose of this article, "subaccount" means the Coastal Watershed Salmon Habitat Subaccount created by subdivision (a).

79104.202. The sum of twenty-five million dollars ($25,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79104.204. The money in the subaccount, upon appropriation by the Legislature to the Department of Fish and Game, shall be used by the Department of Fish and Game for direct expenditure and for grants to public agencies and nonprofit organizations to protect, restore, acquire, and enhance habitat for salmon. These funds may be used to match federal funding available for those purposes.

79104.206. Not more than 3 percent of the total amount deposited in the subaccount may be used to pay the costs incurred in connection with the administration of this article.

Chapter 7. Clean Water and Water Recycling Program

Article 1. Clean Water and Water Recycling Account

79105. For the purposes of this chapter, "account" means the Clean Water and Water Recycling Account created by Section 79106.

79106. The Clean Water and Water Recycling Account is hereby created in the fund. The sum of three hundred fifty-five million dollars ($355,000,000) hereby transferred from the fund to the account.

Article 2. Nonpoint Source Pollution Control Program

79110. The purpose of this article is to provide grant funding for projects that protect the beneficial uses of water throughout the state through the control of nonpoint source pollution.

79111. Unless the context otherwise requires, the following definitions govern the construction of this article:

(a) "Best management practices" means those practices or set of practices determined by the board, a regional board, or the water quality planning agency for a designated area to be the most effective feasible means of preventing or reducing the generation of a specific type of nonpoint source pollution, given technological, institutional, environmental, and economic constraints.

(b) "Capital costs" has the same meaning as "cost," as defined in Section 32025 of the Public Resources Code.

(c) "Management measures" means economically achievable measures to prevent or control the addition of pollutants to state waters, which reflect the greatest degree of pollutant prevention achievable through the application of the best available nonpoint source pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives.

(d) "Regional board" means a regional water quality control board.

(e) "Subaccount" means the Nonpoint Source Pollution Control Subaccount created by Section 79112.

79112. There is hereby created in the account the Nonpoint Source Pollution Control Subaccount.

79113. The sum of one hundred million dollars ($100,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79114. (a) The money in the subaccount, upon appropriation by the Legislature to the board, may be used by the board to award grants, not to exceed five million dollars ($5,000,000) per project, to local public agencies or nonprofit organizations formed by landowners to prepare and implement local nonpoint source plans. Grants shall only be awarded for any of the following projects:

(1) A project that is consistent with local watershed management plans that are developed under subdivision (d) of Section 79080 and with regional water quality control plans.

(2) A broad-based nonpoint source project, including a project identified in the board's "Initiatives in NPS Management," dated September 1995, and nonpoint source technical advisory committee reports.

(3) A project that is consistent with the "Integrated Plan for Implementation of the Watershed Management Initiative" prepared by the board and the regional boards.

(4) A project that implements management measures and practices or other needed projects identified by the board pursuant to its nonpoint source pollution control program's 15-year implementation strategy and five-year implementation plan that meets the requirements of Section 6217(g) of the federal Coastal Zone Act Reauthorization Amendments of 1990.

(b) The projects funded from the subaccount shall demonstrate a capability of sustaining water quality benefits for a period of 20 years. Categories of nonpoint source pollution addressed by projects may include, but are not limited to: silviculture, agriculture, urban runoff, mining, hydromodification, grazing, onsite disposal systems, boatyards and marinas, and animal feeding operations. Projects to address nonpoint source pollution may include, but are not limited to, wildfire management, installation of vegetative systems to filter or retard pollutant loading, incentive programs or large scale demonstration programs to reduce commercial reliance on polluting substances or to increase acceptance of alternative methods and materials, and engineered features to minimize impacts of nonpoint source pollution. Projects shall have defined water quality or beneficial use goals.

(c) Projects funded from the subaccount shall utilize best management practices, management measures, or both.

(d) If projects include capital costs, those costs shall be identified by the project applicant. The grant recipient shall provide a matching contribution for the portion of the project consisting of capital expenditures for construction, according to the following formula:

Project Capital Cost/Capital Cost Match by Recipient

$1,000,000 to $5,000,000, inclusive	20%
$125,000 to $999,999, inclusive	15%
$1 to $124,999, inclusive	10%

(e) Not more than 25 percent of a grant may be awarded in advance of actual expenditure.

(f) A proponent of a project funded from the subaccount shall be required to submit to the board a monitoring and reporting plan that does all of the following:

(1) Identifies one or more nonpoint sources of pollution.

(2) Describes the baseline water quality of the waterbody impacted.

(3) Describes the manner in which the proposed practices or measures are implemented.

(4) Determines the effectiveness of the proposed practices or measures in preventing or reducing pollution.

(g) Notwithstanding subdivision (b), the board may award up to 5 percent of the total amount deposited in the subaccount for demonstration projects that are intended to prevent, reduce, or treat nonpoint source pollution.

(h) A grant recipient shall submit a report to the board, upon completion of the project, that summarizes completed activities and indicates whether the purposes of the project have been met. The report shall include information collected by the grant recipient in accordance with the project monitoring and reporting plan, including a determination of the effectiveness of the best management practices or management measures implemented as part of the project in preventing or reducing nonpoint source pollution. The board shall make the report available to watershed groups, and federal, state, and local agencies.

79114.2. Notwithstanding any other provision of this article, the sum of five million dollars ($5,000,000) is hereby appropriated from the subaccount, to the board to be used by the board, after consultation with the Department of Food and Agriculture, for loans, not to exceed five hundred thousand dollars ($500,000) per loan, to provide low interest loans to finance the construction of projects designed to manage animal nutrients from animal feeding operations. Grants may be made available to local public agencies to pay for the cost of developing ordinances, regulations, and elements for their General Plan or other planning devices to assist in providing uniform standards for the permitting and operation of animal feeding operations within their jurisdictions. These funds may also be used for the preparation of the related environmental reviews that may be necessary under the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) for approval of the devices.

79114.3. No project shall receive funds under this article if it receives funds pursuant to Article 5 (commencing with Section 79148).

79114.5. (a) Sixty percent of the money in the subaccount shall be allocated to projects in the Counties of Riverside, Ventura, Los Angeles, San Diego, Orange, or San Bernardino.

(h) Forty percent of the money in the subaccount shall be allocated to projects in counties not described in subdivision (a).

(c) This section does not apply to Section 79114.2 or Section 79117.

79115. The board may adopt regulations to implement this article.

79116. Not more than 5 percent of the total amount deposited in the subaccount may be used to pay the costs incurred in connection with the administration of this article.

79117. (a) Notwithstanding any other provision of this article, of the funds transferred pursuant to Section 79113, the sum of ten million dollars ($10,000,000), upon appropriation by the Legislature to the board, may be used by the board, after consultation with the Department of Pesticide Regulation and the Office of Environmental Health Hazard Assessment, for grants as follows:

(1) Two million dollars ($2,000,000) for research and source identification.

(2) Eight million dollars ($8,000,000) for mitigation measures to protect water quality from potential adverse effects of pesticides, which measures have the ability to provide benefits for a period of 20 years, as determined by the board after consultation with the Department of Pesticide Regulation and the Office of Environmental Health Hazard Assessment.

(b) The board shall adopt regulations to carry out this section.

Article 3. Clean Water Program

79120. Unless the context otherwise requires, the following definitions govern the construction of this article:

(a) "Eligible project" means a project or activity described in paragraph (1), (2), (3), or (4) of subdivision (a) of Section 13480 that is all of the following:

(1) Necessary to prevent water pollution, reclaim water, or improve water quality.

(2) Eligible for funds from the State Revolving Fund Loan Subaccount or federal assistance.

(3) Certified by the board as entitled to priority over other eligible projects.

(4) Complies with applicable water quality standards, policies, and plans.

(b) "Federal assistance" means money provided to a municipality, either directly or through allocation by the state, from the federal government to construct eligible projects pursuant to the Clean Water Act.

(c) "Municipality" has the same meaning as defined in the Clean Water Act and also includes the state or any agency, department, or political subdivision thereof, and applicants eligible for technical

assistance under Section 319 (33 U.S.C. Sec. 1329) or grants under Section 320 of the Clean Water Act (33 U.S.C. Sec. 1330).

(d) "Small community" means a municipality with a population of 10,000 persons or less, or a reasonably isolated and divisible segment of a larger municipality where the segment of the population is 10,000 persons or less, with a financial hardship as determined by the board.

(e) "Treatment works" has the same meaning as defined in the Clean Water Act.

79121. There is hereby created in the account all of the following subaccounts:

(a) The State Revolving Fund Loan Subaccount.

(b) The Small Communities Grant Subaccount.

(c) The Wastewater Construction Grant Subaccount.

79122. (a) The following amounts are hereby transferred from the account to the following subaccounts and, notwithstanding Section 13340 of the Government Code, are hereby continuously appropriated, without regard to fiscal years, to the board, as follows:

(1) Thirty million five hundred thousand dollars ($30,500,000) to the State Revolving Fund Loan Subaccount for the purposes of providing loans pursuant to the Clean Water Act, to aid in the construction or implementation of eligible projects, and for the purposes described in Section 79124.

(2) Thirty-four million dollars ($34,000,000) to the Small Communities Grant Subaccount for grants by the board to small communities for construction of eligible treatment works, and for the purposes described in Section 79124.

79122.2. The sum of thirty-five million five hundred thousand dollars ($35,500,000) is hereby transferred from the account to the Wastewater Construction Grant Subaccount and, upon appropriation by the Legislature to the board, may be used by the board for the purposes of providing grants to aid in the construction of treatment works for the Cities of Manteca, Stockton, Tracy, and Orange Cove.

79122.4. The board may transfer unallocated funds from the State Revolving Fund Loan Subaccount to the State Water Pollution Control Revolving Fund created pursuant to Section 13477 for the purposes of meeting federal requirements for state matching funds to provide loans in accordance with the Clean Water Act.

79123. The board may adopt regulations to carry out this article.

79124. The board may, by contract or otherwise, undertake plans, surveys, research, development, and studies necessary or desirable to carry out this article, and may prepare recommendations with regard thereto, including the preparation of comprehensive statewide or areawide studies and reports on the collection, treatment, and disposal of waste, and wastewater recycling. For the purposes of this section, "research" may include the design, acquisition, installation,

or construction of monitoring and testing equipment and related facilities.

79125. Not more than 3 percent of the total amount deposited in each subaccount created pursuant to this article may be used to pay the costs incurred in connection with the administration of this article.

79126. Not more than 2 percent of the total amount deposited in each subaccount under this article may be used for the purposes of Section 79124.

79127. For the purposes of implementing paragraph (1) of subdivision (a) of Section 79122, the board may make loans to municipalities, pursuant to contract, to aid in the construction or implementation of eligible projects.

79128. (a) For purposes of paragraph (2) of subdivision (a) of Section 79122, the board may make grants to small communities so that any state grant does not exceed 97 1/2 percent of the eligible cost of necessary studies, planning, design, and construction of the eligible project determined in accordance with applicable state law and regulations.

(b) The total amount of grants made pursuant to paragraph (2) of subdivision (a) of Section 79122, for any single project, may not exceed three million five hundred thousand dollars ($3,500,000).

79128.5. For the purposes of paragraph (3) of subdivision (a) of Section 79122, the board may make grants for the cost of planning, design, and construction of treatment works necessary to comply with waste discharge requirements.

79129. Any contract entered into pursuant to this article for a loan or grant may include provisions determined by the board, and shall include all of the following provisions:

(a) An estimate of the reasonable cost of the project.

(b) A description of the type of assistance being offered.

(c) An agreement by the board to pay to the municipality or small community, during the progress of the project or following completion, as agreed upon by the parties, the amount specified in the contract determined pursuant to applicable federal and state laws.

(d) An agreement by the municipality or small community to proceed expeditiously with, and complete, the project, commence operation of the project upon completion, properly operate and maintain the project in accordance with applicable provisions of law, and provide for payment of its share of the costs of the project.

79130. All contracts entered into pursuant to this article for loans or grants are subject to both of the following requirements:

(a) Municipalities seeking assistance shall demonstrate, to the satisfaction of the board, that an adequate opportunity for public participation regarding the project has been provided.

(b) Any election held with respect to the project shall include the voters of the entire municipality unless the municipality proposes to accept the assistance on behalf of a specified portion or portions of the municipality, in which case the election shall be held in that portion or portions of the municipality only.

79131. Any loan made pursuant to Section 79127 shall meet the requirements of paragraph (1) of subdivision (b) of Section 13480.

79132. All principal and interest payments received pursuant to loan contracts entered into pursuant to this article shall be deposited in the State Revolving Fund Loan Subaccount for the purposes of entering into additional loans under this article, and shall not be transferred to the General Fund.

79133. (a) Notwithstanding any other provision of this article, of the continuously appropriated funds described in paragraph (1) of subdivision (a) of Section 79122, the sum of seven million dollars ($7,000,000) shall be used by the Department of Toxic Substances Control for allocation to local agencies for groundwater remediation projects.

(b) The Department of Toxic Substances Control shall adopt regulations to carry out this subdivision.

Article 4. Water Recycling Program

79135. Unless the context otherwise requires, the following definitions govern the construction of this article:

(a) "Municipality" has the same meaning as that set forth in subdivision (c) of Section 79120.

(b) "Subaccount" means the Water Recycling Subaccount created by Section 79136.

(c) "Water recycling project" means a water recycling project that meets applicable reclamation criteria and water reclamation requirements and that complies with applicable water quality standards, policies, and plans.

79136. There is hereby created in the account the Water Recycling Subaccount.

79137. (a) The sum of forty million dollars ($40,000,000) is hereby transferred from the account to the subaccount for the purposes of this article.

(b) (1) Sixty percent of the money in the subaccount shall be allocated to projects in the Counties of Riverside, Ventura, Los Angeles, San Diego, Orange, or San Bernardino.

(2) Forty percent of the money in the subaccount shall be allocated to projects in counties not described in paragraph (1).

79138. Unallocated funds remaining in the Water Recycling Subaccount in the Clean Water and Water Recycling Account in the Safe, Clean, Reliable Water Supply Fund on March 8, 2000, and any funds deposited into that subaccount after that date, shall be

transferred to, and all money repaid to the state pursuant to any loan contract executed under Chapter 17 (commencing with Section 14050) of Division 7 or Article 3 (commencing with Section 78620) of Chapter 5 of Division 24 shall be deposited in, the subaccount for the purposes of this article.

79139. The board may enter into an agreement with the federal government for federal contributions to the subaccount if all of the following conditions have been met:

(a) The board has identified any required matching funds.

(b) The board is prepared to commit to the expenditure of any minimum amount in the subaccount in the manner required by the Clean Water Act.

(c) Any agreement between the board and the federal government is consistent with the purposes of this article.

79140. (a) Notwithstanding Section 13340 of the Government Code, 50 percent of the money in the subaccount is hereby continuously appropriated, without regard to fiscal years, to the board for loans to municipalities for the design and construction of water recycling projects in accordance with Section 79141, and for the purposes described in Sections 79143, 79144, and Section 79145.

(b) Fifty percent of the money in the subaccount, upon appropriation by the Legislature to the board, may be used by the board for grants to municipalities for the design and construction of water recycling projects in accordance with Section 79141.

79141. The board may enter into agreements with municipalities for loans and grants for projects to recycle water in accordance with this article. Criteria to be considered by the board in determining whether to enter into an agreement under this article may include, but are not limited to, whether the project is a cost-effective means to meet the state or local water supply needs, when compared to other sources of water supply that may be available to the municipality, whether the project is necessary to protect water quality, the readiness of the municipality to proceed with the design and construction of water recycling projects, the degree to which the recycled water improves water supply reliability, water quality, ecosystem restoration, and other environmental benefits, the net water savings benefit, the degree to which the recycled water would reduce water supply demands on the bay-delta system, the Colorado River, or other water systems critical to regional or statewide water supply, the ability to encourage development of new water recycling projects, and the amount of funding that the municipality is requesting under this article. The cost effectiveness of a project when compared to other sources of state or local water supply shall not be the sole factor in determining whether to enter into an agreement.

79142. An agreement entered into pursuant to Section 79141 may include those provisions determined by the board to be necessary for the purposes of this article.

79142.2. (a) A contract for a loan made pursuant to this article may not provide for a moratorium on, or the deferment of, the payment of the principal of, or interest on, the loan.

(b) Any loan made pursuant to Section 79141 shall be for a period not to exceed 20 years.

(c) The board may enter into a contract for a loan that equals up to 100 percent of the total eligible cost of design and construction of an eligible recycling project.

79142.4. (a) The board may establish the interest rate for a loan made pursuant to this article at a rate equal to 50 percent of the interest rate paid by the state on the most recent sale of state general obligation bonds, to be computed according to the true interest cost method.

(b) If the interest rate so determined is not a multiple of one-tenth of 1 percent, the interest rate shall be set at the next higher multiple of one-tenth of 1 percent.

(c) The interest rate set for each contract shall be applied throughout the repayment period of the contract. There shall be a level annual repayment of principal and interest on the loans.

79142.6. All principal and interest payments received pursuant to loan contracts executed pursuant to this article shall be deposited in the subaccount for the purposes of this article, and shall not be transferred to the General Fund.

79142.8. All interest earned by assets in the subaccount shall be deposited in the subaccount.

79143. The board may make grants to municipalities for facility planning studies for water recycling projects. The amount of the grants may not exceed seventy-five thousand dollars ($75,000) per study.

79144. The board may, by contract or otherwise, undertake plans, surveys, research, development, and studies necessary or desirable to carry out this article, and may prepare recommendations with regard thereto, including the preparation of comprehensive statewide or areawide studies and reports on the collection, treatment, and disposal of waste and wastewater recycling. For the purposes of this section, "research" may include the design, acquisition, installation, or construction of monitoring and testing equipment and related facilities.

79145. (a) Not more than 3 percent of the total amount deposited in the subaccount may be used to pay the costs incurred in connection with the administration of this article.

(b) Not more than 3 percent of the total amount deposited in the subaccount may be used for the purposes of Section 79144.

79146. Notwithstanding any other provision of this article, the money in the subaccount may not be used to provide financial assistance to any water recycling project used to augment water supplies by discharging recycled water into a surface water reservoir

that supplies water directly to a treatment facility for a water supply system that serves domestic uses.

79147. (a) The board may adopt regulations to carry out this article.

(b) The board is encouraged to expedite the review and processing of agreements to carry out the purposes of this article. The board shall report to the Legislature on the progress of implementing this article on or before June 30, 2001.

Article 5. Coastal Nonpoint Source Control Program

79148. The purpose of this article is to provide funding for projects that restore and protect the water quality and environment of coastal waters, estuaries, bays, and near share waters and groundwaters.

79148.2. Unless the context otherwise requires, the following definitions govern the construction of this article:

(a) "Educational institution" means community colleges, state colleges, and the University of California.

(b) "Local public agency" means any city, county, city and county, district, or other political subdivision of the state.

(c) "Municipality" has the same meaning as defined in the Clean Water Act and also includes the state or any agency, department, or political subdivision thereof, and applicants eligible for technical assistance under Section 319 (33 U.S.C. Sec. 1329) or grants under Section 320 of the Clean Water Act (33 U.S.C. Sec. 1330).

(d) "Nonprofit organization" means any California corporation organized under Section 501(c)(3) or 501(c)(5) of the Internal Revenue Code.

(e) "Regional board" means a regional water quality control board.

(f) "Subaccount" means the Coastal Nonpoint Source Control Subaccount created by Section 79148.4.

79148.4. There is hereby created in the account the Coastal Nonpoint Source Control Subaccount.

79148.6. The sum of ninety million dollars ($90,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79148.7. Notwithstanding any other provision of this article, the sum of four million dollars ($4,000,000), upon appropriation by the Legislature to the board, shall be allocated by the board to the City of Huntington Beach to fund multiagency studies to establish recommendations to address coastal nonpoint source pollution in the tidal marshes and coastal waters, and to implement those recommendations. Agencies authorized to conduct the studies and implement the recommendations may include, but need not be

limited to, municipal and county governments, flood control districts, and sanitation districts.

79148.8. (a) The money in the subaccount, upon appropriation by the Legislature to the board, may be used by the board, in consultation with the California Coastal Commission, to award loans as provided in subdivision (b), and to award grants not to exceed five million dollars ($5,000,000) per project, to municipalities, local public agencies, educational institutions, or nonprofit organizations for the purposes of this article. Grants may be awarded for any of the following projects:

(1) A project designed to improve water quality at public beaches and to make improvements for the purpose of ensuring that coastal waters adjacent to public beaches meet the bacteriological standards set forth in Article 2 (commencing with Section 115880) of Chapter 5 of Part 10 of Division 104 of the Health and Safety Code.

(2) A project to provide comprehensive capability for monitoring, collecting, and analyzing ambient water quality, including monitoring technology that can be entered into a statewide information base with standardized protocols and sampling, collection, storage and retrieval procedures.

(3) A project to make improvements to existing sewer collection systems and septic systems for the restoration and protection of coastal water quality.

(4) A project designed to implement storm water and runoff pollution reduction and prevention programs for the restoration and protection of coastal water quality.

(5) A project that is consistent with the state's nonpoint source control program, as revised to meet the requirements of Section 6217 of the federal Coastal Zone Act Reauthorization Amendments of 1990, Section 319 of the federal Clean Water Act (33 U.S.C. Sec. 1329), and the requirements of Division 7 (commencing with Section 13000).

(b) In addition to the grants authorized pursuant to subdivision (a), the board may make loans not to exceed five million dollars ($5,000,000) per project to municipalities, local public agencies, educational institutions, or nonprofit organizations for the purposes set forth in paragraph (3) of subdivision (a).

(c) The projects funded from the subaccount shall demonstrate the capability of contributing to sustained, long-term water quality or environmental restoration or protection benefits for a period of 20 years, shall address the causes of degradation, rather than the symptoms, and shall be consistent with water quality and resource protection plans prepared, implemented, or adopted by the board, the applicable regional water quality control board, and the California Coastal Commission.

(d) An applicant for funds from the subaccount shall be required to submit to the board a monitoring and reporting plan that does all of the following:

(1) Identifies the nonpoint source or sources of pollution to be prevented or reduced by the project.

(2) Describes the baseline water quality or quality of the environment to be addressed.

(3) Describes the manner in which the project will be effective in preventing or reducing pollution and in demonstrating the desired environmental results.

(e) Upon completion of the project, a recipient of funds from the subaccount shall submit a report to the board that summarizes the completed activities and indicates whether the purposes of the project have been met. The report shall include information collected by the recipient in accordance with the project monitoring and reporting plan, including a determination of the effectiveness of the project in preventing or reducing pollution. The board shall make the report available to the public, watershed groups, and federal, state, and local agencies.

(f) If projects include capital costs for construction, those costs shall be identified by the project applicant. The grant recipient shall provide a matching contribution for the portion of the project consisting of capital costs for construction, according to the following formula:

Capital Cost Project Cost/Capital Cost Match by Recipient

$1,000,000 to $5,000,000, inclusive	20%
$125,000 to $999,999, inclusive	15%
$1 to $124,999, inclusive	10%

For the purposes of this subdivision, "capital costs" has the same meaning as "cost" as defined in Section 32025 of the Public Resources Code.

(g) Not more than 25 percent of a grant may be awarded in advance of actual expenditure.

(h) An applicant for funds from the subaccount shall inform the board of any necessary public agency approvals, entitlements, and permits that may be necessary to implement the project. The application shall certify to the board, at the appropriate time, that those approvals, entitlements, and permits have been granted.

(i) Where recovery plans for coho salmon, steelhead trout, or other threatened or endangered aquatic species exist, projects funded under this article shall be consistent with those plans, and to the extent feasible, shall seek to implement actions specified in those plans.

79148.10. (a) Sixty percent of the money in the subaccount shall be allocated to projects in the Counties of Riverside, Ventura, Los Angeles, San Diego, Orange, or San Bernardino.

(b) Forty percent of the money in the subaccount shall be allocated to projects in the counties not described in subdivision (a).

79148.12. The board shall provide opportunity for public review and comment in awarding funds pursuant to this article, and may, in consultation with the California Coastal Commission, adopt regulations to implement this article.

79148.14. No project shall receive funds under this article if it receives funds pursuant to Article 2 (commencing with Section 79110).

79148.15. Notwithstanding any other provision of this article, three million dollars ($3,000,000), upon appropriation by the Legislature to the board, shall be allocated by the board to the San Diego County Water Authority for environmental studies and engineering studies for the San Diego Regional Conveyance Facility.

79148.16. Not more than 5 percent of the total amount deposited in the subaccount may be used to pay the costs incurred in connection with the administration of this article.

Article 6. Seawater Intrusion Control

79149. Unless the context otherwise requires, the following definitions govern the construction of this article:

(a) (1) "Eligible seawater intrusion control project" means a project that meets all of the following requirements:

(A) The project is necessary to protect groundwater and meets both of the following requirements:

(i) The project is within a basin that is subject to a local groundwater management plan for which a review is completed pursuant to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code).

(ii) The project is threatened by seawater intrusion in an area where restrictions on groundwater pumping, a physical solution, or both, are necessary to prevent the destruction of, or irreparable injury to, groundwater quality.

(B) In the case of a project that would provide a substitute water supply, the project is cost-effective when compared to the development of other new sources of water and includes requirements or measures adequate to ensure that the substitute supply will be used in lieu of previously established extractions or diversions of groundwater.

(C) The project complies with applicable water quality standards, policies, and plans.

(2) Eligible projects may include, but are not limited to, wat conservation, freshwater well injection, and substitution groundwater pumping from local surface supplies.

(b) "Local agency" means any city, county, district, joint powe authority, or other political subdivision of the state involved in wat management.

(c) "Subaccount" means the Seawater Intrusion Contr Subaccount created by Section 79149.2.

79149.2. (a) There is hereby created in the account the Seawat Intrusion Control Subaccount. The sum of twenty-five million dolla ($25,000,000) is hereby transferred from the account to tl subaccount for the purposes of implementing this article.

(b) Notwithstanding Section 13340 of the Government Code, tl money in the subaccount is hereby continuously appropriate without regard to fiscal years, to the board for loans to local agenci to carry out eligible seawater intrusion control projects and for tl purposes described in this article and for the administration of th article.

79149.3. Unallocated funds remaining in the Seawater Intrusi Control Subaccount in the Clean Water and Water Recycli Account in the Safe, Clean, Reliable Water Supply Fund on Mar 8, 2000, and any funds deposited into that subaccount after that dat shall be transferred to, and all money repaid to the state pursuant any loan contract executed under Article 6 (commencing wi Section 78648) of Chapter 5 of Division 24 shall be deposited in, tl subaccount for the purposes of this article.

79149.4. The board may enter into contracts to make loans to loc agencies for the purposes set forth in this article.

79149.6. Any contract for a loan entered into pursuant to Secti 79149.4 may include those provisions determined by the board to l necessary for the purposes of this article and shall include both of tl following provisions:

(a) An estimate of the reasonable cost of the eligible seawat intrusion control project.

(b) An agreement by the local agency to proceed expeditious with, and complete, the eligible seawater intrusion control proje commence operation of the project in accordance with applicab provisions of law, and provide for the payment of the local agency share of the cost of the project, including the principal of, and interc on, the loan.

79149.8. (a) A contract for a loan may not provide for moratorium on the payment of the principal of, or interest on, tl loan.

(b) Any loan made pursuant to Section 79149.4 shall be for a peri not to exceed 20 years.

(c) The board may enter into a contract for a loan amount that equals up to 100 percent of the total eligible cost of design and construction of an eligible seawater intrusion control project.

79149.10. (a) The board shall establish the interest rate for a loan made pursuant to this article at a rate equal to 50 percent of the interest rate paid by the state on the most recent sale of state general obligation bonds, to be computed according to the true interest cost method.

(b) If the interest rate so determined is not a multiple of one-tenth of 1 percent, the interest rate shall be set at the next higher multiple of one-tenth of 1 percent.

(c) The interest rate set for each contract shall be applied throughout the repayment period of the contract. There shall be a level annual repayment of principal and interest on the loans.

79149.12. All principal and interest payments received pursuant to loan contracts entered into pursuant to this article shall be deposited in the subaccount.

79149.14. The board may, by contract or otherwise, undertake plans, surveys, research, development, and studies necessary, convenient, or desirable to carry out the purposes of this article.

79149.16. Not more than 3 percent of the total amount deposited in the subaccount may be used to pay for both of the following:

(a) To pay the costs incurred in connection with the administration of this article.

(b) For the purposes of Section 79149.14.

CHAPTER 8. WATER CONSERVATION PROGRAM

Article 1. Findings and Declarations

79150. The Legislature finds and declares that:

(a) Voluntary, cost-effective capital outlay water conservation programs can help meet the growing demand for clean and abundant water supplies throughout the state.

(b) The participation of the state in the construction of local water conservation projects is desirable to further the effective management of the water resources of the state.

Article 2. General Provisions

79151. Unless the context otherwise requires, the following definitions govern the construction of this chapter:

(a) "Account" means the Water Conservation Account created by Section 79152.

(b) (1) "Water conservation program or project" means those feasible capital outlay measures undertaken to improve the

efficiency of water use through projects, the benefits of which exceed the costs.

(2) The programs include, but are not limited to, all of the following:

(A) The lining or piping of ditches.

(B) Improvements in water distribution system controls such as automated canal control, construction of small reservoirs within distribution systems that conserve water that has already been captured for use, and related physical improvements.

(C) Tailwater pumpback recovery systems.

(D) Major improvements to, or replacement of, deteriorated distribution systems to reduce leakage and maximize conservation.

(E) Capital outlay features of agricultural water conservation programs identified in the "Memorandum of Understanding Regarding Efficient Agricultural Water Management Practices," dated July 16, 1997, and endorsed by the Agricultural Water Management Council, and any amendments thereto.

(c) "Economically disadvantaged area" means any area of the state for which both of the following statements apply:

(1) A median household income that is less than forty thousand dollars ($40,000) based on the most recent federal census.

(2) An annual average unemployment rate that is greater than 9 percent based on the most recent federal census.

(d) (1) "Groundwater recharge facilities" means lands and facilities for artificial groundwater recharge through methods that include, but are not limited to, percolation using basins, pits, ditches, and furrows, modified streambeds, flooding, and well injection. For the purposes of this chapter, expenditures for "groundwater recharge facilities" include capital outlay expenditures to expand, renovate, or restructure land and facilities used for the purposes of groundwater recharge and to acquire additional land for recharge basins.

(2) Groundwater recharge facilities may include any of the following:

(A) Instream facilities for regulation of water levels, but not regulation of streamflow to accomplish diversion from the waterway.

(B) Agency-owned facilities for extraction.

(C) Conveyance facilities to convey water to the recharge site, including devices for flow regulation and measurement of recharge waters.

(3) Any part or all of the project facilities, including the land under the facilities, may consist of separable features, or an appropriate share of multipurpose features, of a larger system, or both.

(e) "Infrastructure rehabilitation project" means a project located in an economically disadvantaged area for the repair, replacement, restoration, or rehabilitation of an existing water distribution system that delivers water for domestic, municipal, or

industrial uses, including pipelines, pump stations, valves, meters, reservoirs, and all other appurtenant water delivery facilities that result in the reduction or elimination of significant distribution system water losses or replace a failing system component that threatens the health, safety, welfare, and economy of areas relying on the water distribution system.

(f) "Local agency" or "agency" means any city, county, city and county, district, joint powers authority, or other political subdivision of the state involved with water management. "Local agency" or "agency" also means a mutual water company. For purposes of this chapter, mutual water company means a nonprofit corporation organized for, or engaged in the business of, developing, distributing, supplying, or delivering water for irrigation or domestic use, or both, to its members or shareholders, at actual cost plus necessary expenses.

(g) "Project" may include any of the following:

(1) Water conservation project.

(2) Groundwater recharge facilities.

(3) Urban water conservation project.

(4) Infrastructure rehabilitation project.

(h) "Urban water conservation project" means capital outlay features of urban water conservation programs identified in the "Memorandum of Understanding Regarding Urban Water Conservation in California," as amended on April 8, 1998, by the California Urban Water Conservation Council, and any amendments thereto.

79152. The Water Conservation Account is hereby created in the fund.

79153. (a) The sum of one hundred fifty-five million dollars ($155,000,000) is hereby transferred from the fund to the account for the purposes of this chapter.

(b) Unallocated funds remaining in the Water Conservation and Groundwater Recharge Subaccount in the Water Supply Reliability Account in the Safe, Clean, Reliable Water Supply Fund on March 8, 2000, shall be transferred to, and all money repaid to the state pursuant to any loan contract executed under Article 3 (commencing with Section 78670) of Chapter 6 of Division 24 shall be deposited in, the account for the purposes of entering into additional loans under Article 3 (commencing with Section 79157) and Article 4 (commencing with Section 79161).

79154. (a) Any loan agreement entered into pursuant to this chapter may include provisions determined to be necessary by the department.

(b) Any loan agreement pursuant to this chapter shall include all of the following:

(1) A finding by the department that the agency has the ability to repay the loan, that the project is cost-effective, and that the project is feasible from an engineering or hydrologic standpoint, or both.

(2) An agreement by the agency to proceed expeditiously with, and complete, the project in conformance with approved plans and specifications and to operate and maintain the project properly upon completion throughout the repayment period.

(3) A provision that there shall be no moratorium on, or deferment of, payments of principal or interest.

(4) (A) A loan period of not more than 20 years with an interest rate set at a rate equal to 50 percent of the interest rate paid by the state on the most recent sale of state general obligation bonds, to be computed according to the true interest cost method.

(B) If the interest rate so determined is not a multiple of 1 percent, the interest rate shall be set at the next multiple of one-tenth of 1 percent.

(C) The interest rate for each loan agreement shall be applied throughout the repayment period of the contract. There shall be a level annual repayment of principal and interest on the loans.

79155. (a) Any grant agreement entered into pursuant to this chapter may include provisions determined to be necessary by the department.

(b) Any grant agreement pursuant to this chapter shall include both of the following:

(1) A determination by the department that the project is economically justified, and that the project is feasible.

(2) An estimate of the reasonable cost and benefit of the project, including a feasibility report that sets forth the engineering and financial feasibility of the project, and shall include a description of the proposed facilities and their relation to other water-related facilities in the system service area.

79155.5. Notwithstanding any other provision of law, regulations set forth in Chapter 2.3 (commencing with Section 450.1) of Division 2 of Title 23 of the California Code of Regulations that are in effect on March 8, 2000, may be used to carry out this chapter.

79156. Not more than 3 percent of the total amount deposited in the subaccount may be used by the department to pay the costs incurred in connection with the administration of this article.

Article 3. Agricultural Water Conservation Program

79157. (a) The sum of thirty-five million dollars ($35,000,000) in the account, upon appropriation by the Legislature to the department, shall be used by the department for loans to local agencies to aid in the acquisition and construction of agricultural water conservation projects, and for grants in accordance with Section 79158.

(b) For the purposes of approving a loan under this section, the department shall determine if there will be a net saving of water as a result of each proposed project and if the project is determined by the department to be cost-effective.

(c) A project under this article shall not receive any more than five million dollars ($5,000,000) in loan proceeds from the department.

(d) The department shall give preference to the agencies that propose the most cost-effective projects.

79158. (a) The department may make grants to local agencies, under any terms and conditions that may be determined necessary by the department, for the purpose of financing feasibility studies of projects potentially eligible for a loan under Section 79157.

(b) No single feasibility study shall be eligible to receive more than one hundred thousand dollars ($100,000), and not more than 5 percent of the total amount deposited in the account may be expended for the purposes of financing feasibility studies.

(c) A grant for a feasibility study shall not affect the maximum amount of any loan that may be made under this article.

Article 4. Groundwater Recharge Facilities Program

79161. (a) The sum of thirty million dollars ($30,000,000) in the account is hereby appropriated to the department, without regard to fiscal years, for use by the department for loans and grants to local agencies for the acquisition and construction of groundwater recharge facilities.

(b) A loan application pursuant to this article shall include the reasonable cost and benefit of the proposed project, including a feasibility report that shall set forth the economic justification for the project, and shall include explanations of the proposed facilities and their relation to other water supply related facilities in the basin or region.

(c) A project under this article shall not receive any more than five million dollars ($5,000,000) in loan proceeds from the department.

(d) The department shall give preference under this section to projects that are located in overdrafted groundwater basins, projects of critical need, projects whose feasibility studies demonstrate the greatest engineering and hydrogeologic feasibility as determined by the department, and projects located in areas that have groundwater management plans.

79161.5. (a) The department may make grants to local agencies, under any terms and conditions that may be determined necessary by the department, for the purpose of financing feasibility studies of projects potentially eligible for a loan under Section 79161.

(b) No single feasibility study shall be eligible to receive more than one hundred thousand dollars ($100,000), and not more than 5 percent of the total amount deposited in the account may be expended for the purposes of financing feasibility studies.

(c) A grant for a feasibility study shall not affect the maximum amount of any loan that may be made under this article.

Article 5. Infrastructure Rehabilitation Program

79162. (a) The sum of sixty million dollars ($60,000,000) in the account, upon appropriation by the Legislature to the department, shall be used by the department for grants awarded by the department to local agencies for the purposes of funding infrastructure rehabilitation projects.

(b) (1) For the purposes of making grants pursuant to subdivision (a), the factors to be considered by the department in determining whether to enter into an agreement shall include, but not be limited to, the need to implement projects that provide measurable conservation through the reduction of system water losses by rehabilitating water delivery systems.

(2) Grants awarded pursuant to subdivision (a) shall be available for public water systems owned and operated by local agencies in economically disadvantaged areas with service connections that exceed 200 but are not greater than 16,000 in number. The department shall give highest priority in awarding grants to those agencies with the highest retail water rates and service charges as of January 1, 1999.

(c) No single construction grant under this article shall exceed five million dollars ($5,000,000).

79162.2. (a) The department may make grants to local agencies, under any terms and conditions as may be determined necessary by the department, for the purpose of financing feasibility studies of projects potentially eligible for a grant under Section 79162.

(b) No single feasibility study shall be eligible to receive more than one hundred thousand dollars ($100,000), and not more than 5 percent of the total amount deposited in the account may be expended for the purposes of financing feasibility studies.

(c) A grant for a feasibility study shall not affect the maximum of any construction grant that may be made under this article.

79162.4. The department may adopt regulations to carry out this article.

Article 6. Urban Water Conservation Program

79163. (a) The sum of thirty million dollars ($30,000,000) in the account, upon appropriation by the Legislature to the department, shall be used by the department for grants and loans awarded by the

department to local agencies for the purposes of funding urban water conservation projects.

(b) A project under this article shall not receive more than five million dollars ($5,000,000) in loan proceeds from the department.

79164. (a) The department may make grants to local agencies, under any terms and conditions that may be determined necessary by the department, for the purpose of financing feasibility studies of projects potentially eligible for a loan under Section 79163.

(b) No single feasibility study shall be eligible to receive more than one hundred thousand dollars ($100,000), and not more than 5 percent of the total amount deposited in the account may be expended for the purposes of financing feasibility studies.

(c) A grant for a feasibility study shall not affect the maximum amount of any loan that may be made under this article.

Chapter 9. Water Supply, Reliability, and Infrastructure Program

Article 1. Water Supply, Reliability, and Infrastructure Account

79165. For the purposes of this chapter, "account" means the Water Supply, Reliability, and Infrastructure Account created by Section 79166.

79166. The Water Supply, Reliability, and Infrastructure Account is hereby created in the fund. The sum of six hundred thirty million dollars ($630,000,000) is hereby transferred from the fund to the account.

Article 2. Groundwater Storage Program

79170. The Legislature finds and declares that the conjunctive management of surface water and groundwater is an effective way to improve the reliability of water supply for all sectors in California.

79171. Unless the context otherwise requires, the following definitions govern the construction of this article:

(a) "Conjunctive use" means the temporary storage of water in a groundwater aquifer through intentional recharge and subsequent extraction for later use. Storage is accomplished by either of the following methods:

(1) "Direct recharge" of an aquifer by conducting surface water into the ground by various means, including, without limitation, spreading ponds and injection wells for the purpose of making the water stored in the aquifer available for extraction and later use in drier years.

(2) "In-lieu recharge" means increasing the amount of groundwater available in an aquifer by substituting surface water supplies to a user who would otherwise pump groundwater.

(b) "Conjunctive use facilities" include land and appurtenant facilities for any phase of a conjunctive use operation. Appurtenant facilities may include subsurface storage, treatment, conveyance, recharge ponds, injection wells, spreading grounds, monitoring, measurements, subsidence detection, flow regulation, detention basins to facilitate recharge, diversion facilities, and extraction facilities.

(c) "Conjunctive use project" means a project that is intended to produce water supply benefits for the local agency or a project that is intended to produce water supply benefits for water users, including the environment, in addition to the local agency.

(d) "Local agency" means any city, county, city and county, district, joint powers authority, mutual water company, or other political subdivision of the state.

(e) "Project participants" means any public agency participating in, and benefiting from, a conjunction use project under this article.

(f) "Subaccount" means the Conjunctive Use Subaccount created by Section 79172.

79172. There is hereby created in the account the Conjunctive Use Subaccount.

79173. The sum of two hundred million dollars ($200,000,000) is hereby transferred from the account to the subaccount for the purposes of implementing this article.

79174. The money in the subaccount, upon appropriation by the Legislature to the department, may be used by the department for grants for feasibility studies, project design, or the construction of conjunctive use projects on a pilot or operational scale.

79175. Not more than 5 percent of the total amount deposited in the subaccount may be expended for purposes of financing feasibility studies.

79176. For the purpose of approving projects pursuant to this article, the department shall give priority to those projects for which there is available third-party funds from any source other than the Central Valley Project Restoration Fund authorized by the Central Valley Project Improvement Act. The department shall also take into consideration all of the following with regard to each proposed project:

(a) The magnitude of the actual increase in water supply yield and reliability compared to preexisting conditions.

(b) The consistency with the plans or recommendations proposed by CALFED.

(c) The distribution of the benefits to water supply and to the environment.

(d) The availability of the storage for conserved water.

(e) The technical and environmental suitability of the groundwater basin for conjunctive use.

(f) The potential to reduce critically overdrafted conditions in a groundwater basin.

(g) The need for the project.

(h) The potential to alleviate salt water intrusion into groundwater basins or other groundwater quality degradation.

(i) The economic, engineering, and hydrogeologic justification for the project.

(j) The availability of third-party or local matching funds from any source other than the Central Valley Project Restoration Fund authorized by the Central Valley Project Improvement Act.

(k) The involvement of one or more local agencies whose jurisdiction or water service area overlies or is adjacent to the aquifer utilized to store water.

(l) The potential to reduce dry year demand for surface water under existing contracts.

(m) The existence of a system for the recovery of the stored water or an agreement with the department or a local agency for the installation of that system.

(n) Whether the project is located in an area that is subject to a groundwater management program.

79177. To be eligible for funding for the construction of a conjunctive use project under this article, an applicant that is other than a local agency shall be required to carry out that project with the participation of a local agency. The department or a local agency may provide technical assistance, coordination, or any other assistance in implementing a project or study if requested by the participating local agency.

79178. No construction project may receive more than fifty million dollars ($50,000,000) from the subaccount.

79179. Not more than 5 percent of the total amount deposited in the subaccount may be used to pay the costs incurred in connection with the administration of this article.

79180. Not less than 40 percent of the total amount deposited in the subaccount shall be expended for studies, projects, and facilities within watersheds of the central valley.

79181. (a) A project undertaken pursuant to this article shall fully protect and preserve the groundwater rights of the overlying landowners and shall fully protect and preserve the water rights of the project participants. The department shall not provide funding for a project unless it determines that the project will be designed and operated in a manner that ensures that other users of the same or a hydrologically related aquifer will not suffer any unreasonable diminution of the quantity or quality of their groundwater supplies or incur additional uncompensated expense as a result of the implementation of the project.

(b) For the purposes of receiving funding for a conjunctive use project pursuant to this article, the applicant shall be required to do both of the following:

(1) Provide for a continuing groundwater monitoring and mitigation program.

(2) Limit the extraction of the groundwater to not more than the amount of water that is stored or recharged by the project participants or the amount that complies with all laws and contract terms governing the extraction, appropriation, and use of groundwater by the project participants.

(c) Persons and agencies participating in the project may not assert a claim or file a cause of action against an overlying landowner who is not exceeding either of the following:

(1) The overlying landowner's historic rate of groundwater pumping.

(2) The full amount of groundwater to which the overlying landowner would be entitled to under state law regarding rights to groundwater and reasonable beneficial use on the landowner's land that overlies the groundwater.

(d) The overlying landowners may not assert a claim or file a cause of action against the persons or agencies participating in the project if the project is implemented in compliance with this section, except as provided by contract between the project participants.

(e) Nothing in this article modifies state law with regard to groundwater rights, regulation, or management.

79182. In carrying out this article and awarding grants, the department shall convene and consult with an advisory committee comprised of technically qualified representatives of local water agencies, project participants, environmental interests, agricultural laborer interests, and interests representing farmers who use groundwater. The advisory committee shall be geographically balanced to reflect the communities that use water in the Central Valley. If a member of the advisory committee, or a member of his or her immediate family, is employed by a grant applicant or the employer of a grant applicant, the committee members shall make that disclosure to the other members of the committee and shall not participate in the review of the grant application of that applicant.

79183. The department may adopt regulations to carry out this article.

Article 3. Bay-Delta Multipurpose Water Management Program

79190. Unless the context otherwise requires, the following definitions govern the construction of this article:

(a) "CALFED Bay-Delta Program" or "program" means the undertaking by CALFED pursuant to the Framework Agreement dated June 20, 1994, to develop a long-term solution to water

management, environmental, and other problems in the bay-delta watershed by means of a programmatic environmental impact statement/environmental impact report.

(b) "CALFED EIS/EIR" means the final programmatic environmental impact statement/environmental impact report prepared by CALFED.

(c) "CALFED stage 1 action" means an action identified in the preferred alternative of the CALFED EIS/EIR as an action intended for implementation during stage 1 of Phase III of the CALFED Bay-Delta Program.

(d) (1) "Eligible project" means a demonstration project, subject to the CALFED adaptive management principle that requires an assessment of the performance of the demonstration projects in order to determine which projects are successful in achieving the goals of the program.

(2) "Eligible project" means a project that meets both of the following requirements.

(A) The project is identified in the CALFED EIS/EIR as a CALFED stage 1 action.

(B) The project does one or more of the following:

(i) Constructs treatment facilities or relocates discharge facilities for agricultural drainage generated within the delta to improve water quality in the delta or the quality of water that is transported from the delta.

(ii) Constructs facilities to control waste discharges that contribute to low dissolved oxygen and other water quality problems in the lower San Joaquin River and the south delta.

(iii) Constructs fish facilities for the State Water Project or the Central Valley Project intakes in the south delta, such as facilities for fish screens, fish handling, and fish passage, or modifications to intake structures or other facilities, to reduce losses of any life stages of fish to water diversions in the San Joaquin River and the delta in accordance with paragraph (1) of Section (C) of Chapter IV of the board's 1995 water quality control plan.

(iv) Constructs a permanent barrier at the head of Old River to improve fish migration and other permanent barriers in the south delta channels to improve water quality and water level for local diversions.

(v) Constructs facilities to control drainage from abandoned mines that adversely affect water quality in the bay-delta.

(vi) Constructs a permanent barrier at Grantline Canal to improve water quality and water levels for local diversion.

(e) "Subaccount" means the Bay-Delta Multipurpose Water Management Subaccount created by Section 79194.

79191. This article does not affect the authority of any agency pursuant to any other provision of law to expend funds for the purposes described in this article.

79192. The Legislature hereby finds and declares all of the following:

(a) CALFED is in the process of preparing a programmatic EIS/EIR for a long-term comprehensive plan that will resolve problems related to ecosystem restoration, including the recovery of endangered species such as chinook salmon, water quality, water supply, water management, and system integrity for the protection of beneficial uses of the bay-delta ecosystem.

(b) The CALFED Bay-Delta Program is of statewide and national importance. The state should participate in the funding of eligible projects as a part of its ongoing program to improve conditions in the bay-delta ecosystem.

(c) The programmatic EIS/EIR will include a schedule for funding and implementing all elements of the long-term comprehensive plan.

(d) The elements of the CALFED Bay-Delta Program will achieve balanced solutions in all identified problem areas, including the ecosystem, water quality, water supply, and system integrity.

79193. (a) This article does not authorize the implementation of the CALFED Bay-Delta Program or any element of that program. The implementation of the CALFED Bay-Delta Program, or any element of that program, shall only be undertaken pursuant to authority provided by law other than this division.

(b) Nothing in this article affects the obligation to comply with provisions of existing law in connection with the implementation of this article.

79194. There is hereby created in the account the Bay-Delta Multipurpose Water Management Subaccount.

79195. The sum of two hundred fifty million dollars ($250,000,000) is hereby transferred from the account to the subaccount.

79196. (a) The money in the subaccount, upon appropriation by the Legislature to the department, may be used by the department to carry out eligible projects and for the purposes of Section 79202.

(b) Money in the subaccount that is allocated to carry out eligible projects, as described in clauses (ii), (iv), and (vi) of subparagraph (B) of paragraph (2) of subdivision (d) of Section 79190, and is not expended for those purposes, may be reallocated by the department to carry out other eligible projects, as described in clauses (i), (iii), and (v) of subparagraph (B) of paragraph (2) of subdivision (d) of Section 79190.

(c) No funds in the subaccount shall be used by the department unless and until the department has consulted, on an annual basis, with the state and federal agencies that participate in CALFED, as well as representatives of the public convened as a duly authorized advisory committee, with regard to the specific projects proposed for funding under this article. Decisions regarding specific expenditures

of funds provided under this article shall be jointly determined, to the maximum extent possible, by the recommendations of the state and federal CALFED agencies with the advice of the advisory committee.

79196.5. The funds appropriated pursuant to Section 79196 shall be allocated as following:

(a) Seventeen million dollars ($17,000,000) for the purposes of the project described in clause (i) of subparagraph (B) of paragraph (2) of subdivision (d) of Section 79190.

(b) Forty million dollars ($40,000,000) for the purposes of the project described in clause (ii) of subparagraph (B) of paragraph (2) of subdivision (d) of Section 79190.

(c) One hundred twenty million dollars ($120,000,000) for the purposes of the project described in clause (iii) of subparagraph (B) of paragraph (2) of subdivision (d) of Section 79190.

(d) Forty million dollars ($40,000,000) for the purposes of the project described in clause (iv) of subparagraph (B) of paragraph (2) of subdivision (d) of Section 79190.

(e) Seventeen million dollars ($17,000,000) for the purposes of the project to described in clause (v) of subparagraph (B) of paragraph (2) of subdivision (d) of Section 79190.

(f) Sixteen million dollars ($16,000,000) for the purposes of the project described in clause (vi) of subparagraph (B) of paragraph (2) of subdivision (d) of Section 79190.

79197. No funds in the subaccount may be expended until all of the following conditions have been met:

(a) The CALFED EIS/EIR has been certified by the state lead agency and a notice of determination has been issued as required by Division 13 (commencing with Section 21000) of the Public Resources Code.

(b) The CALFED EIS/EIR has been filed by the federal lead agencies with the United States Environmental Protection Agency, the required notice has been published in the Federal Register, and there has been federal approval of a program identical to the program approved by the state.

79198. The state, to the greatest extent possible, shall secure federal and nonfederal funds to implement this article.

79199. Due to the importance of issuing permits and otherwise expediting all elements of the CALFED Bay-Delta Program in a timely and balanced manner, the following procedures shall apply to the use of funds authorized by this article:

(a) After the requirements set forth in Section 79197 are met, funds in the subaccount shall become available for use in accordance with the schedule for eligible projects set forth in the final programmatic EIS/EIR, unless the Secretary of the Resources Agency determines that the schedule established in the final programmatic EIS/EIR has not been substantially adhered to.

(b) On or before November 15 of each year, the Secretary of the Resources Agency, in consultation with state and federal CALFED representatives and other interested persons and agencies, shall review adherence to the schedule.

(c) The absence of funding from nonfederal or nonstate sources shall not be a basis for a determination that the schedule has not been adhered to.

(d) If, at the conclusion of each annual review, the Secretary of the Resources Agency determines that the schedule established in the final programmatic EIS/EIR, or a revised schedule prepared pursuant to this subdivision, has not been substantially adhered to, the secretary, after notice to, and consultation with, state and federal CALFED representatives and other interested persons and agencies, shall prepare a revised schedule that ensures that balanced solutions in all identified problem areas, including ecosystem restoration, water supply, water quality, and system integrity are achieved, consistent with the intent of the final programmatic EIS/EIR. Funds shall be available for expenditure unless a revised schedule has not been developed within six months from the date on which the secretary determines that the prior schedule has not been substantially adhered to. Upon the preparation of any revised schedule under this subdivision, funds shall be expended in accordance with that revised schedule.

(e) Funds in the subaccount shall become available in accordance with the cost-share agreement developed by the CALFED Bay-Delta Program, which shall describe the federal, state, and local share of funding for the programs, projects, and other CALFED stage 1 actions.

79200. On or before December 15 of each year, the Secretary of the Resources Agency shall submit an annual report to the Legislature that describes the status of the implementation of all elements of the CALFED Bay-Delta Program, any determinations made by the secretary pursuant to subdivisions (b) and (d) of Section 79199 and other significant scheduling issues. The report also shall include a detailed accounting of expenditures, descriptions of programs for which expenditures have been made, and a schedule of anticipated expenditures for the next year.

79201. The report prepared pursuant to Section 79200 shall include both of the following:

(a) A summary of the results achieved by the projects funded under this article.

(b) An identification of any necessary modifications that should be made to eligible projects or other CALFED bay-delta projects, to ensure that the goals and objectives of CALFED are met.

79201.5. Nothing in this article shall be construed to address the allocation of benefits from projects or programs funded by this

article. It is anticipated that this issue will be settled in the CALFED process or by the Legislature by statute.

79202. Not more than 5 percent of the total amount deposited in the subaccount may be used to pay the costs incurred in connection with the administration of this article.

79203. The department may adopt regulations to carry out this article.

Article 4. Interim Water Reliable Supply and Water Quality Infrastructure and Management Program

79205.2. (a) "Delta export service area," as used in this article, means both of the following:

(1) The counties included within the Association of Bay Area Governments.

(2) Those areas of the state outside the delta that receive water from the State Water Project or the Central Valley Project, either directly or by exchange, by means of diversions from the delta.

(b) "Local agency," as used in this article, means any city, county, city and county, district, or other political subdivision of the state.

79205.4. (a) There is hereby created the Interim Water Supply and Water Quality Infrastructure and Management Subaccount.

(b) For the purposes of this article, "subaccount" means the Interim Reliable Water Supply and Water Quality Infrastructure and Management Subaccount.

79205.6. The sum of one hundred eighty million dollars ($180,000,000) is hereby transferred from the account to the subaccount for the purposes of this article.

79205.8. (a) The money in the subaccount, upon appropriation by the Legislature to the department, may be used by the department to provide grants or loans, or any combination thereof, which are approved by the Governor, to local agencies located in the delta export service areas for programs or projects that can be completed and provide the intended benefits not later than March 8, 2009, and are designed to increase water supplies, enhance water supply reliability, or improve water quality.

(b) The department shall provide grants for programs or projects located outside the delta and which meet one of the following requirements:

(1) The project or program constructs new or expands existing groundwater storage and recovery projects or acquires rights to use storage in existing reservoirs.

(2) The project or program implements measures that facilitate improved water treatment, water transfers, or exchanges, including, but not limited to, a project that improves water quality by shifting reliance from lower quality to higher quality water supplies.

(3) The project or program implements state of the art agricultural water conservation programs, and programs that treat or manage agricultural drainage water for reuse or instream water quality benefits.

(c) The department shall list the projects that are proposed to be funded from the subaccount.

79205.10. For purposes of prioritizing eligible programs or projects for funding under this article, the department shall give priority to programs or projects that meet one or more of the following requirements:

(a) Can be completed expeditiously and thereby provide near term benefits and more immediate mitigation of urgent problems related to water supply and water quality.

(b) Implements actions to improve water quality and protect water level conditions in San Luis Reservoir.

(c) Includes public-private partnerships or cost sharing arrangements that maximize public benefits.

(d) Sponsored by a public agency with water supplies that are being or would be impacted to a greater degree by delta-related water supply shortages and water quality degradation.

79205.12. The state, to the greatest extent possible, shall seek matching federal funds to implement this article.

79205.14. Funds available from the subaccount shall be available for all phases of project development including, but not limited to, project administration, permitting and environmental compliance, feasibility studies, and construction.

79205.16. Not more than 5 percent of the total amount deposited in the subaccount may be used to pay costs incurred in connection with the administration of this article.

CHAPTER 10. FISCAL PROVISIONS

79210. Bonds in the total amount of one billion nine hundred seventy million dollars ($1,970,000,000), not including the amount of any refunding bonds issued in accordance with Section 79219, or so much thereof as is necessary, may be issued and sold to provide a fund to be used for carrying out the purposes expressed in this division and to be used to reimburse the General Obligation Bond Expense Revolving Fund pursuant to Section 16724.5 of the Government Code. The bonds, when sold, shall be and constitute a valid and binding obligation of the State of California, and the full faith and credit of the State of California is hereby pledged for the punctual payment of the principal of, and interest on, the bonds as the principal and interest become due and payable.

79211. (a) The bonds authorized by this division shall be prepared, executed, issued, sold, paid, and redeemed as provided in the State General Obligation Bond Law (Chapter 4 (commencing

with Section 16720) of Part 3 of Division 4 of Title 2 of the Government Code), except Section 16727, and all of the provisions of that law apply to the bonds and to this division and are hereby incorporated in this division as though set forth in full in this division.

(b) For purposes of the State General Obligation Bond Law, each state agency that administers an appropriation of the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Fund is designated the "board."

79212. Solely for the purpose of authorizing the issuance and sale, pursuant to the State General Obligation Bond Law, of the bonds authorized by this division, the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Finance Committee is hereby created. For purposes of this division, the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Finance Committee is the "committee" as that term is used in the State General Obligation Bond Law. The committee consists of the Treasurer, the Controller, and the Director of Finance, or their designated representatives. A majority of the committee may act for the committee.

79213. The committee shall determine whether or not it is necessary or desirable to issue bonds authorized pursuant to this division in order to carry out the actions specified in this division and, if so, the amount of bonds to be issued and sold. Successive issues of bonds may be authorized and sold to carry out those actions progressively, and it is not necessary that all of the bonds authorized to be issued be sold at any one time.

79214. There shall be collected each year and in the same manner and at the same time as other state revenue is collected, in addition to the ordinary revenues of the state, a sum in an amount required to pay the principal of, and interest on, the bonds each year. It is the duty of all officers charged by law with any duty in regard to the collection of the revenue to do and perform each and every act that is necessary to collect that additional sum.

79215. Notwithstanding Section 13340 of the Government Code, there is hereby appropriated from the General Fund in the State Treasury, for the purposes of this division, an amount that will equal the total of the following:

(a) The sum annually necessary to pay the principal of, and interest on, bonds issued and sold pursuant to this division, as the principal and interest become due and payable.

(b) The sum necessary to carry out Section 79216, appropriated without regard to fiscal years.

79216. For the purposes of carrying out this division, the Director of Finance may authorize the withdrawal from the General Fund of an amount not to exceed the amount of the unsold bonds that have been authorized by the committee to be sold for the purpose of carrying out this division. Any amount withdrawn shall be deposited

in the fund. Any money made available under this section shall be returned to the General Fund, plus an amount equal to the interest that the money would have earned in the Pooled Money Investment Account, from proceeds received from the sale of bonds for the purpose of carrying out this division.

79217. All money deposited in the fund that is derived from premium and accrued interest on bonds sold shall be reserved in the fund and shall be available for transfer to the General Fund as a credit to expenditures for bond interest.

79218. The agency that administers an appropriation of the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Fund may request the Pooled Money Investment Board to make a loan from the Pooled Money Investment Account, in accordance with Section 16312 of the Government Code, for the purpose of carrying out this division. The amount of the request shall not exceed the amount of the unsold bonds that the committee, by resolution, has authorized to be sold for the purpose of carrying out this division. The requesting agency shall execute any documents required by the Pooled Money Investment Board to obtain and repay the loan. Any amounts loaned shall be deposited in the fund to be allocated by the requesting agency in accordance with this division.

79219. The bonds may be refunded in accordance with Article 6 (commencing with Section 16780) of Chapter 4 of Part 3 of Division 4 of Title 2 of the Government Code, which is a part of the State General Obligation Bond Law. Approval by the voters of the state for the issuance of the bonds described in this division includes the approval of the issuance of any other bonds issued to refund any bonds originally issued under this division or any previously issued refunding bonds.

79220. Notwithstanding any provision of this division or the State General Obligation Bond Law, if the Treasurer sells bonds pursuant to this division that include a bond counsel opinion to the effect that the interest on the bonds is excluded from gross income for federal tax purposes, subject to designated conditions, the Treasurer may maintain separate accounts for the investment of bond proceeds and for the investment earnings on those proceeds. The Treasurer may use or direct the use of those proceeds or earnings to pay any rebate, penalty, or other payment required under federal law or to take any other action with respect to the investment and use of those bond proceeds required or desirable under federal law to maintain the tax-exempt status of those bonds and to obtain any other advantage under federal law on behalf of the funds of that state.

79221. The Legislature hereby finds and declares that, inasmuch as the proceeds from the sale of bonds authorized by this division are not "proceeds of taxes" as that term is used in Article XIII B of the California Constitution, the disbursement of these proceeds is not subject to the limitations imposed by that article.

SEC. 1.5. Section 1812.6 is added to the Water Code, to read:

1812.6. (a) On or before October 15, 1999, the Imperial Irrigation District, the Coachella Valley Water District, and the Metropolitan Water District of Southern California shall sign and adopt a quantification agreement regarding their respective Colorado River entitlements. The quantification agreement shall secure the approval of the Metropolitan Water District of Southern California and the Coachella Valley Water District for a transfer for the benefit of the San Diego County Water Authority of up to 200,000 acre-feet of water under the exchange agreement between the San Diego County Water District and the Metropolitan Water District of Southern California dated November 10, 1998. The quantification agreement shall be consistent with federal and state law.

(b) If by October 15, 1999, the quantification agreement described in subdivision (a) is not signed by all three districts listed in subdivision (a), the Governor or his sole designee shall promulgate a quantification settlement by January 1, 2000, and impose that settlement on the Imperial Irrigation District, the Coachella Valley Water District, and the Metropolitan Water District of Southern California. The quantification settlement shall meet the requirement of subdivision (a). The Governor, or his designee shall insure that any quantification agreement or settlement, whether imposed by the Governor pursuant to this subdivision or agreed to among the Imperial Irrigation District, the Coachella Valley Water District, the Metropolitan Water District of Southern California and any other parties, shall not limit the right or obligation of the State of California, or the right of any person, to enforce the provisions of the California Constitution and conforming state statutes and regulations.

(c) This section shall remain in effect only until January 1, 2001, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2001, deletes or extends that date.

SEC. 2. Section 13480 of the Water Code is amended to read:

13480. (a) Moneys in the fund shall be used only for the permissible purposes allowed by the federal act, including providing financial assistance for the following purposes:

(1) The construction of publicly owned treatment works, as defined by Section 212 of the federal act (33 U.S.C.A. Sec. 1292), by any municipality.

(2) Implementation of a management program pursuant to Section 319 of the federal act (33 U.S.C.A. Sec. 1329).

(3) Development and implementation of a conservation and management plan under Section 320 of the federal act (33 U.S.C.A. Sec. 1330).

(4) Financial assistance, other than a loan, toward the nonfederal share of costs of any grant-funded treatment works project, but only if that assistance is necessary to permit the project to proceed.

(b) Consistent with expenditure for authorized purposes, moneys in the fund may be used for the following purposes:

(1) Loans that meet all of the following requirements:

(A) Are made at or below market interest rates.

(B) Require annual payments of principal and any interest, with repayment commencing not later than one year after completion of the project for which the loan is made and full amortization not later than 20 years after project completion.

(C) Require the loan recipient to establish an acceptable dedicated source of revenue for repayment of any loan.

(D) (i) Contain other terms and conditions required by the board or the federal act or applicable rules, regulations, guidelines, and policies. To the extent permitted by federal law, the interest rate shall be set at a rate equal to 50 percent of the interest rate paid by the state on the most recent sale of state general obligation bonds and the interest rate shall be computed according to the true interest cost method. If the interest rate so determined is not a multiple of one-tenth of 1 percent, the interest rate shall be set at the multiple of one-tenth of 1 percent next above the interest rate so determined. Any loan from the fund used to finance costs of facilities planning, or the preparation of plans, specifications, or estimates for construction of publicly owned treatment works shall comply with Section 603(e) of the federal act (33 U.S.C.A. Sec. 1383(e)).

(ii) Notwithstanding clause (i), if the loan applicant is a municipality, an applicant for a loan for the implementation of a management program pursuant to Section 319 of the Clean Water Act (33 U.S.C. Sec. 1329), or an applicant for a loan for nonpoint source or estuary enhancement pursuant to Section 320 of the Clean Water Act (33 U.S.C. Sec. 1330), and the applicant provides matching funds, the interest rate on the loan shall be 0 percent. A loan recipient that returns to the fund an amount of money equal to 20 percent of the remaining unpaid federal balance of an existing loan shall have the remaining unpaid loan balance refinanced at a rate of 0 percent over the time remaining in the original loan contract.

(2) To buy or refinance the debt obligations of municipalities within the state at or below market rates if those debt obligations were incurred after March 7, 1985.

(3) To guarantee, or purchase insurance for, local obligations where that action would improve credit market access or reduce interest rates.

(4) As a source of revenue or security for the payment of principal and interest on revenue or general obligation bonds issued by the state, if the proceeds of the sale of those bonds will be deposited in the fund.

(5) To establish loan guarantees for similar revolving funds established by municipalities.

(6) To earn interest.

(7) For payment of the reasonable costs of administering the fund and conducting activities under Subchapter VI (commencing with Section 601) of the federal act (33 U.S.C.A. Sec. 1381 et seq.). Those costs shall not exceed 4 percent of all federal contributions to the fund, except that if permitted by federal and state law, interest repayments into the fund and other moneys in the fund may be used to defray additional administrative and activity costs to the extent permitted by the federal government and approved by the Legislature in the Budget Act.

(8) For financial assistance toward the nonfederal share of the costs of grant-funded treatment works projects to the extent permitted by the federal act.

SEC. 3. Section 14058 of the Water Code is amended to read:

14058. (a) The sum of thirty million dollars ($30,000,000) of the money in the fund shall be deposited in the Water Reclamation Account and, notwithstanding Section 13340 of the Government Code, is hereby continuously appropriated to the board for the purposes of this section.

(b) The board may enter into contracts with local public agencies having authority to construct, operate, and maintain water reclamation projects, for loans to aid in the design and construction of eligible water reclamation projects. The board may loan up to 100 percent of the total eligible cost of design and construction of an eligible reclamation project.

(c) Any contract for an eligible water reclamation project entered into pursuant to this section may include such provisions as determined by the board and shall include both of the following provisions:

(1) An estimate of the reasonable cost of the eligible water reclamation project.

(2) An agreement by the local public agency to proceed expeditiously with, and complete, the eligible water reclamation project; commence operation of the project in accordance with applicable provisions of law, and provide for the payment of the local public agency's share of the cost of the project, including principal and interest on any state loan made pursuant to this section.

(d) Loan contracts may not provide for a moratorium on payments of principal or interest.

(e) Any loans made from the fund may be for a period of up to 20 years. The interest rate for the loans shall be set at a rate equal to 50 percent of the interest rate paid by the state on the most recent sale of state general obligation bonds, with that rate to be computed according to the true interest cost method. When the interest rate so determined is not a multiple of one-tenth of 1 percent, the interest rate shall be set at the next higher multiple of one-tenth of 1 percent.

(f) All money repaid to the state pursuant to any contract executed under this chapter shall be deposited in the Water

Recycling Subaccount in the Clean Water and Water Recycling Account in the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Fund created by Section 79136, for the purposes set forth in Article 4 (commencing with Section 79135) of Chapter 7 of Division 26.

SEC. 4. Section 78621 of the Water Code is amended to read:

78621. (a) (1) There is hereby created in the account the Water Recycling Subaccount. The sum of sixty million dollars ($60,000,000) is hereby transferred from the account to the subaccount for the purpose of implementing this article.

(2) All money repaid to the state pursuant to any contract executed under the Clean Water and Water Reclamation Bond Law of 1988 (Chapter 17 (commencing with Section 14050) of Division 7) shall be deposited in the Water Recycling Subaccount in the Clean Water and Water Recycling Account in the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Fund created by Section 79136, for the purposes set forth in Article 4 (commencing with Section 79135) of Chapter 7 of Division 26.

(b) Notwithstanding Section 13340 of the Government Code, the money in the subaccount is hereby continuously appropriated, without regard to fiscal years, to the board for loans to public agencies to construct, operate, and maintain eligible recycling projects, for loans to aid in the design and construction of eligible recycling projects, for grants in accordance with Section 78628, and for the purposes described in Section 78629 and subdivision (a) of Section 78630.

SEC. 5. Section 78626 of the Water Code is repealed.

SEC. 6. Section 78626 is added to the Water Code, to read:

78626. Unallocated funds remaining in the subaccount on March 8, 2000, and any funds deposited into the subaccount after that date, shall be transferred to, and all money repaid to the state pursuant to any loan contract executed under this article shall be deposited in, the Water Recycling Subaccount in the Clean Water and Water Recycling Account in the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Fund for the purposes set forth in Section 79140.

SEC. 7. Section 78648.12 of the Water Code is repealed.

SEC. 8. Section 78648.12 is added to the Water Code, to read:

78648.12. Unallocated funds remaining in the subaccount on March 8, 2000 and any funds deposited into the subaccount after that date, shall be transferred to, and all money repaid to the state pursuant to any loan contract executed under this article shall be deposited in, the Seawater Intrusion Control Subaccount in the Clean Water and Water Recycling Account in the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Fund for the purposes set forth in Article 6 (commencing with Section 79149) of Chapter 7 of Division 26.

SEC. 9. Section 78675 of the Water Code is repealed.

SEC. 10. Section 78675 is added to the Water Code, to read:

78675. Unallocated funds remaining in the subaccount on March 8, 2000, shall be transferred to, and all money repaid to the state pursuant to any loan contract executed under this article shall be deposited in, the Water Conservation Account in the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Fund for the purposes of entering into additional loans under Article 3 (commencing with Section 79157) and Article 4 (commencing with Section 79161) of Chapter 8 of Division 26.

SEC. 11. Sections 1, 3, 4, 5, 6, 7, 8, 9, and 10 of this act shall become effective upon the approval by the voters of the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Act, as set forth in Section 1 of this act.

SEC. 12. Sections 1, 3, 4, 5, 6, 7, 8, 9, and 10 of this act shall be submitted to the voters at the March 7, 2000, statewide direct primary election in accordance with provisions of the Government Code and the Elections Code governing the submission of statewide measures to the voters.

SEC. 13. (a) Notwithstanding any other provision of law, all ballots at the election shall have printed thereon and in a square thereof, the words: "Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Act" and in the same square under those words, the following in 8-point type: "This act provides for a bond issue of one billion nine hundred seventy million dollars ($1,970,000,000) to provide funds for a safe drinking water, water quality, flood protection, and water reliability program." Opposite the square, there shall be left spaces in which the voters may place a cross in the manner required by law to indicate whether they vote for or against the act.

(b) Notwithstanding Sections 13247 and 13281 of the Elections Code, the language in subdivision (a) shall be the only language included in the ballot label for the condensed statement of the ballot title, and the Attorney General shall not supplement, subtract from, or revise that language, except that the Attorney General may include the financial impact summary prepared pursuant to Section 9087 of the Elections Code and Section 88003 of the Government Code. The ballot label is the condensed statement of the ballot title and the financial impact summary.

(c) Where voting in the election is done by means of voting machines used pursuant to law in a manner that carries out the intent of this section, the use of the voting machines and the expression of the voters' choice by means thereof are in compliance with this section.

SEC. 14. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within

the meaning of Article IV of the Constitution and shall go into immediate effect. The facts constituting the necessity are:

In order to remedy critical drinking water, water quality, flood protection, and water supply problems, thereby protecting public health and safety, it is necessary that this act take effect immediately.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 17

SUBJECT: Briefing of SB 709.

Winston H. Hickox
Secretary for Environmental Protection

State Water Resources Control Board

Executive Office
901 P Street • Sacramento, California 95814 • (916) 657-0941
Mailing Address: P.O. Box 100 • Sacramento, California 95812-0100
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Gray Davis
Governor

DEC 01 1999

Dear NPDES Permittees:

THE CLEAN WATER ENFORCEMENT AND POLLUTION PREVENTION ACT OF 1999 (SB 709)

In 1999, the Legislature passed and Governor Davis signed SB 709, which goes into effect on January 1, 2000. This act is entitled the Clean Water Enforcement and Pollution Prevention Act of 1999. This act may have a significant effect on NPDES permittees because it requires the Regional Water Quality Control Boards (RWQCBs) or the State Water Resources Control Board (SWRCB) to impose mandatory minimum penalties for certain violations. In addition, the act adds several provisions to California Water Code, Division 7 that include:

1. A new requirement authorizing RWQCBs and Publicly Owned Treatment Works (POTWs) to require NPDES permittees and industrial users (i.e., indirect dischargers) to prepare and implement pollution prevention plans;

2. A new requirement that NPDES permits must include effluent limitations under certain circumstances;

3. A new requirement that the RWQCBs and courts recover economic benefit in assessing civil liability; and

4. New requirements for the SWRCB and the RWQCBs for reporting information to the Legislature.

The SWRCB wants all permittees to be aware of this new legislation and encourages compliance to minimize exposure to the new mandatory penalties. Public documents related to implementation of the new act will be posted on the SWRCB's website at www.swrcb.ca.gov. You may also obtain a copy of available public documents by calling the SWRCB at the number below. The SWRCB's Office of Chief Counsel has prepared a legal analysis with a summary of the new act and questions and answers concerning the act. The SWRCB is required by the act to provide a model format for preparation of pollution prevention plans. Early in 2000, the SWRCB will provide to the public for comment a draft format to be used by dischargers in preparing pollution prevention plans and will consider adoption at a regularly scheduled workshop and meeting.

If you have questions concerning the act or wish to obtain documents, please call the SWRCB at (916) 653-9456.

Sincerely,

Walt Pettit
Executive Director

cc: (all w/enclosure)

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(continued next page)

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Gray Davis
Governor

TO: Walt Pettit
Executive Officer

FROM: William R. Attwater
Chief Counsel
OFFICE OF CHIEF COUNSEL

DATE: DEC 01 1999

SUBJECT: THE CLEAN WATER ENFORCEMENT AND POLLUTION PREVENTION ACT OF 1999 ("SB 709"): SUMMARY AND QUESTIONS AND ANSWERS

SUMMARY

In 1999, the Legislature passed and Governor Davis signed SB 709, which goes into effect on January 1, 2000. This act is entitled the Clean Water Enforcement and Pollution Prevention Act of 1999. The act adds several provisions to California Water Code (CWC) Division 7 that address (1) pollution prevention plans; (2) requirement to prescribe effluent limits; (3) recovery of economic benefit in assessing civil liability; (4) mandatory minimum penalties; and (5) reporting to the legislature. Below is a summary of and a legal analysis in the form of Questions and Answers (Qs&As) on the act.

Pollution Prevention Plans. The new CWC section 13263.3 authorizes the State Water Resources Control Board (State Board), a Regional Water Quality Control Board (Regional Board), or a Publicly Owned Treatment Works (POTW) to require a discharger to complete and implement a pollution prevention plan (PPP). A POTW may require industrial dischargers to prepare and implement a PPP and the State Board or a Regional Board may require a POTW and industrial users to prepare and implement a PPP. This authority is discretionary. The legislation defines what constitutes pollution prevention and specifies what is required to be included in the PPPs. The failure to prepare or implement a PPP may subject the discharger to civil liability and penalties.

Mandatory Minimum Penalties. The new CWC section 13385(h), (i), and (j) provide for mandatory minimum penalties of $3,000 per violation as described below. There are two types of mandatory penalties, first time serious violations and ongoing violations.

A. First Time Serious Violations - A mandatory penalty of $3,000 shall be assessed for the first serious violation in any six-month period. In lieu of assessing this penalty, the State or Regional Board may allow the discharger to use the amount to complete a PPP or for a supplemental environmental project.

B. On-going Violations - A mandatory penalty of $3,000 per violation shall be assessed if either of the following occurs in a six-month period:

1. The person commits two or more serious violations. Since a penalty has already been assessed for the first serious violation, this penalty assessment does not count the first violation, and begins with the second violation.

2. The person commits four or more of the following violations. Penalty assessment does not count the first three violations, and begins with the fourth violation. These violations are:

   a. Exceedance of a WDR effluent limitation.

   b. Failure to file a report pursuant to Section 13260.

   c. Filing an incomplete report pursuant to Section 13260.

   d. Exceedance of a toxicity discharge limitation where the waste discharge requirements do not contain pollutant-specific effluent limitations for toxic pollutants.

Just like an ACL, funds collected pursuant to these penalties shall be deposited in the State Water Pollution Cleanup and Abatement Account.

Recovery of Economic Benefit. Language was added to CWC section 13385(e) requiring that "at a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation." Previously, economic benefit was just one of several factors to be considered in determining the amount of administrative civil liability (ACL); now recovery of economic benefit as part of an ACL is mandatory. Recovery of economic benefit is not required when assessing mandatory penalties under the new CWC section 13385(h) and (i) only. The Economics Unit of the State Board's Office of Statewide Consistency is preparing guidance on how to determine the amount of an ACL, including how to determine economic benefit.

Effluent Limitations. The new CWC section 13263.6 requires the Regional Board to prescribe effluent limitations as part of the waste discharge requirements (WDRs) of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency

response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) indicate as discharged into the POTW, for which the State or Regional Board has:

A. Established numeric water quality objectives, and

B. Has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective.

QUESTIONS AND ANSWERS

I. Pollution Prevention Plans (CWC section 13263.3)

1. Q. **Are all discharges, including those subject to NPDES permits and non-NPDES waste discharge requirements, subject to the pollution prevention plan (PPP) provisions added to the CWC by the act?**

   A. No. The pollution prevention provisions apply only to dischargers subject to NPDES permits and to industrial users that discharge to publicly owned treatment works (POTWs), i.e., subject to the federal pretreatment program. They do not apply to non-NPDES waste discharges. The State and Regional Boards and POTWs may require PPPs of industrial users. The State and Regional Boards may require PPPs of POTWs.

2. Q. **What is a PPP?**

   A. A PPP is a plan that identifies actions that would cause a net reduction in the use or generation of a hazardous substance or pollutant that is discharged into water.

3. Q. **Is the authority to require preparation of a PPP mandatory?**

   A. No. The State Board, a Regional Board, or a POTW may require the discharger to prepare a PPP in the circumstances listed in CWC section 13263.3(d), including chronic violators, significant contributors to creation of a toxic hot spot, or where necessary to achieve a water quality objective.

4. Q. **What is a "chronic violator" for purposes of requiring a PPP?**

   A. The State Board describes the term "chronic violator" and "chronic violation" in the Guidance to Implement the Water Quality Enforcement Policy. For major NPDES permittees, as defined in 40 CFR Section 122.2 (July 1, 1994), the enforcement criterion for chronic violations is exceedance of the monthly average effluent limit for any pollutant in any four months in a six month period, or exceedance of the monthly average effluent limitation for any pollutant in the same season for two years in a row. For purposes of CWC section 13263.3, the term "chronic violator" would apply to all dischargers subject to section 13263.3, not just to major NPDES permittees. See Q&A1 that addresses the application of section 13263.3. In other words, if a discharger subject to CWC section 13263.3 exceeds a monthly average effluent limit for any pollutant in any four months in a six month period or exceeds the monthly average effluent limitation for any

pollutant in the same season for two years in a row, it would be considered a "chronic violator".

5. Q. **How will the State or Regional Board or a POTW determine if a discharger significantly contributes, or has the potential to significantly contribute, to the creation of a toxic hotspot?**

   A. The State Water Board adopted Resolution 99-065, a Water Quality Control Policy that sets forth the Consolidated Toxic Hot Spots Cleanup Plan. The Plan provides guidance to the Regional Boards for implementing the requirements of CWC section 13390 et seq. (Chapter 5.6. Bay Protection and Toxic Cleanup.) The Plan provides guidance for the Regional Boards in determining whether discharges contribute or potentially contribute to the creation and maintenance of a toxic hotspot. In determining whether it is appropriate to require preparation of a PPP, the Regional Boards should apply the Consolidated Toxic Hot Spots Cleanup Plan.

6. Q. **How does the State Board, a Regional Board, or a POTW determine that pollution prevention is necessary to achieve a water quality objective as stated in CWC section 13262.3(d)(1)(C)?**

   A. The provision provides considerable discretion to the State and Regional Boards and POTWs in making the determination that pollution prevention is necessary to achieve a water quality objective. Some examples could include where an industrial user contributes significant pollutant loading to a POTW that may be causing a POTW to exceed a water quality objective, where the discharge is to a Clean Water Act section 303(d) listed water body, where an industrial user is preparing a pretreatment plan, or where a pollutant discharge is causing an upset at the POTW.

7. Q. **What is required to be included in a PPP?**

   A. The State Board or a Regional Board may require a POTW to prepare a PPP and the State Board, a Regional Board, or a POTW may require a discharger other than a POTW to prepare a PPP. The PPP requirements for POTWs are different than the PPP requirements for other dischargers. A PPP prepared by a POTW must address all of the issues specified in CWC section 13263.3(d)(3). A PPP prepared by a discharger other than a POTW must address all of the issues specified in CWC section 13263.3(d)(2).

8. **Q. Is there a special form used in preparing a PPP?**

   A. Yes. The State Board is required to adopt a sample format that will be provided to the dischargers for completing the PPP. Early next year the State Board will adopt the sample format in a public meeting after an opportunity for public review and comment, including Regional Board review. The use of the sample format is not required, but is just a sample to assist dischargers in preparing PPPs. Dischargers may choose their own format so long as they address all the issues required under CWC section 13263.3.

9. **Q. What process is required by CWC section 13263.3 that the State Board, the Regional Boards, and the POTWs must follow in requiring preparation or implementation of or compliance with a PPP?**

   A. CWC section 13263.3(d) authorizes the State or Regional Board or POTW to require a discharger to complete and implement a PPP. The Regional Board may implement this authority by making preparation of a PPP a requirement of the NPDES permit or through an enforcement order. The Regional Board may issue an order pursuant to CWC section 13267, 13300, 13301, or 13304 to a discharger requiring preparation of and implementation of a PPP. The Regional Board may also require preparation of a PPP in lieu of a mandatory penalty for a serious violation pursuant to CWC section 13385(h). A POTW would use its enforcement authority granted by the act (SB709) and its existing pretreatment authority to require preparation and implementation of a PPP. The Office of Chief Counsel has prepared model language for use in permits and orders.

   After the discharger prepares the PPP, the State Board, Regional Board, or POTW must make the PPP available for public review. Trade secret information is exempt from public disclosure and shall be included in a separate appendix not available to the public. The PPP, except for the trade secret information, is a public record that must be provided to the public upon request, following the normal procedure for providing public records. CWC section 13263.3(e) requires the State Board, a Regional Board, or a POTW to provide an opportunity for public comment prior to requiring the discharger to comply with a PPP developed by the discharger. The State Board, a Regional Board, or the POTW may provide that opportunity for comment by holding a public meeting or hearing and/or by providing the public an opportunity to submit comments in writing.

10. **Q. Is the PPP considered a part of the NPDES permit?**

    A. CWC section 13263.3(k) states that the "state board, a regional board, or POTW may not include a pollution prevention plan in any waste discharger requirements

or other permit issued by that agency." In other words, the Regional Board may not incorporate by reference a PPP into an NPDES permit, or otherwise include a PPP in an NPDES permit, but it may make preparation of a PPP a condition of an NPDES permit.

11. Q. **What enforcement actions can be taken against the discharger for failure to prepare or implement a PPP?**

A. The State Board and the Regional Boards may assess administrative civil liability pursuant to CWC section 13385 for failure to complete a PPP, for submitting an inadequate PPP, or for not implementing a PPP, unless a POTW has assessed penalties for the same action. Failure to prepare or implement a PPP is not subject to the mandatory minimum penalty provisions. The Regional Boards should assess liability under CWC section 13263.3(g) in the same way that Regional Boards assess administrative civil liability for other violations of NPDES permits. POTWs may assess civil penalties against the dischargers as specified in CWC section 13263.3(h) or other local legal authority, such as a pretreatment ordinance.

12. Q. **Is the discharger still subject to enforcement actions for violations of its NPDES permit or pretreatment requirements even if it has implemented a PPP?**

A. Yes. The PPP does not take the place of the NPDES permit requirements. The discharger must continue to comply with its NPDES permit even if it is required to prepare and implement a PPP and regardless of the effectiveness of the PPP.

13. Q. **May a discharger change its PPP?**

A. Yes. A discharger may change its PPP, including withdrawing from a measure included in the PPP for several reasons specified in CWC section 13263.3(i), if approved by the State Board, a Regional Board, or a POTW.

14. Q. **Must the State Board, a Regional Board, or a POTW approve a PPP?**

A. No. The State Board, the Regional Board, or the POTW may require preparation of a PPP, but is not required to approve the PPP or assure that it will in fact reduce pollution.

15. Q. **If a Regional Board has previously required a discharger to follow a pollution prevention program, is such a program precluded by the new CWC section 13263.3 concerning PPPs?**

A. No. The Regional Board has authority pursuant to CWC section 13267 to require dischargers to prepare reports and may require other actions to comply with water quality standards. The new provisions do not preclude the Regional Boards from requiring dischargers to prepare technical reports under CWC section 13267 that may include a report similar to a PPP as defined in the new act.

16. Q. **Does the new CWC section 13263.3 affect the requirement to prepare pollution prevention plans required by stormwater NPDES permits?**

A. No. CWC section 13263.3 addresses preparation of a PPP and specifies what must be addressed in a PPP. It does not preempt or preclude the federal requirement to prepare stormwater pollution prevention plans pursuant to individual or general NPDES stormwater permits.

II. Mandatory Minimum Penalties[1] (CWC section 13385(h),(i))

1. Q. **Does the State Board or the Regional Board assess mandatory minimum penalties?**

A. Section 13385 authorizes both the State Board and the Regional Boards to assess administrative civil liability and mandatory penalties. Typically, however, the Regional Board would initially assess the liability or penalties, but such assessments are subject to State Board review through the petition process.

2. Q. **Are all discharges, including those subject to NPDES permits and non-NPDES waste discharge requirements, subject to the mandatory penalty?**

A. No. The mandatory penalty provisions were added to CWC section 13385, which applies only to surface water discharges subject to the NPDES requirements, including individual NPDES permits and discharges subject to general stormwater NPDES permits and other general NPDES permits. Indirect dischargers (those who discharge to a POTW) are not required to obtain NPDES permits for their discharge into a POTW and, therefore, are not typically subject to enforcement actions under CWC section 13385. If such dischargers discharge directly to

[1] For purposes of this Question and Answer (Qs&As) document, the Qs&As will refer to the new mandatory minimum penalty provisions (section 13385(h), (i), and (j)) as the "mandatory penalty" provisions and the existing civil liability provisions (section 13385(a)-(e)) as "discretionary liability" or "liability" provisions.

surface waters without an NPDES permit or in violation of an NPDES permit, they would be subject to CWC section 13385.

3. Q. **Are all violations of an NPDES permit subject to a mandatory minimum penalty?**

   A. No. CWC section 13385(h) and (i) specify the types of violations that are subject to mandatory penalties. If a discharger causes violations, as specified in the new provisions, the penalty is mandatory and must be assessed by the State or Regional Boards.

4. Q. **Both CWC section 13385(h) and (i) mandate the penalty if the violations occur during a six-month period. How is the six-month period determined?**

   A. The act does not define the term "six-month period". The act goes into effect on January 1, 2000, and is not retroactive. The State and Regional Boards must begin applying the act beginning January 1, 2000, and not count violations that precede that date. To calculate violations under the act, the six-month period starts with the first violation in any category subject to CWC section 13385(h) or (i) and runs for six months following the first violation in any category subject to CWC section 13385(h) and (i). For example for violations of CWC section 13385(h), if a discharger causes a serious violation in February 2000 that would begin the six-month period for calculating penalties for serious violations. At the end of six months, the Regional Board must determine how many serious violations occurred during that period and assess the mandatory penalty for those violations. For violations of CWC section 13385(i), if the discharger violates an effluent limitation in March that would begin an independent six-month period for calculating penalties for effluent limitation violations. At the end of six months, the Regional Board must determine how many effluent limitation violations occurred during that period and assess the mandatory penalty, if any. Once the six-month period in which a mandatory penalty was assessed ends, a new six-month period would begin for that discharger when another violation occurs. The six-month period applies independently to violations in separate categories in CWC section 13385(h) and (i).

5. Q. **CWC section 13385(h) now requires the State or Regional Board to assess a mandatory penalty of $3,000 for the first "serious violation"? How is "serious violation" defined?**

   A. CWC section 13385(h)(2) defines a "serious violation" to mean any waste discharge that exceeds the effluent limitation for a Group II by 20 percent or more, or a Group I pollutant by 40 percent or more. Appendix A of Title 40 Code

of Federal Regulations, section 123.45 specifies the Group I and II pollutants. The NPDES permit must include an effluent limitation for a Group I or II pollutant for the mandatory penalty to apply. Constituents that are not Group I or Group II pollutants may be subject to effluent limitations. In such case, violations of those effluent limitations would be addressed by CWC section 13385(i)(2)(A) not (h).

6. Q. **CWC section 13385(h) defines "serious violation" as a violation that exceeds certain effluent limitations? Does the term "effluent limitation" in 13385(h) refer to numeric effluent limitations, or could it also include narrative effluent limitations?**

A. The term "effluent limitation" as used in section 13385(h) does not distinguish between numeric and narrative effluent limitations. In the case of narrative effluent limitations, however, mandatory penalties could not be assessed because it is not possible to determine whether a discharge has exceeded a narrative effluent limitation by 20 percent or 40 percent. However, note that even if the violation is not subject to a mandatory penalty it may still be subject to discretionary administrative civil liability.

7. Q. **How is the mandatory penalty calculated for violations described in CWC section 13385(i)(1), which requires a mandatory penalty where there are two or more serious violations in a six-month period?**

A. CWC section 13385(h) requires a $3,000 penalty for the first serious violation in a six month period and CWC section 13385(i)(1) requires $3,000 for each violation where there are two or more serious violations in a six month period not counting the first violation. For example, if a discharger committed four serious violations in a six-month period, the discharger would be subject to a mandatory minimum penalty of $12,000. The $12,000 would include $3,000 for the first serious violation under CWC section 13385(h) and $9,000 for the additional three serious violations under CWC section 13385(i)(1).

8. Q. **How is the mandatory penalty calculated for violations described in CWC section 13385(i)(2)?**

A. CWC section 13385(i)(2) requires the Regional Board to assess a mandatory minimum penalty of $3,000 per violation, not counting the first three violations, if the discharger does any of the following four or more times in any six-month period: (1) exceed a waste discharge requirement effluent limitation, (2) fails to file a report pursuant to CWC section 13260, (3) files an incomplete report pursuant to CWC section 13260, or (4) exceeds a toxicity discharge limitation

where the waste discharge requirements do not contain pollutant-specific effluent limitations for toxic pollutants.

In determining the amount of the penalty, the Regional Board would assess $3,000 for each violation, not counting the first three violations, where the discharger had four or more violations in any of the four categories. For example, if a discharger violated any non-toxic effluent limitation 10 times in a six-month period and a toxicity discharge limitation four times in that same six-month period, the penalty would be $24,000 ($21,000 for the seven violations that exceeded three violations for the effluent limitation and $3,000 for the one violation that exceeded three violations for the toxicity limitation). If the same discharger filed one incomplete report under CWC section 13260 during the same six-month period, that violation would not be subject to a mandatory penalty because it did not occur four or more times in the six month period. A mandatory penalty is not assessed unless a discharger causes four or more violations within one category of CWC section 13385(i)(2).

CWC section 13385(i)(2)(D) only applies where the permit does not contain pollutant-specific effluent limitations for toxic pollutants. For example, in the above example, if the permit contains a pollutant-specific effluent limitation for a toxic pollutant, the additional $3,000 could not be assessed for the violation of the toxicity discharge limitation.

9. Q. **How does the State or Regional Board determine whether there is a violation under CWC section 13385(h) or (i) if the effluent limitation is lower than the minimum level (ML) as described in State Board plans or policies?**

A. A mandatory penalty should only be imposed where the State or Regional Board can document a measurable violation consistent with federal regulations and State Board plans or policies addressing detection limits. In addition, violations of effluent limitation based on instantaneous maximums or hourly averages should be counted as no more than one violation per day given the difficulty in determining how many violations have occurred.

10. Q. **Should the State or Regional Board consider that a violation occurs each day beginning on the date of sampling until receipt of the sampling results?**

A. Typically, sampling data would only indicate whether there is a violation on the date the data is collected. Other evidence, however, may be used to demonstrate that violations occurred on more than one day.

11. Q. **If there is a single operational upset that results in simultaneous violations of more than one pollutant parameter, should the State or Regional Board consider that one violation or multiple violations?**

A. CWC section 13385(f) states that a single operational upset which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. The act (SB709) did not amend section 13385(f) and it applies to determining penalties under CWC section 13385(h) and (i). Therefore, for purposes of CWC section 13385(h) and (i) exceedances of more than one effluent limitation due to a single operational upset would be considered one violation. CWC section 13385(f) is the same provision contained in Clean Water Act section 309(c)(5), 33 U.S.C. section 1319(c)(5) and must be interpreted consistent with federal law. For purposes of that provision EPA defines "single operational upset" as:

> "an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. Single operational upset does not include . . . noncompliance to the extent caused by improperly designed or inadequate treatment facilities. See EPA Guidance Interpreting "Single Operational Upset."

This Guidance further defines an "exceptional" incident as a "non-routine malfunctioning of an otherwise generally compliant facility."

A decision by the United State Court of Appeals for the Third Circuit interprets the "single operational upset" provision. *See Public Interest Research Group of New Jersey, Inc. et al. V. Powell Duffryn Terminals Inc.*, (1990, 3d Cir.) 913 F.2d 64. The Court considered a "single operational upset" to mean such things as upsets caused by a sudden violent storm, a bursting tank, or other exceptional event, not operational upsets caused by improperly operated or designed facilities. The Court determined that the "single operational upset" provision applies to the determination of the amount of the liability or penalty, it is not a defense to liability. The "single operational upset" defense differs from the "upset" defense provided by EPA's regulations in 40 C.F.R. section 122.41(n). That "upset" defense may be raised as an affirmative defense to liability and the discharger must meet certain requirements, including reporting the incident within 24 hours.

Merely because more than one effluent limitation is violated does not mean that a "single operational upset" occurred. The discharger has the burden of demonstrating that a "single operational upset" occurred. See *Powell Duffryn,*

913 F.2d at 76. For the purposes of determining the number of violations under CWC section 13385(h) and (i), the Regional Boards should apply EPA's Guidance in determining whether a "single operational upset" has occurred.

Additionally, the single operational upset rule applies to multiple violations of the same effluent limitation. For example, where an "exceptional" incident that meets the definition of a "single operational upset" causes an effluent limitation to be violated for 10 days, one violation would be counted for purposes of assessing a mandatory minimum penalty. Conversely, each violation would be counted where the violations stem from an incident that does not constitute a "single operational upset."

12. Q. **If the effluent limitation includes a daily maximum and a monthly average for the same pollutant are violations of each counted as separate violations for purposes of CWC section 13385(h) or (i)?**

A. Yes.

13. Q. **In determining the number of violations for purposes of CWC section 13385(h) or (i) should the State or Regional Board count one violation for each separate limitation regardless of the number of violations?**

A. Unless multiple violations are the result of a single operational upset, violations of separate effluent limitations should each be considered a violation. A violation that fits into more than one category should not be assessed a double penalty. For example, a serious violation could also be a violation of an effluent limitation, but penalties should not be assessed twice for the same violation.

14. Q. **How does the State or Regional Board determine a "violation" for purposes of CWC section 13385(i)(2)(A)?**

A. CWC section 13385(i)(2)(A) requires the assessment of a mandatory penalty of $3,000 "for each violation", not counting the first three violations, if the discharger exceeds an effluent limitation four or more times in a six-month period. For purposes of the mandatory penalty provisions, the Regional Board should determine the number of violations based on monitoring data and other evidence that the discharger has exceeded an effluent limitation. For example, if based on one or more monitoring data points in a month, the Regional Board determines that the discharger has violated a monthly average effluent limitation, the Regional Board should consider that one violation. Note, however that if the Regional Board chooses to assess discretionary administrative civil liability for violations of a monthly average it should consider such a violation of a monthly

average as 30 days of violations in order to be consistent with the Clean Water Act. The new CWC section 13385(h) and (i) requires a mandatory penalty for each violation not per day as required in CWC section 13385(c). If the permit contains an effluent limitation based on a daily maximum, but only requires weekly monitoring, the Regional Board should consider each monitoring data point that exceeds the daily maximum as a violation unless other evidence indicates that a violation has occurred on more days than the day the monitoring data was collected.

15. Q. **What constitutes an incomplete report pursuant to CWC section 13260 for purposes of determining violations subject to CWC section 13385(i)((2)(B) or (C)?**

A. CWC section 13385(i) requires a mandatory penalty only where the discharger fails to file a report under section 13260 or files an incomplete report four or more times in any six-month period. Since NPDES dischargers are required to file a report of waste discharge under CWC section 13260 only once every five years, it is unlikely that mandatory penalties would ever be imposed pursuant to CWC section 13385(i)(2)(B) or (C). It is possible, however, that after receiving a report of waste discharge, the Regional Board could find that it is incomplete four or more times in a six-month period because the discharger fails to provide needed information to complete the report. Note that failure to submit monitoring reports or submitting an incomplete monitoring reports are not subject to mandatory penalties under CWC section 13385(h) or (i).

16. Q. **What constitutes an exceedance of a "toxicity discharge limitation where the waste discharge requirements do not contain pollutant-specific effluent limitations for toxic pollutants" as stated in CWC section 13385(i)(2)(D)?**

A. NPDES permits typically contain an effluent limitation or a receiving water limitation to implement the applicable water quality control plan narrative toxicity water quality objective and contain a requirement to perform toxicity monitoring. CWC section 13385(i)(2)(D) requires that if a "whole toxicity" effluent limitation is exceeded four or more times in a six-month period, mandatory penalties must be assessed. In other words, if the monitoring results indicate toxicity four or more times in a six-month period, the mandatory penalty must be assessed, unless the permit contains pollutant-specific effluent limitations for toxic pollutants. However, if the "whole toxicity" requirement is a receiving water limitation rather than an effluent limitation, it is not subject to a mandatory penalty.

17. Q. **What is a "toxic pollutant" for purposes of CWC section 13385(i)(2)(D)?**

A. The term "toxic pollutant" is defined in the Clean Water Act section 502(13), 33 U.S. C. 1362(13). The United States Environmental Protection Agency has promulgated a list of toxic pollutants found in 40 CFR Part 302. If the NPDES permit contains an effluent limitation for any toxic pollutant on EPA's list, then mandatory penalties would not be assessed under CWC section 13385(i)(2)(D). Instead, penalties for violating pollutant-specific effluent limitations would be assessed under CWC section 13385(i)(2)(A).

18. Q. **Are violations of receiving water limitations in an NPDES permit subject to mandatory penalties?**

A. No. Receiving water limitations are not effluent limitations.

19. Q. **Do the mandatory minimum penalty provisions apply even if the Regional Board has issued a cease and desist order or other order providing a time schedule for achieving compliance with the effluent limitation that is the subject of the violations?**

A. Yes. Issuance of the penalty and the amount of the penalty is mandatory even if there is a cease and desist order or other time schedule order outside of the permit. If, however, the permit itself includes a time schedule before the effluent limitation is in effect, and/or provides for an interim limitation, an exceedance of the effluent limitation would not result in a violation subject to a mandatory penalty. If the permit itself includes interim effluent limitations, violations of those interim limitations would be subject to mandatory penalties. If a cease and desist order includes effluent limitations, violations of those effluent limitations would be subject to mandatory penalties. The Regional Board may also under some circumstances grant variances from effluent limitations; such variances would be contained in the permit and if they are effluent limitations, violations could be subject to the mandatory penalties. An effluent limitation may include a mixing zone and if so the effluent limitation applies outside of the mixing zone. In those circumstances it would not be considered a violation of the effluent limitation if it is exceeded within the mixing zone.

EPA is developing regulations (the "California Toxics Rule" (CTR)) that will establish water quality criteria for toxic pollutants for California. If the Regional Board bases effluent limitations in a permit on the CTR, the Regional Board may adopt a time schedule in the permit to achieve compliance with the effluent limitation. The State Board is also proposing to adopt an "Implementation Plan" addressing the CTR. That Plan will apply to the adoption of effluent limitations

in NPDES permits. As stated above, if the permit itself contains interim limits and/or time schedules such that violations of effluent limitations do not occur, penalties would not be assessed.

20. Q. **Are spills and overflows subject to mandatory minimum penalties under CWC section 13385(h) or (i)?**

A. If a spill or overflow results in a serious violation or any of the violations specified in CWC 13385(i), then it would be subject to a mandatory minimum penalty. Spills and overflows would most likely be subject to the requirement of CWC section 13385(f) related to upsets and would, therefore, be considered one violation. However, note that CWC section 13385(h) and (i) are mandatory penalties, but the Regional Board may also assess administrative civil liability in addition to the mandatory.

21. Q. **Who has the burden of proof, the State or Regional Board or the discharger, in determining whether the violation is subject to the mandatory minimum penalty?**

A. Violations under CWC section 13385 are subject to strict liability and the mandatory penalty provisions do not change the liability scheme. Under strict liability, the State or Regional Board must prove that there have been violations as specified in CWC section 13385(h) or (i). Once the State or Regional Board has demonstrated such violations, it becomes the discharger's burden to establish, by a preponderance of the evidence, that the amount of the penalty imposed should be less than the maximum. Since the new provisions establish statutory minimum penalties, the State or Regional Board may not assess a lessor amount. It is up to the discharger, therefore, to prove that the Regional Board incorrectly calculated the number of violations and the amount of the penalty. See *State of California v. City and County of San Francisco, et al.* (1979) 94 Cal.App.3d 522.

22. Q. **What procedure should the Regional Board use in assessing the mandatory minimum penalty?**

A. To assess mandatory minimum penalties under CWC section 13385(i) or (j), the Executive Officer would issue a "Complaint for Mandatory Penalties", which would provide the discharger the opportunity to pay the stated penalty, to request a settlement meeting with the Executive Officer, or to request a hearing before the Regional Board to challenge the penalty. In the case of the first serious violation, the discharger may be allowed to conduct a supplemental environmental project (SEP) in compliance with State Board policy or to develop a PPP in lieu of the penalty. The discharger, however, may not be allowed to conduct an SEP or PPP

in lieu of any additional serious violations in a six-month period. If the Executive Officer chooses to seek discretionary civil liability that also includes violations subject to mandatory penalties, the Executive Officer would issue a "Complaint for Administrative Civil Liability and Mandatory Penalties." The Office of Chief Counsel has prepared sample complaints.

23. Q. **Can persons aggrieved by the assessment of mandatory penalties file a petition for review with the State Board under CWC section 13320? If so, does the discharger have to pay the penalty while the petition is pending before the State Board?**

A. The discharger and other interested persons may petition the State Board to review the mandatory penalty. While the petition is pending, the discharger is not required to pay the penalty.

24. Q. **Must the Regional Board recover economic benefit in assessing a penalty under CWC section 13385(h) or (i)?**

A. No. The requirement to recover economic benefit is included within CWC section 13385(e), which only applies to assessing discretionary liability not to recovering mandatory minimum penalties. If, however, a Regional Board is seeking both mandatory minimum penalties pursuant to CWC section 13385(h) or (i) and administrative civil liability pursuant to CWC section 13385(a) through (e), it must recover at a minimum the economic benefit, if any, and the mandatory penalty amount.

25. Q. **May the Regional Board assess administrative civil liability in addition to the mandatory penalty?**

A. Yes. Where the Regional Board is required to assess a mandatory minimum penalty, it may also choose to assess a greater amount under the discretionary liability provisions. In such case, the Regional Board Executive Officer would issue a "Complaint for Administrative Civil Liability and Mandatory Penalties." In any settlement of such complaint, or after a hearing before the Regional Board, the Executive Officer or Regional Board must recover at least the mandatory penalties and the economic benefit, if any.

26. Q. **Does the assessment of a mandatory penalty preclude later enforcement by the State or Regional Board or assessment of administrative civil liability pursuant to CWC section 13385(a) through (e) for the same violation that was the subject of the mandatory penalty?**

A. No. The mandatory penalty is a minimum penalty. The State or Regional Board may also assess administrative civil liability pursuant to CWC section 13385 or take other enforcement action.

27. Q. **Are there any exceptions to the requirement to assess mandatory penalties?**

A. Yes. CWC section 13385(j) states that mandatory penalties shall not be assessed if the violations are caused by one or any combination of (1) an act of war, (2) an unanticipated, grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight, or (3) an intentional act of a third party, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

28. Q. **Are "minor violations" under CWC section 13399 subject to mandatory penalties?**

A. CWC section 13399 requires the Regional Boards to issue a "notice of comply" for violations that constitute "minor violations" as defined in that section. CWC section 13399.2(e) states that the State or Regional Board may not take any other enforcement action under Division 7 of the Water Code against a person who has a received a notice to comply and is in compliance. CWC section 13385(h) and (i) both state, however, that "notwithstanding any other provision of this division [Division 7]" the mandatory penalties apply. Therefore, even if a "minor violation" is subject to a notice to comply it also may be subject to mandatory penalties if the minor violation is also a violation of or results in a violation enumerated in CWC section 13385(h) or (i).

III. Economic Benefit (CWC section 13385(e))

Q. **CWC section 13385(e) now requires the Regional Board, State Board, or superior court, in determining the amount of civil liability for violations of an NPDES permit to, at a minimum, recover the economic benefits, if any, derived from the acts that constitute the violation. How is the economic benefit to be calculated? Will the State Board provide assistance to Regional Boards in calculating economic benefit?**

A. The Office of Statewide Consistency is preparing guidance for the Regional Boards to use in assessing administrative civil liability that will include guidance on calculating economic benefit. In general, the Regional Board staff would determine what actions could have been taken to attain compliance or avoid violations and consider such information as what the costs of those actions would have been, the interest earned by delaying compliance, and what benefit to the discharger occurred as a result of failing to comply or in delaying compliance. The Regional Board may request information from the discharger to use in determining the amount of economic benefit. The complaint for administrative civil liability should specify the basis for the economic benefit determination. It then becomes the discharger's burden to demonstrate that it had no or a lessor amount of economic benefit.

IV. Effluent Limitations (CWC section 13263.6)

1. Q. **The new CWC section 13263.6 requires the Regional Boards to include effluent limitations in NPDES permits for a POTW for (1) all substances reported in toxic chemical release data reports prepared pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. section 11023), (2) that are indicated are discharged into the POTW, (3) that the State or Regional Board has established numeric water quality objectives, and (4) the Regional Board determines that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective.**

How does the new CWC section 13263.6(a), which requires the Regional Board to include effluent limitations in certain situations differ from existing federal NPDES regulations that require inclusion of numeric effluent limitations in NPDES permits under certain circumstances?

A. EPA NPDES regulations require an NPDES permit to include a water quality based numeric effluent limitation for all pollutants or pollutant parameters that the Regional Board determines:

> "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including state narrative criteria for water quality." (40 CFR section 122.44(d)(1)(i).)

EPA NPDES regulations specify how to determine whether there is a reasonable potential and provides options for determining the appropriate numeric effluent limitations.

The new CWC section 13263.6 is less broad in certain ways than existing NPDES requirements. Like existing NPDES requirements, effluent limitations are required where the discharge is at a level that will cause, have the reasonable potential to cause or contribute to an excursion above an objective. Unlike existing NPDES requirements, CWC section 13263.6 requires effluent limitations only where the discharge causes excursions above numeric water quality objectives, not all water quality standards, including narrative standards. Also, CWC section 13263.6 requires effluent limitations only for substances discharged to the POTW and reported in toxic chemical release data reports and where the State or Regional Board has established numeric water quality objectives. At the present time there are few numeric water quality objectives in the water quality control plans. If a constituent has or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, e.g., any applicable State or Regional Board numeric water quality objectives, the Regional Board must include a numeric effluent limitation in the NPDES permit. Compliance with existing NPDES requirements would result in compliance with the new CWC section 13263.6.

Unlike existing federal requirements, CWC section 13263.6(a) requires the State or Regional Boards to include effluent limitations only for water quality objectives adopted by the State or Regional Boards. EPA is developing regulations (the "California Toxics Rule" (CTR) that will establish water quality criteria for toxic pollutants for California. Those criteria must be implemented by the State and Regional Board, but they are not and will not be adopted by the State or Regional Boards as part of its current activity so they need not, at this time, be considered in determining the need for effluent limitations under CWC section 13263.6(a). CWC section 13263.6 applies only to water quality objectives adopted by the State or Regional Boards. The Office of Chief Counsel has prepared model permit language.

2. Q. **What is Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023)?**

   A. The Emergency Planning and Community Right to Know Act (EPCRA) is a federal law that establishes programs to provide the public with information about hazardous and toxic chemicals in their communities and establishes emergency planning and notification requirements to protect the public in the event of a release of extremely hazardous substances. EPCRA section 313 requires the owner and operator of certain facilities to complete a toxic chemical release form for listed toxic chemicals used on the facility in quantities exceeding certain thresholds established in section 313. The form must be submitted to EPA and to the state Office of Emergency Response each year.

3. Q. **How does the Regional Board determine which substances are included in the most recent toxic chemical release data reported pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023)?**

   A. The Regional Board may request the POTW to submit a report pursuant to Water Code section 13267 (or other means) to the Board specifying what substances have been included in the toxic chemical release reports that are discharged into the POTW. Since, however, effluent limitations are only required where the State or Regional Board has adopted numeric water quality objectives, the Regional Board would comply with CWC section 13263.6 by adopting effluent limitations for excursions above the numeric water quality objectives. To assure compliance with this provision, the Regional Boards should require POTWs to report information provided in Section 313 reports. The Office of Chief Counsel has prepared a model letter for use by the Regional Boards.

V. General Issues

Q. **How does SB 709 relate to AB 1104?**

A. During the 1999-2000 Regular Session, the Legislature adopted both SB 709 and AB 1104, which were signed by Governor Davis and become effective on January 1, 2000. Both laws are identical in most respects, but there are some discrepancies. SB 709 makes clear that SB 709 prevails over AB 1104. In particular, see CWC sections 13263.3(l), 13263.6(b), and 13362(b).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 18

SUBJECT: Board Member Communications

DISCUSSION: The Board Members may discuss communications, correspondence, or other items of general interest relating to matters within the Board's jurisdiction. There will be no voting or formal action taken.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 19

SUBJECT: EXECUTIVE OFFICER'S REPORT

DISCUSSION: Attached is the Executive Officer's report for January which summarizes significant activities during the months of November and December.

California Regional Water Quality Control Board
Los Angeles Region
EXECUTIVE OFFICER'S REPORT

Wednesday
January 26, 2000

Dennis A. Dickerson
Executive Officer

Former Section Chief Appointed as Principal Engineer

Dennis Dasker has been designated as the Regional Board's Principal Engineer and assumed leadership of the Board's Groundwater Management Division on December 13th replacing Jim Kuykendall who left the Regional Board in November to join the State Board in Sacramento.

Dennis Dasker has been a member of the Los Angeles Regional Board for the past 28 years. His knowledge and scope of experience is clearly without parallel. He has been leading the NPDES permitting program as Chief of the Watershed Regulatory Section for the past five years and has previously led the Chapter 15 program, DOD, DOE, Above Ground Tanks, and the SLIC programs as Chief of what was then called the Land Disposal Section. Dennis received his BS in Engineering from UCLA and is a California Registered Professional Civil Engineer.

With Dennis' appointment, Al Novak has been designated as interim chief of the Watershed Regulatory Section.

A. ENFORCEMENT & REMEDIATION

Administrative Civil Liability Complaints (ACL)

Los Angeles Turf Club

On August 31, 1999, the Los Angeles Turf Club (LATC) discharged effluent in violation of waste discharge requirements specified in Board Order No. 97-03 for the Santa Anita Race Track. On October 28, 1999, the Executive Officer issued Complaint No. 99-097 for administrative civil liability, in the amount of $150,000, based on evidence submitted by LATC that the volume discharged totaled 15,000 gallons. In early January, LATC submitted affidavits which indicate that LATC may have originally overestimated the volume of discharge on August 31, 1999. This information is currently under review by staff. As of January 12, 2000, staff assumes that LATC will contest the amended Complaint at the Board's public meeting on January 26, 2000.

Ojai Valley Sanitary District

During a dry weather period from September 24 to October 2, 1998, the Ojai Valley Sanitary District (OVSD) discharged approximately 1.2 million gallons of raw sewage to Canada Larga Creek and downstream waters, including the Ventura River and the Pacific Ocean, in violation of waste discharge requirements prescribed by the Board Members (Board). On December 9, 1999, the Executive Officer issued Complaint No. 99-009 for administrative civil

liability in the amount of $223,000. This Complaint alleges that OVSD failed to adequately maintain its sewer system, which contributed to intermittent failure of sewage pump failure.

Page Museum

On October 14, 1999, the George C. Page Museum (Museum) discharged an unknown quantity of wastewater containing petroleum and asphalt to storm drains leading to Ballona Creek in violation of waste discharge requirements contained in Board Order No. 97-045. The investigation by Regional Board indicated that the discharge originated from an unpermitted clarifier at the Museum. Additionally, the Museum failed to submit monitoring reports as required by NPDES Permits CAG994001 and CA0059722 for the permitted clarifier. On January 12, 2000, the Executive Officer issued Complaint No. 99-113 for administrative civil liability, in the amount of $22,150. As of January 13, 2000, staff assumes that the Museum will contest the complaint at the Board's public meeting on March 2, 2000.

GATX GX-145 Pipeline Release

On November 24, 1999, the Executive Officer issued Complaint No. 99-100 for administrative civil liability to GATX for an unauthorized discharge of oil to Compton Creek that occurred September 9-12, 1997. This discharge, which leaked from a GX-145 pipeline, migrated through soil, saturated the soil near the south side of the creek bed, and migrated into surface water. The original assessment, which totaled $52,440, was reduced to $40,000 in an amended Complaint issued on January 11, 2000 due to a revised interpretation of penalty provisions in the California Water Code. The penalty in Complaint No. 99-100 does not include a component for discharges to groundwater, however, GATX remains subject to potential enforcement action for those discharges.

Other Enforcement Issues

Baldwin Park Cleanup and Abatement Orders

Significant soil contamination, posing a threat to groundwater, remains in the Baldwin Park Operable Unit of the San Gabriel Basin. In order to ensure that assessments and cleanups progress at a reasonable rate, the Executive Officer issued eight Cleanup and Abatement Orders (CAO) in December to White and White Properties (three facilities), Oil and Solvent Process Company, Rubber Urethanes, Screwmatic, Former Quality Garage Door, and Phaostron Instruments. These CAOs, plus a CAO issued to both Aerojet in November 1999 and to Huffy in December 1999, direct dischargers to assess and cleanup soil contamination and to coordinate groundwater monitoring.

Furthermore, the Orders contain a provision for offsetting impairments to drinking water wells. In the event that water purveyors and their customers end up bearing a significant portion of the groundwater cleanup costs, the Regional Board will consider requiring dischargers to prepare and implement a plan to assist purveyors to offset impairments and ensure an adequate, safe, and dependable supply of drinking water to San Gabriel residents. To date, the La Puente Valley County Water District and the Main San Gabriel Watermaster have each filed a petition, asking the Regional Board to direct dischargers to provide an offset—in the form of replacement water--to affected purveyors. A similar request for Regional Board action was made by the San Gabriel Valley Water Company. A hearing before the Board has not yet been scheduled.

Baldwin Park Groundwater Monitoring Workshop

On January 20, 2000, Regional Board staff held a groundwater monitoring workshop for the Baldwin Park dischargers that just

received CAOs for soil cleanup. The objective is to coordinate monitoring to ensure optimal and cost-effective collection of data. The groundwater sampling data will be used to evaluate the movement of the groundwater contaminant plume and impact to drinking water wells.

Wood-Claeyssens Foundation

On December 29, 1999, the Executive Officer issued a Cleanup and Abatement Order requiring the Wood-Claeyssens Foundation to clean up and abate discharges from an oilfield waste sump on the Taylor Ranch in Ventura. Information was provided to the Regional Board indicating a waste discharge and continued threatened waste discharge in violation of the Basin Plan requirements. The CAO also requires the discharger to submit a Report of Waste Discharge.

Western Pacific Housing

On December 10, 1999, the Executive Officer issued a Cleanup and Abatement Order requiring Western Pacific Housing to clean up and abate the discharges of wastewater, including sediment, from Tract 4494V in Thousand Oaks. The CAO requires the discharger to properly implement the Storm Water Pollution Prevention Plan to control sediment and litter, and to cleanup and appropriately dispose of the accumulated sediment from the storm drains and box culvert. The discharger is also required to submit a report detailing all activities that have been implemented to correct the discharge of non-stormwater wastes into the storm drain.

Malibu Water Pollution Control Plant Rehabilitation Project-Amendment to Time Schedule Order No. 98-089

On November 2, 1998, the Regional Board adopted a Time Schedule Order (Order No. 98-089) for the Malibu Water Pollution Control Plant Rehabilitation Project. The Time Schedule Order (TSO) requires that rehabilitation and upgrade of the existing treatment plant be completed by June 1, 2000. In a letter dated October 14, 1999, the Department of Public Works of Los Angeles County filed a request with the Regional Board to amend the TSO. The County stated that they were experiencing project delays with meeting expanded CEQA requirements, and obtaining both Coastal Commission Approval and a State Revolving Fund loan. Board staff has reviewed the County's proposed revision to the TSO. The Executive Officer approved an amendment to the TSO that extends the rehabilitation and upgrade of the existing treatment plant construction completion date to May 30, 2001.

Trancas Water Pollution Control Plant in Malibu

Regional Board staff revised the existing Waste Discharge Requirements for the Trancas Water Pollution Control Plant, located in Malibu, to include additional findings, sampling requirements, and a monitoring and reporting program. Tentative requirements consisting of a Board Order, a monitoring and reporting program, and a Tentative Time Schedule Order for the rehabilitation and upgrade of the existing treatment plant was prepared.

The Board is expected to take action on the tentative Waste Discharge Requirements and Tentative Time Schedule Order at a public hearing to be held on January 26, 2000.

SB 709 Training

On January 19, 2000, legal counsel from State Board provided training to Regional Board staff on the Clean Water Enforcement and Pollution Prevention Act of 1999 (SB 709). SB 709 is important legislation that became effective on January 1, 2000. SB 709 adds several provisions to the California Water Code Division 7,

among which include pollution prevention plans, requirements to prescribe effluent limits, recovery of economic benefits in assessing civil liability, mandatory minimum penalties, and reporting to the legislature.

B. SURFACE WATER UPDATES

Temporary Stay Granted to the City of Los Angeles

The City of Los Angeles has contested the issuance of National Pollutant Discharge Elimination System (NPDES) permits issued in 1998 for the Donald C. Tillman and the Los Angeles-Glendale Water Reclamation Plants. In 1998, after the permits were adopted by the Los Angeles Regional Water Quality Control Board (Regional Board), the City of Los Angeles petitioned the State Water Resources Control Board (SWRCB) to appeal the issuance of the permits. Subsequently, the City filed a stay of the application of the permits in Los Angeles Superior Court on December 24, 1999. On December 29th, the Court granted a temporary stay regarding the permit and the respective effluent limits. The Deputy Attorney General and the Office of Chief Counsel are currently working on the court action.

Basin Plan Amendment

On November 2, 1998, the Regional Board adopted Resolution No. 98-18 amending the Water Quality Control Plan for the Los Angeles Basin (Basin Plan). The amendment revised the Basin Plan by: 1) removing the municipal and domestic (MUN) beneficial use designation from eight surface water bodies and two specifically defined areas of one ground water basin, 2) assigning additional beneficial use designations to three surface water bodies, and 3) removing the cold water freshwater habitat (COLD) beneficial use from portions of three surface water bodies. On February 18, 1999, the SWRCB adopted Resolution No. 99-20 approving the amendment.

The Office of Administrative Law (OAL) disapproved the amendment on July 22. 1999. In the written discussion of the disapproval, OAL stated that the surface water portions of the amendment did not meet OAL standards for approval but indicated that the ground water portion met the requirements. In the discussion, the OAL stated that "the administrative record demonstrated compliance with these requirements for dedesignation of the two areas of one ground water basin [the portion of West Basin underlying the Chevron facility in El Segundo and the aquifers underlying Terminal Island and portions of the Los Angeles and Long Beach Harbors]."

The State Board has resubmitted the regulatory provisions of this amendment to OAL for consideration with a request to review and consider for approval only those portions of the amendment pertaining to removing the MUN beneficial use designation from the two areas of one ground water basin. As agreed, the administrative record for the amendment was submitted in its entirety and the index to the administrative records is marked to indicate which documents the State Board is requesting the OAL to review.

Administrative Civil Liability Complaint against Sun Coast Calamari (99-122) for Water Quality Impairments in Port Hueneme Harbor

In response to complaints from National Pollutant Discharge Elimination System (NPDES) permittees in the Port Hueneme harbor, Regional Board staff inspected the area on October 28, 1999. Staff determined that the harbor was being impacted by oxygen demanding pollutants and ammonia toxicity. The probable source was determined to be off-loading operations of several squid facilities. Dissolved oxygen near the facilities was <1 mg/L and ammonia nitrogen was in the range of 2-5 mg/L near the squid boats being off-loaded. Lab samples taken during this inspection

had water analyses far in excess of limits. The aquaculture business operations of two of the NPDES permit holders, Channel Islands Marine Research Institute and Channel Islands Ocean Farms, were affected by the low dissolved oxygen and ammonia because their intake pipes are within the harbor.

On November 24, 1999, the Executive Officer transmitted a Notice of Violation (NOV) letter to squid processing facilities at the port. The letter required the facilities to cease all dumping into the harbor and to come into compliance with the requirements of the Porter-Cologne Water Quality Control Act. During subsequent inspections on December 3, 1999 and December 9, 1999, Regional Board staff observed actions by the Sun Coast Calamari in violation of the terms of the NOV letter. Due to these actions, the Executive Officer signed an ACL on December 28, 1999 for $19,900 for Sun Coast Calamari.

Industrial Storm Water Program Compliance Update

Annual Industrial Storm Water Reports for all Industrial Storm Water General facilities were due on July 1, 1999. Approximately 2,525 annual reports for the 2,800 Industrial Storm Water facilities within the Region have been received and entered into the SWRCB database. A more detailed review of the annual reports to determine adequacy of the information submitted is currently underway. On October 26, 1999, 446 Notices of Non-Compliance for Failure to Submit the Annual Reports were mailed out. A 2nd level enforcement letter was sent to the remaining 198 facilities that did not respond to the Level 1 letter. A response to the 2nd level enforcement letter is due by February 1, 2000. Those that do not submit the requested information will require further enforcement action. Two facilities that failed to submit annual reports for previous years were fined at the December Board Meeting. One is currently petitioning the SWRCB to overturn that penalty.

C. TOTAL MAXIMUM DAILY LOADS (TMDL)

Release to the Public of the First Draft for the Los Angeles River Litter TMDL

The first draft of the Litter TMDL for the Los Angeles River is being released to the public on January 18. Because litter is considered a stormwater contaminant, allocations will be incorporated as effluent limits in the stormwater permits, which will be modified in order to address monitoring and implementation of this TMDL. The pollutant load allocated to a given city will depend on the city's land use distribution and total area within the watershed. The implementation of the TMDL will be phased in over a ten-year period. It is to be noted that the load allocation used for this draft does not take the variety of land uses into account because of the lack of data. The proposed numeric target for litter in the river is zero litter in the river.

Santa Clara River – Chloride Policy Public Meeting

The proposed Basin Plan amendment to raise the chloride objectives near Santa Clarita and Santa Paula was released on January 14, 2000. The next meeting on the Santa Clara River chloride policy will be the final Board presentation now scheduled for March 2, 2000. A Memorandum of Agreement to cooperate on monitoring the quality of surface water and groundwater has been circulated to stakeholders and signed by representatives of all publicly owned treatment works that discharge to surface water. All stakeholders are encouraged to participate in the finalization of the monitoring plan and to sign the agreement. For further information please call:

Melinda Becker at (213) 576-6681 or Elizabeth Erickson at (213) 576-6683.

D. GROUNDWATER UPDATES

Southern California Coastal Water Research Project (SCCWRP) MTBE Investigation

In order to investigate the sources, fates, and effects of methyl tertiary butyl ether (MTBE) pollution in the marine environment, the SWRCB contracted with the SCCWRP to: 1) determine the relative importance of MTBE inputs from effluent and stream dischargers, 2) measure the occurrence and concentration of MTBE in coastal receiving waters, and 3) determine whether MTBE contamination levels are toxic to marine life. A draft report was issued by the SWRCB on December 22, 1999, under Agreement No. 8-168-250-0, entitled "Assessment of MTBE Discharge Impacts on California Marine Waters Quality." The draft report does not contain any information on the impacts from MTBE discharges to groundwater resources across the State.

The primary objective of the study was to assess the contribution of MTBE to the coastal environment resulting from both point sources (POTWs, petroleum refiners, and other NPDES dischargers representing 84 total sites) and non-point sources (urban stream locations representing 42 total sites). The surface and ocean water sampling programs were conducted between June 9 and August 4, 1999. Since the sampling programs were conducted during the summer months, no measurements to evaluate stormwater MTBE input could be made. The MTBE mass emission rates presented in the draft report were based upon a limited data set covering a relatively short period of time, and as a result may not be representative of other rainfall events and time periods. Key findings from the draft report include: 1) discharges containing refinery wastewater represents the largest input of MTBE to the marine environment, 2) receiving water contamination is the most prevalent in areas of high watercraft use and less in areas receiving POTW or refinery discharges, and 3) marine receiving water concentrations pose little risk of toxicity to fish and invertebrates.

A copy of the draft report "Assessment of MTBE Discharge Impacts on California Marine Water Quality," can be obtained by contacting Bill Ray of the SWRCB at (916) 657-1123 or Theresa Rodgers of the Regional Board at (213) 576-6621.

Guidelines for Investigation and Cleanup of MTBE and Other Ether-Based Oxygenates

Governor Davis signed Executive Order D-5-99 on March 25, 1999. Item 8 of the Executive Order, in part, required that "...the SWRCB, in consultation with DHS, shall develop a clear set of guidelines for the investigation and cleanup in groundwater...." The SWRCB and the Regional Boards across the State met on several occasions to initiate the process for development of the "Guidelines for Investigation and Cleanup of MTBE and Other Ether-Based Oxygenates." The current draft of the document is available on the Internet at ...[illegible].GOV under "News." A paper copy can be obtained by contacting either Virginia Lopez of the SWRCB at (916) 227-4313 or Theresa Rodgers of the Regional Board at (213) 576-6621. The current draft document is out for a preliminary informal review, with a formal review and comment period to begin by January 31, 2000. It is anticipated that the SWRCB will consider the document at a public meeting in March 2000. Comments on the draft guidelines should be sent to:

Kevin Graves
State Water Resources Control Board,
Division of Clean Water Programs
2014 T Street, Suite 130
Sacramento, CA 95814
(916) 227-4430
(916) 227-4530 (fax)
www.graves[illegible] (e-mail)

Charnock Sub-basin MTBE Investigation Area

At present there are 26 active sites in the Charnock Sub-Basin. One previously unknown site has been identified as a former underground storage tank site at a delivery service company. An initial information package will be sent soon. Of the 25 active sites, site assessment has been completed at 16 sites, whereas there are 9 sites where additional site assessment is either underway or planned to be performed in the near future. Groundwater monitoring is being performed at all of the sites.

Quarterly groundwater monitoring reports are received, reviewed, and commented upon within a short time. A total of six sites have approved remediation workplans for the cleanup of the soil and groundwater. Two of the sites needed to pump-and-treat the groundwater and discharge it to the storm drain under an NPDES permit. The NPDES permits were approved by the Regional Board during the July 8, 1999 Board meeting. Soil and groundwater remediation has begun at two of the sites. On-site soil remediation is underway at two additional sites. Limited offsite remediation has been initiated at one site. A pilot plan for dual phase extraction has been approved at an additional site.

Staff performs a project status update telephone conference with the interested parties and the United States Environmental Protection Agency (US EPA). Staff also attends meetings and participates in telephone conferences to discuss the pilot project cleanup alternatives for the remediation of the groundwater.

On September 22, 1999, the Executive Officer and the California EPA issued separate enforcement orders to Shell Oil Company/Shell Oil Products Company/Equilon Enterprises LLC (collectively called Shell) for water replacement costs. The Orders were issued to ensure the residents of the City of Santa Monica and Culver City continue to receive historic water supplies in the wake of MTBE groundwater pollution at the Charnock Wellfields. The enforcement Orders require Shell to either provide replacement water of a suitable quality or to pay the City of Santa Monica and Southern California Water Company to purchase replacement water. The cost to purchase replacement water is estimated at $3.5 million per year. Shell commenced making payments for replacement water starting on January 3, 1999.

A CAO was also issued to CONOCO in April 1999. The CAO required CONOCO to perform site investigation in a tiered approach with on-site soil and groundwater investigation to be followed by off-site assessment and data interpretation of the subsurface lithology. Following the issuance of CAO, staff had a meeting with representatives of CONOCO on May 11, 1999. Tier One work has been initiated at the site under direction from the Regional Board and US EPA.

Arcadia Wellfield MTBE Investigation

The shallow aquifer in the vicinity of the former Mobil Station 18-LDM has been treated with a pump and treat system since October 1997. The treatment system is capable of pumping 35 gallon per minutes (GPM) of extracted groundwater. Currently, approximately 5 to 6 GPM of groundwater are being pumped from eleven groundwater extraction wells. Through December 15, 1999, the treatment system has pumped 6.7 million gallons of groundwater and removed an estimated amount of 52.5 pounds of TPH and 170.9 pounds of MTBE.

The impacted soil in the vadose zone has been treated with a vapor extraction system (VES) since May 1999. A Production Aquifer Remediation System (PARS) using activated carbon filtering to clean up the

production aquifer has been designed and approved by the Regional Board. In a public hearing by City of Los Angeles Planning Department on August 12, 1999, the variance application for the installation of PARS was approved. Mobil has selected a subcontractor, Olson Construction, to construct the PARS. Construction of PARS is underway and expected to be completed by April 2000. PARS operation is scheduled to commence in April 2000.

A Remedial Action Plan to clean up the MTBE contamination in the lower aquifer was approved on May 21, 1999. Mobil has selected a subcontractor, Komex, to build the lower aquifer remediation system (LARS). The use of the cleanup system is expected to begin in mid-February of 2000.

MTBE Investigation Areas within the San Fernando Valley Groundwater Basin

The Los Angeles River Watershed Unit of the Underground Storage Tank Section opened four areas within the San Fernando Valley Groundwater Basin for MTBE pollution investigations. The State Department of Health Services identified where MTBE has been detected in several Drinking Water Systems. Of these, four drinking water wellfields are located in the San Fernando Valley Groundwater Basin. Three of the wellfields are operated by the City of Los Angeles (North Hollywood, Tujunga, and Verdugo wellfields). The fourth wellfield is operated by the City of Burbank (Burbank Operable Unit). The Tujunga wells (No. 4 and 5) are still in operation as the MTBE concentrations were very low. North Hollywood Well No. 17 has been a standby well that was used sporadically. Verdugo wells (No. 1 and 2) have been standby wells that were shut down due to chlorinated solvent contamination. The Burbank Operable Unit is installed to cleanup the solvent contaminated groundwater.

On December 10, 1999, staff in the Underground Storage Tank Section sent out initial questionnaires to 58 potential responsible parties to collect information on their sites, which are located within an approximate one-mile radius of each wellfield area. The questionnaires are due back to the Regional Board by January 21, 2000. Based on the information received, staff will pursue further investigation to identify the source(s), and where appropriate require hydrogeologic assessments and cleanup activities.

Completion of Corrective Action at Leaking Underground Fuel Storage Tank (UST) Sites

Board staff has reviewed corrective actions taken for soil and groundwater contamination problems from leaking USTs for the time period between November 16, and December 31, 1999, and determined that no further corrective actions are required for:

- Thrifty Oil Company Service Station No. 291, Downey (I-10959)
- ARCO Service Station No. 9659 (Former Thrifty No. 270), Downey (R-11259)
- Unocal Service Station No. 2752, Arcadia (R-10996)
- Former Arco Service Station No. 51, Glendale (912040034)
- Maness Industries, Santa Fe Springs (I-22083)
- Mon Van Moving Services, Monrovia (I-20284)
- Recycled Commodities, Inc., Montebello (I-13031)
- ARCO Service Station No. 1360, Inglewood (I-12055)
- Flint Ink Corp., Santa Fe Springs (I-06638)
- L. A. County Manhattan Beach Service Yard, Manhattan Beach (902660034)
- Gardena Nursery, Camarillo (C-99013)
- Exxon Service Station No. 7-4551, City of Industry (I-12221)

- J & S Auto Body, Long Beach (908050361)
- Unocal Facility-Sansinena Field, La Habra Heights (R-10605)

Governor's Y2K Hazardous Materials Project

As a result of Governor Gray Davis' Executive Order D-3-99, the Governor's Office of Emergency Services (OES) initiated a Y2K Hazardous Materials Project. The purpose of the Project was to protect the health and safety of the people of California and its environment by assisting in the Y2K readiness of approximately 130,000 hazardous materials facilities/handlers in California.

Gay Norris from the UST Section participated in the Y2K Project as one of ten Regional Assessment Coordinators statewide. Since September 1999, she assisted OES with 1) communicating with hazardous materials facilities regarding Y2K failures which could impact health, safety, and the environment and 2) conducting onsite visits to the most vulnerable facilities and assisting the appropriate agencies in performing site assessments.

The Y2K Hazardous Materials Project successfully met the Governor's directive to identify Y2K vulnerable hazardous material handlers in the state and assess them for their readiness to transition into the new millennium. The participation of the Regional Assessment Coordinators in the California Y2K Project Implementation Team enabled the state to meet its goal of coordinating the assessment of 12,500 businesses statewide.

E. COASTAL WATERS/ WATERSHEDS UPDATES

Calleguas Creek Watershed

The Water Quality/Water Resources Subcommittee met on August 6, 1999. Updates on TMDLs and strategies for reduction of nitrogen by publicly-owned treatment works (POTW) were major topics of discussion. The Subcommittee is currently in the process of drafting a Water Resources/Water Quality Chapter in the Calleguas Creek Watershed Management Plan, which has gone out for in-house agency review. Subcommittee members have developed a list of their goals and objectives for water quality and water resources and are working to clarify participants' goals and objectives, identify possible solutions to problems, pinpoint concrete actions which will be taken to address the problems, filter out long-term from short-term goals, and reach agreement on what issues to deal with first. Agricultural best management practices (BMP) and concerns over use of household water softeners and their contributions of chlorides to treatment plants are two early action items that have been identified.

The Flood Protection/Sedimentation Subcommittee last met on November 8, 1999. They are currently involved with discussions on conducting a hydrologic study of the watershed and the need for historic photographs to evaluate changes in sedimentation over time.

The Public Education/Outreach Subcommittee has completed the first edition of a newsletter to cover watershed issues and events. It will eventually have its own website with links to other web pages. Additionally, the group has produced a brochure on the management plan process in the watershed.

The Habitat/Recreation Subcommittee met on December 7. They continue to work on a wetlands study which includes a habitat mapping component. The subcommittee will next meet on February 1.

The Steering Committee for the Watershed Management Plan met on September 30. They continue to work on its

expectations/products for 1999. A draft Table of Contents for the Calleguas Creek Watershed Management Plan being developed has been prepared.

The full Management Committee met on November 18. Information about the management committee and its subcommittees can be found at http://www.calleguas.com/.

Data generated by the Surface Water Element of the Calleguas Creek Characterization Study Monitoring Program is being evaluated. Monitoring associated with the Groundwater Element of the program is now being implemented. Another component of the program, funded by Clean Water Act 205(j) monies, is evaluating nonpoint source contributions and is in the data analysis stage.

Los Angeles River Watershed

The Los Angeles and San Gabriel Rivers Watershed Council meets on the third Wednesday of each month. The last meeting was held on December 15 and included meetings of the water resources, water quality, and multi-use projects committees. Shirley Birosik, Regional Board staff member, presented an overview of the San Gabriel River Watershed in the water quality committee meeting. The Council's Internet address is http://www.lasgriverswatershed.org/.

The Friends of the LA River now has a Los Angeles River e-mail discussion forum. To subscribe, send an e-mail to la-river-discuss-subscribe@makelist.com . To view archives of past Los Angeles River discussions on the Internet, go to http://www.egroups.com/list/la-river-discuss.

On August 10, members of the Watershed Council assisted the California Coastal Conservancy in conducting a tour of potential restoration sites in the lower watershed as part of a meeting of the Southern California Wetlands Recovery Project. These sites may be viewed at http://www.[illegible]p/index.html.

Santa Monica Bay Watershed

The Modeling and Monitoring Subcommittee of the Malibu Creek Watershed Advisory Council has drafted a watershed-wide monitoring program for the Malibu Creek Watershed. The group last met on May 6, 1999. A draft monitoring program has been distributed to stakeholders for comment. A major task will be finding partners to participate in this voluntary program to assess and help correct the water quality concerns in this area.

The Malibu Lagoon Task Force last met on September 14, 1999. The Task Force is concerned with lagoon breaching, the septic tracer study, and all aspects of the UCLA study of the lagoon. The study covers a hydrologic evaluation, appropriateness of various biological and water quality objectives, water level management, eutrophication issues, pathogens, and the historical condition of the lagoon. The study was funded by a grant from the California Coastal Conservancy with assistance by local agencies. A recently hired facilitator is now leading the group toward refining the future goals of the Task Force. The next meeting is not scheduled yet.

The Malibu Creek Watershed Advisory Council met on October 19, 1999 and included a report on subcommittee activities. The Council last met on January 18, 2000.

A watershed committee has been meeting in the Topanga Creek Watershed. The most recent meeting was held on December 4, 2000. The meeting included a panel discussion on the state of the watershed. A major near-term goal of this watershed committee is to prioritize potential actions previously identified in a draft Topanga

Creek Watershed Management Study and start a coordinated resource management planning (CRMP) process. A longer-term goal is preparation of a watershed management plan that will help address a number of issues including flood control in the canyon. The next meeting of the watershed committee is scheduled for February 2, 2000 and will focus on planning for the Streambank Stabilization Workshop scheduled for March 4, 2000. The committee's website address is. http://www.TopangaOnline.com/twc/.

The recently formed Technical Advisory Committee to the Topanga Creek Water Quality Study met for the first time on June 15, 1999 to help guide the project and met again on November 30, 1999 to review preliminary data. The Committee is funded through 205(j) monies.

Watershed Management Initiative Chapter

Each Regional Board has completed the process of producing a "chapter" on how that Board is implementing watershed management in the Region. The consolidated statewide chapter will become the basis for funding decisions including allocating money for monitoring, TMDL development, and grant monies disbursement.

Each Region's Chapter is updated on an annual basis. The last update occurred in January 2000 and includes information on Regional Board implementation of the state's upgraded nonpoint source management program.

Copies of this Region's current Chapter and/or its Executive Summary may be obtained by contacting the Regional Board office, Regional Programs Section secretary. The document may also be sent out electronically in MSWord97. It will be available shortly on the Regional Board's webpage.

F. OUTREACH ACTIVITIES

Presentation at a Litter Summit

On December 15, 1999, a litter summit brought together business leaders and city representatives to discuss the issue of litter in rivers and beaches in the greater Los Angeles area. The Executive Officer (EO) gave a presentation entitled "What the Business Community needs to know about Total Maximum Daily Loads (TMDLs)." The presentation outlined how a schedule was established as a result of the March 1999 consent decree between the US EPA, the Santa Monica BayKeeper, and Heal the Bay. Information was also provided on how more than 700 TMDLs grouped into 94 analytical units are scheduled to be completed in the next 13 years. The presentation also included information on the issues that surround litter in our waterways. The EO explained that although the litter TMDL for the Los Angeles River watershed would focus on municipal compliance, opportunities for private sector involvement were significant.

Gateway COG Meeting

On January 5, 2000, the Executive Officer attended the regular meeting of the Gateway Cities Council of Governments in Cerritos to offer comments and respond to questions on the pending proposal regarding Standard Urban Stormwater Mitigation Plans (SUSMP). Following a presentation by Ed Schoeder, Director of Public Works for the City of El Segundo, the Gateway Council approved a resolution at the meeting urging the Regional Board not to approve that portion of the SUSMP proposal that deals with establishing a 0.75 inch rainfall runoff design standard for BMPs.

Regional Board Hosts Resource Management Visitors from China

On December 28, 1999, Regional Board

staff hosted a group of six visitors from the water resource management department of the Inner Mongolia Province, China. Regional Board staff members Rod Nelson, Mark Pumford, and Yue Rong presented Regional Board programs in surface water and groundwater. Board staff also presented the visitors with a copy of the Porter-Cologne Act. The visitors were very interested and asked many questions during the presentation.

G. ADMINISTRATIVE UPDATE

Personnel Report

As of the month of December our staff was 121, consisting of 102 technical staff (including 1 part-time technical staff), 5 permanent administrative support staff, and 14 permanent clerical staff.

Staff is currently taking steps to fill 1 Unit Chief Position, 12 technical positions, 1 Associate Governmental Program Analyst, and 1 Assistant Information Systems Analyst.

Since October, the following appointments have been made:

Arman Toumari, Water Resource Control Engineer in the LA Coastal Unit, appointed 10/15/99.

Rod Collins, Environmental Specialist III in the Standards and TMDL Unit, appointed 11/01/99.

Michael Yang, Water Resource Control Engineer in the L. A. River Unit, appointed 11/01/99.

Khalid Abdullah, Associate Information Systems Analyst in the Information Technology Unit, appointed 11/02/99.

Cody Walker, Engineering Geologist in the San Gabriel/San Fernando Valley Unit, appointed 11/05/99.

Larry Harlan, Environmental Specialist III in the San Gabriel Valley Unit, appointed 11/18/99.

Thomas Sayles, Environmental Specialist III in the L. A. River Unit, appointed 11/18/99.

Melinda Merryfield-Becker, Environmental Specialist IV (Supervisor), Standards and TMDL Unit Chief, appointed 11/29/99.

Cassandra Owens, Environmental Specialist III in the Ventura Coastal Unit, appointed 12/13/99.

Thizar Tintut-Williams, Environmental Specialist III in the Ventura Coastal Unit, appointed 12/13/99.

Jeremy Sokulsky, Water Resource Control Engineer in the Standards and TMDL Unit, appointed 12/13/99.

Megan Fisher, Environmental Specialist in both the Industrial Stormwater and Nonpoint Source Programs, appointed 1/3/00.

The following promotion was made:

Anthony Klecha, from Water Resource Control Engineer to Sanitary Engineering Associate, effective 11/01/99.

The following separated from Region 4:

Cody Walker, Engineering Geologist, transferred to Region 1.

Bryan Schweikert, Environmental Specialist III.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 20

SUBJECT: Closed Session

DISCUSSION: Please note that this item is not open to the public.

At any time during the regular session, the Board may adjourn to a closed session to consider litigation, personnel matters, or to deliberate on a decision to be reached based upon evidence introduced in the hearing. Discussion of litigation is within the attorney-client privilege and may be held in closed session. Authority: Government Code Section 11126(a)(d)(q).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION

Pasadena, California
January 26, 2000
427th Regular Meeting

ITEM: 21

SUBJECT: Adjournment of Current Meeting and Arrangements for Next Meeting.

DISCUSSION: The next regular meeting will be held in late March. The Board will adopt the calendar for 2000 at the January 26th Board Meeting.

A special Board Meeting has been scheduled for January 31, 2000 from 1:00 – 5:00 p.m. in Pasadena.

WQCC MEETING

Not yet determined.

STATE BOARD/REGIONAL BOARD CHAIRS and CAL/EPA POLICY MEETINGS

Not yet available.

**All Chairs/Policy meetings will be held in Room, 153 at State Board, 901 P Street, Sacramento. The scheduled meeting time is 10:00 am - 3:00 pm.

Administrative Record: SWRCB/OCC Files A-1280, A-1280(a), A-1280 (b)

VOLUME 02

Doc. No.	Item	Date	Documents
	——	01/26/00	Binder for Item 11, SUSMP Mitigation Plans of the California Regional Water Quality Control Board, Los Angeles Region, 427th Regular Board Meeting
	1	01/21/00	Letters to the Public Regarding Change of Date and Location for the 427th Regular Board Meeting
	2	01/18/00	Staff Report and Record of Decision for Standard Urban Storm Water Mitigation Plans and Numerical Standards For Best Management Practices
	3		Los Angeles County Municipal Storm Water Permit- Order No. 96-054
	4	01/26/00	Standard Urban Storm Water Mitigation Plan, Statement of Dennis Dickerson, Executive Officer
	5		Dennis Dickerson's Notes From Meetings with Various Cities, Business and Environmental Groups, and Board Members and Staff
	6	01/26/00	Board Meeting Presentations Exhibits A-R
	7	01/26/00	Board Meeting Presentations Exhibits Overheads
	8	01/27/00	Board Meeting Presentations sent to Jorge Leos by NRDC
	9	01/27/00	Board Meeting Presentations sent to Xavier Swamikannu by NRDC
	10	01/25/00	SUSMP Development Planning Change Sheet Revised
	11	01/21/00	SUSMP Development Planning Change Sheet
	12	01/21/00	Standard Urban Storm Water Mitigation Plan, Summary of Comments (Since December 6, 1999) and Response- Supplement
	13	01/26/00	Standard Urban Storm Water Mitigation Plan presented to Regional Board by Xavier Swamikannu
	14		Los Angeles County Municipal Storm Water Permit and Standard Urban Storm Water Mitigation Plan Presentation to Regional Board
	15		Comments from Permittes
	16		Comments from Executive Advisory Committee
	17		Comments from Governmental Entities
	18		Comments from Interested Parties
	19		Various Newspaper Articles Dealing with SUSMP

California Regional Water Quality Control Board
Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, CA 90013
Phone (213) 576-6600 FAX (213) 576-6640

Gray Davis
Governor

TO: **Regional Board Members**

FROM: **Dennis A. Dickerson**
Executive Officer

DATE: **January 21, 2000**

SUBJECT: **January 26th Board Meeting**

IMPORTANT BOARD MEETING UPDATE

We have been informed that Heal the Bay has made arrangements to lease a bus(s) to bring supporters to Wednesday's board meeting. With the expected attendance at the meeting now exceeding the capacity of the courtroom, it is apparent that the location of our meeting must be changed to accommodate a much larger audience than we had expected. We have made last minute arrangements for the Board to conduct its meeting at the Pasadena Holiday Inn. A copy of the public notice with the new location and address is attached.

Chairman Nahai, Jorge Leon, and myself have been working to develop a protocol for the conduct of the meeting with respect to public comment. This also is included for your reference.

With regard to the Board's agenda, in addition to the changes that I have already commented on:

Carrier (Item 10.1) and Golden West Refining (Item 9.4) are both off the calendar to resolve additional issues.

Item 12, Sun Coast Calamari ACL, is being delayed at the request of Sun Coast to allow for additional discussions between Sun Coast and staff.

Item 13, Trancas Water Pollution Control Plant, will be deferred to another meeting at the request of the discharger.

Finally, letters are still pouring in on the SUSMP issue, we are trying to get another Fed Ex out to you tonight.

Cc: AEOs
Jorge Leon

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Los Angeles Region

Winston H. Hickox
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Internet Address: http://www.swrcb.ca.gov/~rwqcb4

Gray Davis
Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region

NOTICE OF JANUARY 26, 2000 BOARD MEETING LOCATION CHANGE

(Govt. Code Section 11125)

NOTICE IS HEREBY GIVEN that the January 26, 2000 Regular Board Meeting location has changed (effective 1/21/00) in order to accommodate more members of the public. The original location was at the Richard H. Chambers U.S. Court of Appeals Building, 125 S. Grand Avenue, Pasadena.

The new Board Meeting location is as follows:

Holiday Inn Pasadena Hotel
303 E. Cordova
Main Ballroom
Pasadena, CA

R0067983

California Regional Water Quality Control Board
Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

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Gray Davis
Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region

NOTICE OF RESCHEDULED SPECIAL BOARD MEETING AND 50TH ANNIVERSARY EVENT

(Govt. Code Section 11125)

NOTICE IS HEREBY GIVEN that the Special Board Meeting originally scheduled for January 6, 2000 to consider the Standard Urban Stormwater Mitigation Plan (SUSMP) item has been rescheduled.

The SUSMP item will now be considered at the regularly scheduled Board Meeting on January 26, 2000 at the Richard H. Chambers U.S. Court of Appeals Building, 125 S. Grand Avenue, Main Courtroom #3, Pasadena, California.

Immediately following the adjournment of the regular Board Meeting, the Los Angeles Regional Water Quality Control Board will celebrate it's 50th Anniversary at the Doubletree Hotel in Pasadena, 191 N. Los Robles Avenue. Board members will be present during this event, but no business will be conducted and no voting will take place.

For more information on the Board meeting or Anniversary event, please contact Robyn Goodman, Executive Assistant at (213) 576-6613. For technical questions regarding the SUSMP item, please contact Xavier Swamikannu at (213) 576-6654.

The SUSMP can also be found on our website at www.swrcb.ca.gov/~rwqcb4.

Los Angeles Regional Water Quality
Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

IMPORTANT :

Notice of Rescheduled
Special Board Meeting

California Regional Water Quality Control Board
Los Angeles Region

Winston H. Hickox
Secretary for
Environmental
Protection

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
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Gray Davis
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Los Angeles Region

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California Regional Water Quality Control Board

Los Angeles Region

Winston H. Hickox
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Phone (213) 576-6600 FAX (213) 576-6640
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Gray Davis
Governor

December 20, 1999

California Newspaper Service
Bureau, Incorporated
P.O. Box 54310
Los Angeles, CA 90054

GOVERNMENT ACCOUNTS (FILE NO. 100.324)

Enclosed is a copy of a public notice we would like to publish in a daily newspaper of general circulation in the geographical area of the discharge for one day as soon as possible but not later than December 24 , 1999.

We rely on your proofreading.

Please bill us in triplicate and provide us with three copies of affidavit of publication (Attention: Pat Guokas).

If you have any questions, please call me at (213) 576-6654.

XAVIER SWAMIKANU
Sanitary Engineering
Associate

Enclosure

R0067986

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

320 W. 4th Street, Suite 200
Los Angeles, California 90013
Tel No. (213) 576-6600; Fax No.: (213) 576-6660

Public Notice No. 99-080

NPDES No. CAS0061654
NPDES No. CAS004003

NOTICE OF PUBLIC HEARING

CONSIDERATION OF STANDARD URBAN STORM WATER MITIGATION PLANS

SUBMITTED FOR APPROVAL TO THE EXECUTIVE OFFICER

UNDER

THE LOS ANGELES COUNTY MUNICIPAL STORM WATER PERMIT

This Regional Board will hold a hearing to consider the endorsement of standard urban storm water mitigation plans submitted for approval to the Regional Board Executive Officer under the municipal storm water permit for Los Angeles County and Cities. The Regional Board will also consider the adoption of the standard urban storm water mitigation plan requirements to become applicable to the City of Long Beach under its separate municipal storm water permit, and for numerical water quality design standards contained therein to become applicable to construction projects, in the Los Angeles Region, covered under the state storm water general permit for construction activity.

HEARING DATE AND LOCATION:

DATE: Thursday, January 26, 2000
TIME: 9:00 a.m.
PLACE: Richard H. Chambers U.S. Court of Appeals Building
125 South Grand Avenue, Main Courtroom #3
Pasadena, California

AVAILABILITY OF DOCUMENTS

The Standard Urban Storm Water Mitigation Plans (SUSMP), the SUSMP Record of Decision and other related documents and information are on file, and may be inspected, at the Regional Board office, 320 W. 4th Street, Suite 200, Los Angeles, California, 90013, between the hours of 8:00 a.m. and 5:00 p.m. Arrangements for file review and/ or obtaining copies of documents may be made by contacting Vilma Correa at (213) 576-6617. The proposed Standard Storm Water Mitigation Plan, Response to Comments, and tentative resolution may also be viewed on-line at the California Regional Water Quality Control Board website address, http://www.swrcb.ca.gov/~rwqcb4/html/news.html.

R0067987

Questions regarding the documents or the hearing should be directed to Dr. Xavier Swamikannu at (213) 576-6654.

BACKGROUND

Los Angeles County and Cities (except the City of Long Beach) implement a municipal storm water program to reduce storm water and urban runoff pollution under the requirements of Board Order No. 96-054. The City of Long Beach implements a separate municipal storm water program to reduce storm water and urban runoff pollution under Board Order No. 99-060.

The Regional Board at its April 22, 1999, meeting approved a List of Best Management Practices for Permittees to select from and require implementation of the most effective BMPs in their Development Planning and Development Construction programs (Board Resolution No. 99-03). The Regional Board at that time also requested that the Standard Urban Storm Water Mitigation Plans (SUSMPs) for Priority Planning Project categories, which incorporate the BMPs, be brought to it for discussion. The municipal storm water permit for the City of Long Beach, adopted by the Regional Board on June 30, 1999, includes requirements that make SUSMP provisions adopted by the Regional Board applicable to its program.

On September 16th, 1999, at the Regional Board meeting, the Regional Board Executive Officer advised the Regional Board that additional time to develop a revised SUSMP proposal would be in the best interest of all parties to ensure that the proposal is more fully documented and supported by the record. At that time, he indicated that Regional Board staff would develop a revised proposal at the earliest opportunity but probably not less than 90 days later. This proposal has now been developed and is being public noticed for consideration by the Regional Board at its January 26th meeting.

The proposed SUSMP is designed to ensure that storm water pollution is addressed in one of the most effective ways possible, i.e., by incorporating BMPs in the design phase of new development and redevelopment. The proposal also provides for numerical design standards to ensure that storm water runoff is managed for water quality concerns in addition to flood protection and that pollutants carried by storm water are retained and not delivered to waterways.

The proposed SUSMP adds two additional categories for controls, parking lots and environmentally sensitive areas. The proposal also attempts to respond to various concerns by incorporating provisions that allow for flexibility thereby recognizing that a single numerical standard may not be appropriate in every case. Also, the proposed SUSMP has taken the original language offered by the Principal Permittee and eliminates much of the duplication allowing for a more concise and understandable document.

A Tentative Resolution is also being offered to the Regional Board for their consideration at the January 26, 2000 Board Meeting. This Tentative Resolution acknowledges the structure of both the Los Angeles and Long Beach Municipal Storm Water Permits by allowing the SUSMP approval to be accomplished by the Regional Board Executive Officer for the Los Angeles permit while the Regional Board itself would approve the SUSMP pursuant to the City of Long Beach permit. If adopted by the Regional Board, the tentative resolution would approve the Long Beach SUSMP while encouraging the Regional Board Executive Officer to approve the Los Angeles SUSMP. In addition, the Regional Board is being asked to adopt the numerical design standards as the minimum standards for post-construction BMPs required by the statewide general permit for construction activity for construction projects in the Los Angeles Region.

COMMENTS AND QUESTIONS

Persons wishing to comment on the SUSMPs are invited to submit them in writing at the above address to the attention of Dr. Xavier Swamikannu. In order to be evaluated by Board staff and included in the Board's agenda folder, written comments or testimony on the tentative permit must be received at the Regional Board's office by January 14, 2000. Comments received after that date will be provided, *ex agenda*, to the Board for their consideration.

HEARING PROCEDURE

The Board meeting, in which the hearing will be part of, will start at 9:00 am. Interested persons are invited to attend. Oral statements will be heard; however, for the accuracy of the record, all important testimony should be in writing. Time for oral testimony may be limited depending on the number wishing to be heard. It is expected that many interested parties will wish to speak before the Regional Board. In an effort to ensure that the Regional Board is provided with a comprehensive understanding of the concerns associated with this proposal, special arrangements for the presentation of comments are being considered. Specific details on the presentation arrangements for the January 26th Board meeting will be provided in the regular agenda notice. Interested parties are encouraged to contact the Regional Board Executive Officer to suggest consolidation of comments from many parties into a more comprehensive presentation with an extended time limit.

If you represent a Permittee or other interested party, it would be helpful that by January 14, 2000 you would coordinate with other co-interested individuals and notify this office of (1) lead designated speaker; (2) amount of time needed by the lead speaker; and (3) your request for time for additional speakers and the identity of such additional speakers. The Board will announce the amount of time available for the submission of oral comments in this matter and for discussion among the Board members in the formal notice of the Board's agenda. Upon receipt of the above information, the staff will recommend an allotment of time for all interested parties, based upon the information received. Parties who have not submitted the requested information will be provided any remaining time following allotment.

Date: December 20, 1999

California Regional Water Quality Control Board
Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, CA 90013
Phone (213) 576-6600 FAX (213) 576-6640

Gray Davis
Governor

TO: **Regional Board Members**

FROM: **Dennis A. Dickerson**
Executive Officer

DATE: **January 19, 2000**

SUBJECT: **Board Meeting Package Transmittal Memo**

Introduction

My apologies for being a few days late with this transmittal memo. As you know, the next Board meeting will be held on Wednesday, January 26th, at the US Court of Appeals Building at 125 S. Grand in Pasadena starting at 9:00 a.m. The meeting will be followed by the Regional Board's 50th Anniversary Dinner to be held at the Pasadena Doubletree Hotel. More details on the status of that event are at the end of this memo.

Almost the entirety of the Board meeting will be dedicated to the consideration of the Standard Urban Stormwater Mitigation Plan (SUSMP) proposal since we are expecting a very large turnout. Most other agenda items have dropped from the calendar or should be resolved in the time available.

Please note that we have made arrangements for a "formal" Regional Board member photograph to be taken during the lunch break. We wanted to memorialize the members who are serving on the Board at 50 years.

Review of Agenda

Agenda Items 4 and 5 - The Board meeting will begin by considering several administrative matters including the election of a Board Chair and Vice Chair for 2000. Also to be considered is the adoption of the calendar of Board meetings for 2000.

Agenda Item 11 - Standard Urban Stormwater Mitigation Plan. In 1996, the Regional Board adopted a municipal stormwater permit for Los Angeles County and the 85 municipal co-permittees. The permit was contentious from the very beginning and was soon followed by an appeal from the City of Long Beach which eventually reached Superior Court but was settled last June through the issuance of a separate permit to the City of Long Beach. The permit, as adopted by the Board, left many issues for subsequent development by the permittees with approval delegated to the Executive Officer. For example, the permit required the development of five "model" programs that would be used to provide a framework for the development of ordinances by the permittees to implement the stormwater management program.

At this point, all the "model" programs have been approved. The approval process lasted longer than originally expected because the submittals by the permittees were not as well developed as they could have been (substantial editing was required). Additionally, the inadequate staff support available to this program resulted in our inability to move more quickly. For example, I have had to expend a great deal of my time on technical staff work related to the municipal permit to help close the gap between what we

must do and the limited staffing we have. Only one staff person is assigned to this project and total funding from the permit is $10,000 annually.

Perhaps the only remaining outstanding issue from this permit requiring approval is an element of the Development Planning requirements of the 1996. The remaining element pending approval is a requirement that Standard Urban Stormwater Mitigation Plans or SUSMPs be developed for several categories of new development and redevelopment projects. Under the terms of the municipal stormwater permit, the approval of the SUSMPs is delegated to the Executive Officer. The approved SUSMP would provide a set of Best management Practices or BMPs that would be specific to identified categories of development. Once approved, permittees would be required to ensure that the building permits they issue conform to these requirements.

This issue was first discussed before the Board (briefly) at the April 1999 meeting. The SUSMP issue came up in the context of approval of a list of acceptable BMPs. At that time, the Board suggested that the issue be brought to the Board for discussion. Last summer (August 10) we held a workshop with interested parties to discuss the concept of a design standard to be incorporated within the Standard Urban Stormwater Mitigation Plan. This meeting was well attended with a substantial amount of information shared on the value of a design standard. Shortly thereafter, a proposal was offered to incorporate a design standard for BMPs requiring that the first 0.75 inches of rainfall be subject to BMPs. This proposal was then discussed during the September 16th Board meeting (in keeping with the Board's request from the April meeting). Following detailed discussion with interested parties in the interim, a new SUSMP proposal was released for comment on December 7th.

This matter is now scheduled for Board discussion on January 26th. Recall that the municipal stormwater permit delegates the SUSMP approval to the Executive Officer. As I noted at the September 16th Board meeting, I felt this issue was simply too significant for action by the Executive Officer without direction from the Board and asked for your direction. On January 26th, I intend to provide the Board with a set of options for consideration that will allow you as wide a choice as possible of approaches to consider and from which to provide direction to staff.

A copy of the staff report is enclosed with the mail copy of this transmittal and has already been faxed to you. The staff report should be inserted into the binder of SUSMP comments sent to you yesterday. It is the first document that should appear in the binder in front of the December 7th staff SUSMP proposal.

I expect this item will take nearly the entire day for the Board to consider. We expect many interested parties to testify and we have scheduled this item to be heard nearly the entire day.

Agenda Item 12 – Sun Coast Calamari ACL. This ACL involving discharges of fishery waste to Port Hueneme harbor is likely to be held over for another meeting. The owner of the facility is requesting a delay and given the full agenda with the SUSMP item, we will likely approve their request.

Agenda Item 13 – Trancas WDR and TSO. This is a permit action item and waste discharge requirement (WDR) for a small sewage treatment plant serving a small number of homes in

Malibu. Consideration of this matter should be reasonably straightforward, although there are some issues that local residents will wish to raise. As you know, there is no sewer system in Malibu and smaller treatment facilities will be experiencing additional costs as they upgrade to meet improved operational standards. This item will be faxed to Board members and included in the addendum materials to be sent this Friday.

Agenda Item 14 – Ojai Valley Sanitary District ACL. This ACL has been paid by the Ojai Sanitary District and is off calendar. A set of Supplemental Environmental Projects will be developed and submitted to the Board for approval at an upcoming meeting.

Agenda Item 15 – LA Turf Club ACL is also off calendar. Staff have met with the Turf Club and a proposal for settlement has been offered in the amount of $137,500 (the original ACL was $150,000). Staff are supportive of accepting the lower penalty value given the uncertainty of the exact number of gallons released by the Turf Club and the progress they have made to ensure that the discharge does not recur. A settlement proposal will be formally offered to the Board at a subsequent meeting including Supplemental Environmental Projects for Board approval.

Agenda Item 16 – Resolution in Support of Bond Measures. This matter is designated as consent and does not need to be heard although the Board may wish to express comments on the topic. This matter was on the December 9th calendar but was not considered by the Board given other matters.

Agenda Item 17 – SB 709 Briefing. This is a briefing for Board members on the new legislation that became effective January 1st that requires imposition of mandatory minimum penalties for violations of some aspects of NPDES permits. This item will likely not be heard assuming the SUSMP matter consumes most of the available time. If, however, that matter is resolved, we are prepared to present this briefing. If not heard on the 26th, it will be rescheduled to another Board meeting.

50th Anniversary Dinner – As of today, we have about 120 persons signed up for the dinner (thank you very much for sending your checks in advance). Our program continues to take shape each day and we are gathering interesting facts to share reflecting on our 50 years. The formal program will include comments from David Nahai, Past Board members, Dick Harris (a former AEO who joined the Regional Board in the early 1960s), possibly a slide show by Dennis Dasker (who joined the Board in 1970), a Keynote by Secretary Winston Hickox, and various comments and presentations from Los Angeles and Ventura Counties and a number of cities. We are expecting several Resolutions and Proclamations to be presented honoring the Board for its achievements.

(w/o attachment)
Cc: Nancy Sutley (Cal/EPA)
Walt Pettit
AEOs, Jorge Leon

Guide to Documents Submitted Regarding Standard Urban Stormwater Mitigation Plans (SUSMP)

August 10, 1999 - Numerous Initial SUSMP Formal Proposal from Principal Permittee

Various dates – Generic (form) letters titled: "*Support for staff proposal to reduce runoff from new and redevelopment*" by many persons supportive of the need to approve a stringent stormwater SUSMP proposal.

December 7, 1999 – Revised SUSMP Proposal from Executive Officer including draft Regional Board Resolution

December 10 (approximate) – several letters requesting extension from originally scheduled January 6th Regional Board hearing

December 10, 1999 – Stormwater Report Newsletter by Rosenbaum/Berwanger

December 22, 1999 – Comments by Rutan and Tucker raising legal objections to the December 7th SUSMP proposal

December 22, 1999 – Comments by the Executive Advisory Committee regarding the December 7th SUSMP proposal

December 28, 1999 – Comments on the December 7th SUSMP proposal submitted by the County Department of Public Works

January 5, 2000 – Comments by Burke, Williams and Sorenson on the December 7th SUSMP proposal

January 10, 2000 – California Coastal Commission letter from Commission staff endorsing and encouraging adoption of December 7, 1999 proposal.

January 11, 2000 – County of Los Angeles Dept of Public Works letter updating the Regional Board on ~~difficulties~~ challenges associated with implementation of the 0.75 inch BMP design standard

EPA Letter

Robert Pitt Letter

Ray Tahir

Tom Harder

R0067993

California Regional Water Quality Control Board

Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

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Gray Davis
Governor

TO: **Los Angeles County Municipal Storm Water and Urban Runoff NPDES Permittees**
Long Beach Municipal Storm Water and Urban Runoff NPDES Permittee
Interested Parties

FROM: **Xavier Swamikannu**
Storm Water Program

DATE: **December 17, 1999**

SUBJECT: **Proposed Standard Urban Storm Water Mitigation Plan and Supporting Regional Board Resolution**

On December 7, the Regional Board Executive Officer transmitted a memorandum with the proposed Standard Urban Storm Water Mitigation Plan package (the Plan). The memorandum stated that the Regional Board would conduct a special meeting on January 6, 2000, to consider the proposed Plan and a tentative resolution to approve it. The Board Meeting has now been rescheduled to January 26, 2000, and a Public Notice has been sent out notifying the time and location.

Persons wishing to comment on the proposed Plan are invited to submit them in writing to the attention of Dr. Xavier Swamikannu. To be evaluated by Board staff and included in the Board's agenda folder, written comments or testimony on the proposed Plan must be received at the Regional Board's office by January 14, 2000. Comments received after that date will be provided, ex agenda, to the Board for their consideration.

It is expected that many interested parties will wish to speak before the Regional Board on January 26, 2000. In an effort to ensure that the Regional Board is provided with a comprehensive understanding of the concerns associated with this proposal, special arrangements for the presentation of comments are being considered. Specific details on the presentation arrangements for the January 26th Board meeting will be provided in the regular agenda notice. Interested parties are encouraged to contact the Regional Board Executive Officer to suggest consolidation of comments from many parties into a more comprehensive presentation with an extended time limit.

If you represent a Permittee or other interested party, it would be helpful if you would coordinate with other co-interested individuals and notify this office by January 14, 2000, of (1) lead designated speaker; (2) amount of time needed by the lead speaker; and (3) your request for time for additional speakers and the identity of such additional speakers. The Board will announce the amount of time available for the submission of oral comments in this matter and for discussion among the Board members in the formal notice of the Board's agenda. Upon receipt of the above information, the staff will recommend an allotment of time for all interested parties, based upon the information received. Parties who have not submitted the requested information will be provided any remaining time following allotment.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

STAFF REPORT AND RECORD OF DECISION

STANDARD URBAN STORM WATER MITIGATION PLANS

AND

NUMERICAL DESIGN STANDARDS FOR BEST MANAGEMENT PRACTICES

1.0 EXECUTIVE SUMMARY

The Standard Urban Storm Water Mitigation Plan (SUSMP) is a model guidance document for use by builders, land developers, engineers, planners and others to select post-construction Best Management Practices (BMPs) and obtain municipal approval of the urban storm water runoff mitigation plan for projects which fall into selected categories. A proposed SUSMP (December 7, 1999 version) was developed by Regional Board staff and distributed to interested parties.

The proposed SUSMP is designed to ensure that storm water pollution is addressed in one of the most effective ways possible, i.e., by incorporating Best Management Practices (BMPs) in the design phase of new development and redevelopment. It provides for numerical design standards (water quality design standards) to ensure that storm water runoff is managed for water quality concerns in addition to flood protection and that pollutants carried by storm water are retained and not delivered to waterways. Further, two additional categories are being included for storm water control requirements. These categories are, (i) parking lots 5,000 square feet (or with 25 or more parking spaces) and (ii) development of locations discharging to environmentally sensitive areas. The proposed SUSMP also attempts to respond to various concerns by providing a choice of design criteria and incorporating provisions that allow for flexibility thereby recognizing that a single numerical standard may not be appropriate in every case

The proposed SUSMP will require all new development or redevelopment that includes one of the following planning projects to select post-construction treatment BMPs for implementation:

(i) 100+ home subdivision;
(ii) 10-99 home subdivision;
(iii) 100,000+ square-foot commercial development;
(iv) automotive repair facilities;
(v) retail gasoline outlets;
(vi) restaurants;
(vii) parking lots more than 5,000 square feet or more than 25 parking spaces
(viii) hillside located single-family dwelling,
(ix) construction projects in environmentally sensitive areas

Note: The first two categories are combined in the December 7, 1999 proposed SUSMP document.

The Standard Urban Storm Water Mitigation Plan (SUSMP) proposed by the Regional Board staff takes much of the original language offered by the Co-Permittees in their submittal to the Regional Board on August 22, 1999, and consolidates it in a more concise and understandable document without duplication

2.0 STATEMENT OF THE PROBLEM

Water Quality and Storm Water

The water quality impacts of urbanization and urban storm water discharges have been summarized by several recent USEPA reports.[1] Urbanization causes changes in hydrology and increases pollutant loads which adversely impact water quality and impair the beneficial uses of receiving waters. Increases in population density and imperviousness result in changes to stream hydrology including:

(i) increased peak discharges compared to predevelopment levels;
(ii) increased volume of storm water runoff with each storm compared to pre-development levels;
(iii) decreased travel time to reach receiving water; (iv) increased frequency and severity of floods;
(iv) reduced stream flow during prolonged periods of dry weather due to reduced level of infiltration;
(v) increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from chanellization, and
(vi) decrease infiltration and diminish groundwater recharge.

The Los Angeles County municipal storm water management (municipal separate storm sewer system [MS4]) program conducts monitoring to:

(i) quantify mass emissions for pollutants,
(ii) identify critical sources for pollutants of concern in storm water;
(iii) evaluate BMP effectiveness, and
(iv) evaluate receiving water impacts.

The monitoring indicates that instream concentrations of pathogen indicators (fecal coliform and streptococcus), heavy metals (such as Pb, Cu, Zn,) and pesticides (such as diazinon) exceed state and federal water quality criteria.[2] The mass emissions of pollutants to the ocean are significant from the urban Watershed Management Areas (WMAs) such as the Los Angeles River WMA, Ballona Creek WMA, and Coyote Creek WMA with the Los Angeles River WMA

[1] *Storm Water Phase II Report to Congress* (USEPA 1995); *Report to Congress on the Phase II Storm Water Regulations* (USEPA1999); *Coastal Zone Management Measures Guidance* (USEPA 1992)

[2] Los Angeles County 1998-1999 Stormwater Monitoring Report, Los Angeles County Department of Public Works (1999). Data summarizes results of storm water monitoring for the most recent year and the past five years.

providing more than seventy percent of the loadings. Critical sources data for facilities (such as auto-salvage yards, primary metal facilities, and automotive repair shops) showed that total and dissolved heavy metals (Pb, Cu, Zn, and Cd), and total suspended solids (TSS) exceeded state and federal water quality criteria by as much as a hundred times. The results are consistent with a limited term study conducted by the Regional Board to characterize storm water runoff in the Los Angeles region before the issuance of MS4 permits.[3] Storm water runoff data from predominant landuses showed similar patterns. Light-industrial, commercial and transportation landuses showed the highest range of exceedances. A pesticide (diazinon) showed higher ranges from residential landuse. The data for polycyclic aromatic hydrocarbons (PAHs), a known pollutant of concern in urban storm water runoff, is inconclusive but improved analytical methods may yield more definitive results next year. Receiving water impacts studies found that storm water discharges from urban watersheds exhibit toxicity that are attributable to heavy metals. Biosurveys of the sea-bottom showed bioaccumulation of toxicants. Sediment analysis showed higher concentrations of pollutants such as Pb and PAHs than rural watersheds (2 to 4 times higher). In addition, toxicity of dry weather flows was observed with the cause of toxicity undetermined.[4] Previous studies have found chemical concentration of pollutants that exceed state and federal water quality criteria in storm drains flowing to the ocean,[5] and that there are adverse health impacts from swimming near them.[6]

Treatment BMP requirements on new development and redevelopment offer the most cost effective strategy to reduce pollutant loads to surface waters. Retrofit of existing development will be expensive and may be considered on a targeted basis. Studies on the economic impacts of watershed protection indicate that storm water quality management has a positive or at least neutral economic effect while greatly improving the quality of surface waters.[7]

Municipal storm water regulations at 40 CFR 122.26 require that pollutants in storm water be reduced to the maximum extent practicable (MEP). The USEPA's definition is intentionally broad to provide maximum flexibility in MS4 permitting and to and to give municipalities the opportunity to optimize pollutant reductions on a program-to-program basis.[8] The definition of MEP has generally been applied to mean implementation of economically achievable management practices. Because storm water runoff rates can vary from storm to storm, the statistical probabilities of rainfall or runoff events become economically significant and are central to the control of pollutants through cost effective BMPs. Further, it is recommended that

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[3] *Storm Water Runoff in Los Angeles and Ventura Counties, Final Report* (1988), California Regional Water Quality Control Board, Los Angeles, SCCWRP Contribution C292. This study found the highest mean concentrations of pollutants of concern such as heavy metals in the urban watershed rivers and that they contributed significant loads to the ocean.

[4] *Toxicity of Dry Weather Flow from the Santa Monica Bay Watershed*, Bay, S. et al (1996), Bull. Southern California Acad. Sci. 5(1), pp. 33-45. The paper describes preliminary results on dry weather toxicity which have been confirmed by the MS4 monitoring program.

[5] *Chemical Contaminant Release into Santa Monica Bay, Final Report*, American Oceans Campaign , Santa Monica (1993)

[6] *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999), Epidemiology 10: 355-363). The study found higher risks of respiratory and gastrointestinal symptoms from swimmers.

[7] *The Economics of Watershed Protection*, T. Schuler (1999), Center for Watershed Protection, Endicott, MD. The article summarizes nationwide studies to support the statement that watershed planning and storm water management provide positive economic benefits.

[8] Storm Water Phase II Final Rule – Pre-Federal Register Version, p 87 (USEPA 1999). See USEPA's discussion in response to challenges that the definition is sufficiently vague to be deemed adequate notice for purposes of compliance with the regulation.

storm water BMPs be designed to manage both flows and water quality for best performance. [9] It is equally important that treatment BMPs once implemented be routinely maintained.

Financing the MS4 program offers a considerable challenge for municipalities. A proven successful financing mechanism is the establishment of a storm water utility.[10] Utility fees, which are assessed on the property owner based on some estimate of storm water runoff generated for the site, are a predictable and dedicated source of fund. Utility fees can also provide a mechanism to provide incentives to commercial and industrial property owners to reduce impervious surface areas. Such incentives offer flexibility to property owners to choose the better economic option – paying more fees or improvements to reduce runoff from the site.

3.0 REVIEW OF STANDARDS FOR DEVELOPMENT PLANNING

The American Society of Civil Engineers (ASCE) and the Water Environment Federation (WEF) have recommended a numerical BMP design standard for storm water that is derived from a mathematical equation to maximize treatment of runoff volume for water quality based on rainfall/ runoff statistics and which is economically sound (ASCE/ WEF 1998).[11] The maximized treatment volume is cut-off at the point of diminishing returns for rainfall/ runoff frequency. On the basis of this equation the maximized runoff volume for 85 percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inch depending on the imperviousness of the watershed area and the mean rainfall.[12]

Other methods of establishing numerical BMP design standards include: (i) Percent treatment of the annual runoff; (ii) Full treatment of runoff from rainfall event equal to or less than a predetermined size; (iii) Percent reduction in runoff based on a rainfall event of standard size.[13] These numerical design standards have been applied to Development Planning in Puget Sound, WA; Alexandria, VA; Montgomery County, MD; Denver, CO, Orlando, FL and Austin, TX.

The City of Seattle requires that where new development coverage is 750 square feet or more, storm water detention be provided based on a 25 year storm return frequency and a peak discharge rate not to exceed 0.2 cubic foot per second.[14] Additionally, for projects that add more than 9,000 square feet in developmental coverage, the peak drainage water discharge rate is limited to 0.15 cubic feet per second per acre for a two-year storm. The City of Denver requires new residential, commercial, and industrial developments to capture and treat the 80th percentile runoff event. This capture and proper treatment is estimated to remove 80 to 90 percent of the

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[9] *Urban Runoff Pollution – Summary Thoughts* – The State of Practice Today and For the 21st Century. Wat. Sci. Tech. 39(2) pp. 353-360. L.A. Roesner (1999)

[10] *Preliminary Data Summary of Urban Storm Water Best Management Practices* (1999), Report No. EPA-821-R-99-012, USEPA.. The document reviews municipal financing mechanisms and summarizes experience in the U.S. to date.

[11] In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87. WEF, Alexandria, VA; ASCE, Reston, VA. 259 pp. (1998).

[12] Sizing and Design Criteria for Storm Water Treatment Controls, Presentation to California Storm Water Quality Task Force, November 13, 1998, Sacramento, CA. L.A. Roesner, Camp Dresser McKee .

[13] Sizing and Design Criteria for Stormwater Quality Infrastructure, Presentation at California Regional Water Quality Control Board Workshop on Standard Urban Storm Water Mitigation Plans, August 10, 1999, Alhambra, CA., R.A. Brashear, Camp Dresser McKee.

[14] City of Seattle Municipal Code, Chapter 22.802.015 – Storm water, drainage and erosion control requirements.

annual TSS load which is a surrogate measure for heavy metal and petroleum hydrocarbon pollutants.[15]

In the Los Angeles Region, at least three different numerical mitigation measures are in use or have been proposed by a small number of municipalities.

The County of Los Angeles requires that development projects that meet the threshold criteria in the unincorporated area select treatment BMPs that mitigate "runoff generated from each and every storm event of up to and including 0.75 inch rainfall". The point of diminishing return for rainfall treatment for Los Angeles County (Civic Center rainfall record) and the coastal Los Angeles (LAX rainfall records) coincide roughly with 0.75 inch and 1.4 inches.

The City of Santa Monica requires that development projects reduce 20 percent of the projected runoff from a one-inch 24-hour storm using impervious factors based on Los Angeles County flood control benefit assessment[16]. All new parking lots are required to have the capability to treat one inch of precipitation that falls in a 24 hour period. Developers are given the option to pay in lieu fees, to be used for other water quality projects by the City, should the standard be impossible to meet because of limiting considerations.

The City of Calabasas requires that development projects demonstrate an effort to reduce projected runoff by 20 percent from the base 1985 10-year storm basis (approximately 3.5 inches).[17]

Other cities such as Arcadia, Baldwin Park, Cudahy, Culver City, El Monte, Hermosa Beach, Pasadena, Rancho Palos Verdes, Redondo Beach, San Fernando, Sierra Madre, South El Monte, South Gate, Temple City, and West Holywood, while not having formally adopted the numerical design standard of 0.75 inch, have expressed a willingness or have implemented the standard already. These communities express a preference for a simple and easy to recall numerical standard applicable countywide.[18]

Ventura County has proposed draft land development criteria that treatment BMPs be designed for using a unit basin storage volume design based on 70 percent capture of annual runoff and flow based design criteria based on 10 percent of the peak 50 year flow rate from impervious areas.[19]

A few States have already established or are in the process of finalizing numerical standards for sizing storm water post-construction BMPs for new development and significant redevelopment. The State of Maryland has established storm water numerical criteria for water quality of 0.9 to

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[15] Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices, Urban Drainage and Flood Control District, Denver, CO (1999). Manual provides detail design criteria for new development for the Denver Metropolitan area.

[16] City of Santa Monica Municipal Code, Chapter 7.10 – Urban Runoff Pollution (1995). The City of Santa Monica's numerical mitigation measure emphasizes flow reduction of about 0.2 inch of rainfall, which limits options for "treatment".

[17] City of Calabasas Municipal Code, Title 17, Chapter 17.56 – Urban Runoff Pollution Control (1998). The City of Calabasas numerical mitigation measure (0.7 in.) appears to be equivalent to the Los Angeles County measure for unincorporated areas (0.75 in.).

[18] See Letter dated January 18, 2000 from John Hunter & Associates, Consultants for these cities, addressed to Dennis Dickerson, Regional Board Executive Officer

[19] Letter from A. Sheyadayi, Ventura Countywide Stormwater Quality Management Program to X. Swamikannu (September 13, 1999) with attachment. 'Stormwater Treatment: A Design Approach for Volumetric and Flow Based Best Management Practices', J. Endicott *et al.*

1 inch and BMP design standards in a unified approach combining water quality, stream erosion potential reduction, groundwater recharge, and flood control objectives.[20] The State of Florida has used numerical criteria to require treatment of storm water from new development since 1982 including BMPs sized for 80 percent (95 percent for impaired waters) reduction in annual total suspended solids load derived from the 90 percent (or greater for impaired waters) annual runoff treatment volume method for water quality.[21] The State of Washington has proposed at least six different approaches of establishing storm water numerical mitigation criteria for new development which add 10,000 square feet of impervious surface or more for residential development and 5,000 square feet of impervious surface or more for other types of development[22]. The mitigation criteria options include the 90th percentile 24-hour rainfall event and the six month 24 hour rainfall event.

On a national level, the USEPA is planning to standardize minimum BMP design and performance criteria for post-construction BMPs under Title III of the Clean Water Act and will likely build from the experience of effective state and local programs to establish national criteria.[23] The USEPA, based on the National Urban Runoff Program, supports the first half-inch of rainfall as generating first flush runoff.[24] First flush runoff is associated with the highest pollutant concentrations, and not pollutant load. The USEPA considers the first flush treatment method, the rainfall volume method, and the runoff capture volume method as common approaches for sizing of water quality BMPs.

4.0 NEW DEVELOPMENT REQUIREMENTS BACKGROUND

Los Angeles County and municipalities within the County (except the City of Long Beach) implement a municipal storm water program to reduce storm water and urban runoff pollution under the requirements of Board Order No. 96-054. The City of Long Beach implements a separate municipal storm water program to reduce storm water and urban runoff pollution under Board Order No. 99-060 adopted by the Regional Board on June 30, 1999. The Los Angeles County Municipal Storm Water Permit include requirements that Standard Urban Storm Water Mitigation Plans (SUSMPs) be prepared for priority planning projects and that they include appropriate Best Management Practices (BMPs) and guidelines to reduce pollutants in storm water to the maximum extent practicable (Permit Pt. 2. III.A.) The City of Long Beach municipal separate storm sewer system (MS4) permit includes requirements that make SUSMP provisions adopted by the Regional Board or approved by the Regional Board Executive Officer for Los Angeles County and Cities applicable to its program.

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[20] Maryland Storm Water Design Manual - Draft (Maryland Department of the Environment 1998). The Final document is scheduled for publication in January 2000. Changes are mostly in format to improve presentation according to the authors.

[21] Florida Development Manual: A Guide to sound Land and Water Management (Florida Department of Environmental Protection 19xx). The manual describes structural and non-structural construction and post construction BMPs design criteria.

[22] Storm Water Management in Washington State Volumes 1 – 5. Public Review Draft (Washington Department of Ecology 1999). The volumes 1,3 and 5 are most relevant to new development standards and cover Hydrologic and Flow Control Designs, Minimum Technical Requirements and Treatment BMPs. The volumes will be adopted as statewide standards in early 2000 after completion of public hearings according to the agency.

[23] Storm Water Phase II Final Rule – Pre-Federal Register Version, p 53 (USEPA 1999). See USEPA's discussion on construction and post-construction BMP requirements for Phase II.

[24] A Watershed Approach to Urban Runoff: Handbook for Decisionmakers, Terene Institute and USEPA Region 5 (1996). See discussion on sizing rules for water quality purposes, p 36.

On April 22, 1999, the Regional Board approved a List of BMPs for MS4 Co-Permittees to select from and require implementation of the most effective BMPs in their Development Planning and Development Construction programs (Board Resolution No. 99-03). The Regional Board at that time also requested that the SUSMPs for Priority Planning Project categories, which incorporate the BMPs, be brought to it for discussion.

Los Angeles County Department of Public Works (LACDPW), on behalf of the Co-Permittees, submitted SUSMPs for Regional Board Executive Officer approval on July 22, 1999. These SUSMPs were revised and resubmitted on August 12, 1999, after a joint SUSMP workshop held on August 10, 1999, to clarify the meaning of some text. SUSMPs have been submitted for: (i) 100+ home subdivisions; (ii) 10-99 home subdivisions; (iii) 100+ square-foot commercial developments; (iv) automotive repair facilities; (v) retail gasoline outlets; (vi) restaurants; and (vii) hillside located single-family dwellings. Prior to submittal to the Regional Board, draft versions of the SUSMPs were distributed to environmental groups, contractors, developers, consultants and trade industry groups for review and comment.

The SUSMP requirements within this proposal for the Los Angeles County storm water program, will apply to the City of Long Beach MS4 permit for the following categories only: (i) 10-99 home subdivisions; (ii) 100 or more subdivisions; (iii) 100,000 or more square foot commercial developments; and (iv) projects located adjacent to or discharging to environmentally sensitive areas.

For (i) restaurents; (ii) retail gasoline outlets; and (iii) automotive repair facilities, it is expected that the City of Long Beach will require post construction BMPs to meet the numerical design standard approved by the Regional Board. The City of Long Beach MS4 permit does not require that SUSMPs be prepared for these categories, since the requirements are contained in the City of Long Beach Storm Water Management Program.

The Long Beach MS4 permit requires that the City conduct a parking lot-study (with ten or more spaces) to characterize and evaluate storm water runoff pollution and mitigation and submit a report in July 2000. It is expected that the City of Long Beach parking lot study will consider any requirements approved by the Regional Board for parking-lots, including treatment control BMPs based on a numerical design standard.

The Regional Board provided Public Notice on August 16, 1999, of proposed action on the SUSMP and proposed discussion on September 16, 1999, before the Board and invited comments from interested parties. Comments were received from municipalities, environmental groups, businesses, environmental consultants, and the building industry.

These comments are summarized in "Comments and Response" included in the Record of Decision and was part of the package mailed out with the notice of proposed action for the January 6, 2000, Board meeting.

5.0 STANDARD URBAN STORM WATER MITIGATION PLANS (SUSMPS)

LACDPW and its Co-Permittees submitted for approval by the Executive Officer, SUSMPs for: (i) 100+ home subdivisions; (ii) 10-99 home subdivisions; (iii) 100+ square-foot commercial developments; (iv) automotive repair facilities; (v) retail gasoline outlets; (vi) restaurants; and (vii) hillside located single-family dwellings.

Post-construction BMPs to be selected include: Structural Control BMPs, Treatment Control BMPs, And Source Control BMPs. The list of treatment control BMPs includes (i) vegetated swales and strips; (ii) extended/ dry detention basins; (iii) infiltration basins; (iv) infiltration trenches; (v) wet ponds; (vi) constructed wetlands; (vii) oil/water separators; (viii) catch-basin inserts; (ix) storm drain inserts; (x) media filtration; (xi) bioretention; (xii) dry wells; (xiii) cisterns; and (xiv) foundation planting.

As submitted, the SUSMPs for the 100+ home subdivision, the 10-99 home subdivision, and 100+ square-foot commercial development categories included requirements that storm water runoff be mitigation with source control and treatment control BMPs. The SUSMPs for automotive repair facilities; retail gasoline outlets; restaurants; and hillside located single-family dwellings required only source control BMPs. No numerical design criteria were included. A 0.6-inch 24-hour rainfall criterion that was in earlier drafts of the document and circulated to Co-Permittees and interested parties for comment was deleted from the Co-Permittee's SUSMP proposal submitted to the Regional Board.

6.0 STAFF PROPOSED SUSMP IMPROVEMENTS

At the Regional Board meeting held on September 16th, the only significant difference between the staff's proposal and that of the Co-Permittee's was the inclusion of a numerical design standard for the sizing of Best Management Practices. Without including a specific design standard in the SUSMP proposal, staff hold that the SUSMPs would be left without a key provision that would ensure that BMPs would be utilized in the most effective manner as directed by the Regional Board in its April 1999 approval of the List of Best Management Practices for New Development.

With action on the SUSMP proposal delayed following the September 16, 1999 Regional Board meeting, staff were able to develop a more refined proposal that would build in additional flexibility for Co-Permittees. On December 7, 1999, staff released a revised proposal for public review and comment.

The December 7th SUSMP proposal is a substantial revision to that which was before the Board on September 16th. Much of the language of the original SUSMP proposal submitted by the Co-Permittees remains. The following revisions to the original language (not all of the revisions made are discussed herein) represent the most significant differences between the August 1999 Co-Permittee submittal and the December 7th staff proposal:

Consolidation of Text

The August proposal contained much text that was redundant by replicating language for each individual SUSMP category. This redundant language has been consolidated in a section that applies a set of SUSMP requirements to all SUSMP categories. In addition, the two categories for residential developments have now been consolidated into one category.

Numerical Design Standard

As before the Regional Board in September, the December 7th staff proposal includes numerical design criteria for BMP. Four different numerical design criteria for BMPs have been provided while essentially retaining the technical basis of the September 7 staff proposal for numerical design standards for treatment control BMPs.

As presented in the December 7th document, the post-construction treatment BMPs shall be designed to:

A. mitigate (infiltrate or treat) storm water runoff from either:

1. each runoff event up to and including the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

2. the annual runoff volume, based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or

3. the volume of runoff produced from each and every storm event up to and including 0.75 inch of rainfall, prior to its discharge to a storm water conveyance system, or

4. the volume of runoff produced from each and every storm event up to and including a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event,

AND

B. control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency.

Significantly, the December 7th staff proposal contains a provision that allows BMPs to not be sized to include runoff from roof structures under certain conditions. These conditions include ensuring that the runoff from the roof surface is directed to a storm drain system prior to allowing any commingling with other surface runoff that may be carrying contaminants. Additionally, the runoff from the roof area should not itself be contaminated. Allowance of a roof runoff exemption allows for BMPs to be designed for a smaller amount of runoff thereby resulting in a smaller structural BMP and less initial construction and maintenance costs.

In addition, staff has recognized that flow considerations may be significant in the design of certain BMPs (such as catch-basin inserts). However, limited analyses exist at this time of flow rate and rainfall intensity statistics for water quality design. Thus staff has provided a general provision, determined by the local agency, to control peak flow discharge to avoid stream channel erosion and over-bank flooding only. Flow rate criteria for flow sensitive BMPs will need to be developed in the future.

Additionally, restaurants involving land area of 5,000 square feet or less are excluded from the numerical design standard.

Definition of Hillsides

The December 7th proposal attempted to provide clarity to the definition of "Hillside" for consistent interpretation. However, the definition in the December 7th proposal was defined broadly and requires modification. A Change Sheet will be offered to modify the definition as property located in an area with known erosive soil conditions, where the development would involve regulated grading on any natural slope that is 25 percent or greater.

Redevelopment Threshold

Comments have suggested the need for a trigger threshold to the definition of 'Redevelopment' for SUSMP requirements to become applicable. A Change Sheet will provide a revision for the definition of "Redevelopment" which will provide that "on an already developed site, the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure". This change ensures that minor modifications to existing structures or properties do not unintentionally trigger SUSMP requirements.

Parking Lots

A new category subject to SUSMPs "Parking Lots" was added. Parking lots with daily vehicular traffic produce pollutants such as heavy metals, oil and grease, and petroleum hydrocarbons from vehicle drippings and engine system leaks. Studies in the Los Angeles area conducted on the quality of storm water from parking lots indicate that the concentration of the pollutants often exceed water quality criteria.[25] These results affirm studies, conducted by some business groups included in the priority-planning category, which demonstrate that pollution from commercial parking lots is similar.[26]

The Los Angeles municipal storm water permit currently includes requirements for parking lots with the threshold condition of 25 or more parking spaces (equivalent to 5,000 square feet of surface area).[27] Separately, the Long Beach municipal storm water permit includes a special study provision to characterize pollution and evaluate controls for parking lots with 10 or more spaces. It is expected that the Long Beach parking lot study will develop additional information on controls necessary, if any, for these smaller (10-25 space) parking lots.

Comments received have suggested that the staff's original intent with respect to this provision were unclear. A Change Sheet will clarify staff's intent that this requirement be applied only to commercial "stand alone" parking lots, i.e., parking lots that are not associated with small commercial developments.

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[25] *Santa Monica Bay Area Municipal Storm Water/ Urban Runoff Pilot Project Studies: Evaluation of Potential Catchbasin Retrofits*, Santa Monica Bay Cities Consortium (1998); and *Consent Decree Report: Strip Filter*, City of Los Angeles, Stormwater Management Division (1999), these studies characterized parking lot storm water runoff from areas 10,000 -150,000 square feet and evaluated BMP pollutant removal effectiveness.

[26] *Results of a Retail Gasoline Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute (1994). The study simulated runoff and found that pollutant concentrations from commercial parking lots and gas stations are similar.

[27] Board Order No. 96-054, Pt. 2. 1.E.1.a.ix. The Los Angeles permit requires that Permittees have the legal authority to require sweeping or other equally efective measures to remove debris from industrial commercial motor vehicle parking lots with more than 25 parking spaces.

Environmentally Sensitive Areas

The new category of Environmentally Sensitive Areas was added subject to SUSMPs. Urban storm water discharges that contribute pollutants to areas designated as environmentally significant or environmentally sensitive may adversely impact the ecology that has been designated for protection under state, federal and local laws.

Comments have been received that draw attention to the fact that many different provisions of law, regulation, and guidance define a variety of environmentally sensitive areas that, taken together, may result in the application of SUSMP criteria to an inherently vague definition leading to application of that criteria in situations where it was not intended. The staff proposal's definition requires careful review to ensure that it is defined to reflect Regional Board direction and regulatory clarity. A Change Sheet will address comments received. Some considerations in crafting a definition follow:

Under the federal Endangered Species Act (ESA) agency actions must not jeopardize the existence of listed species or modification of a critical habitat.[28] The Regional Board has a responsibility, as the implementing agency for a federal regulation, to ensure that its actions be consistent with the ESA. Applicability of the requirement to develop a SUSMP has been limited to areas designated as environmentally sensitive or significant by the State Water Resources Control Board, the State Resources Agency, and the County of Los Angeles. The Long Beach municipal storm water permit already requires SUSMP for development in locations discharging to environmentally sensitive areas.[29]

The California Coast Act (CA) Section 30116 defines sensitive coastal resource areas as: "Those identifiable and geographically bounded land and water areas within the coastal zone of vital interest and sensitivity. "Sensitive coastal resource areas" include the following:

(a) special marine and land habitat areas, wetlands, lagoons and estuaries as mapped and designated in part 4 of the coastal plan
(b) areas possessing significant recreational value
(c) highly scenic areas
(d) archaeological sites referenced in the California coastline and recreation plan or as designated by the state historic preservation officer
(e) special communities or neighborhoods which are significant visitor destination areas.
(f) areas that provide existing coastal housing or recreation opportunities for low and moderate income persons.
(g) areas where divisions of land could substantially impair or restrict coastal access."

The Los Angeles County General Plan identifies Ecologically Significant Habitat Areas (ESHAs). Areas in Los Angeles County that are ecologically sensitive were first identified in the early 1970s by a court decision (the Judge Thomas decision) and subsequently modified based

[28] 62 *Fed. Reg.* 7872. The USEPA states in the preamble to the reissuance of NPDES general permits for storm water discharges from construction activities, that prohibition in the Endangered Species Act on harmful agency actions are binding on it, other federal agencies, permittees, and the public at large. EPA writes, "Federal agencies are required to consult with the Fish and Wildlife Service or the National Marine Fisheries Service to ensure that any action authorized, funded, or carried out by them are not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat."

[29] Board Order No. 99-060, Pt. 4. 1.D.5. The Long Beach municipal storm water permit states that, "the Standard Urban Storm Water Mitigation Plan [shall] be prepared for...(d) environmentally sensitive areas."

on "the England and Nelson Study" conducted by the Museum of Natural History for the Los Angeles County Department of Regional Planning ((Los Angeles County Significant Ecological Areas Study,1976). Subsequent modifications have been conducted on a case by case basis. These areas are designated Ecological Significant Areas (SEAs) and include all ESHAs.

Sensitive resources include streams and wetlands, but also some upland areas such as oak woodlands coastal sage scrub and certain desert habitat. The Coastal Act protects SEAs, streams and wetlands. The term "sensitive resource areas" include these areas. The coastal act defines an ESHA as an area in which the habitat is rare or especially valuable.

Retail Gasoline Outlets

At present, most retail gasoline outlets are operated as fueling facilities only. Automotive repair activities are no longer conducted on these sites. Consistent with this trend, the BMP requirements for retail gasoline outlet with fueling services only have been limited to guidelines in, *Best Management Practices Guide: Retail Gasoline Outlets*, California Stormwater Quality Task Force (1997). Where a retail gasoline outlet provides fueling services and operates a service bay for automotive repair, BMP requirements to reduce storm water pollution from vehicle repair/ maintenance activities would also apply.

Conflicts with Local Practices

Language has been included to allow changes to provisions in the SUSMP if there is conflict with established local codes, if the modification would not otherwise defeat or circumvent the intent of the SUSMP requirements. This provision of the SUSMP enables municipalities to make changes to the SUSMP to be consistent with local codes and practices without prior approval of the Regional Board Executive Officer where the change has little bearing on SUSMP requirements to reduce storm water pollution.

Provision of Waiver

A waiver provision has been included in the SUSMP to enable municipalities to afford developers and builders the option of in lieu fees where "Impracticability" of storm water treatment can be established. Recognized situations of "Impracticability" include, (i) extreme limitations of space for treatment; (ii) unfavorable or unstable soil conditions for infiltration; and (iii) presumptive risk of groundwater contamination because an underground drinking water source or potential drinking water source is less than ten feet from soil surface.

As proposed, a waiver granted by a municipality for any project is revocable by the Regional Board Executive Officer for cause and with proper notice upon petition. Along with the waiver option is a requirement that the municipality, in turn, require that the cost savings of not implementing SUSMPs be transferred to a storm water mitigation fund, designated by the municipality, to be used to promote regional or alternative solutions for storm water pollution control. A public agency or a non-profit entity must operate the storm water pollution control project. Any other generic basis of 'Impracticability", other than the three listed above, must be submitted by the Co-Permittee to the Regional Board and approved by the Executive Officer before it can take effect. The purpose of the waiver is to provide an alternative for individual projects where storm water treatment is infeasible, while ensuring that storm water pollution control efforts are not obviated by the grant of waiver.

Groundwater Resource Protection

The SUSMP explicitly recognizes that in some circumstances, infiltration BMPs, may not be appropriate because of the risk of contamination of groundwater resources. It identifies the factors that determine potential for groundwater contamination. These are, (i) pollutant mobility; (ii) pollutant abundance in storm water, and (iii) soluble fraction of pollutant. A reference for further information on how to evaluate limitations and potential risk is provided, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94/051, USEPA (1994).*

Alternative Certification Option

The SUSMP includes a provision that authorizes municipalities, in lieu of conducting a detailed plan review, to accept a signed certification by a registered engineer or a licensed architect that the urban storm water mitigation plan submitted by the project proponent meets BMP criteria described in the SUSMP. As initially proposed in the December 7th SUSMP document, the registered engineer or licensed architect was to provide evidence that the certifying person has undergone training on designing BMPs to meet the numerical mitigation criteria and other conditions in the SUSMP not more than two years prior to the signature date on the plan. The training on SUSMP and BMP design criteria may be conducted by any institution with the relevant expertise. Some such institutions are universities, the American Society of Civil Engineers (ASCE), the American Public Works Association (APWA), the American Society of Landscape Architects (ASLA), and the California Water Environment Association (CWEA). The purpose of the provision was to provide an option for municipalities to limit resource demands on planning departments, without reducing storm water quality protection objective of the SUSMP. While the concept remains desirable, staff will propose a modification that encourages, rather than require, Co-Permittees who elect to accept certifications from registered professional engineers and licensed architects, to verify that the certifying person has been trained, by an institution with expertise, on design of BMPs for water quality.

7.0 SAMPLE APPLICATION OF THE NUMERICAL MITIGATION MEASURE

After the Regional Board Executive Officer approves the SUSMP, municipalities will be expected to implement an urban storm water mitigation plan approval program. The municipality must require that projects that meet the criteria established in the permit and SUSMP prepare and submit an Urban Storm Water Mitigation Plan for approval. Project proponents must identify in the Plan post-construction treatment control BMPs for implementation. The treatment control BMP(s) must be sized or designed to treat the volume/ flow of storm water produced by rainfall events up to and including the design storm (numerical design criteria).

The project proponent will select source control and treatment control BMP(s) from the list approved by the Regional Board in Board Resolution No. 99-03, and included in the SUSMP. For example, for a 100+ home sub-division project, these may include swales (for the parkway); infiltration basin at the end of swale; biofilters (around parking lots); green belts (between rear yards); detention basin (as a lake); and catch-basin basket inserts (for trash). In combination, these treatment control BMPs must be sufficiently sized, i.e., designed and constructed, to treat, infiltrate, or filter the first 0.75 inch of storm water runoff from a storm or a storm event. The urban storm water mitigation plan will specify the treatment control BMPs and other source control BMPs that will be built into the project.

The municipality could then review the Urban Storm Water Mitigation Plan to make sure that it meets the requirements of the SUSMP for the project type. If the SUSMP requirements are met, the municipality may approve the project to proceed. As an alternative, the municipality, may in lieu of detailed plan checking, accept signed certification by a registered engineer or a licensed architect. The municipality may require that the certifying person provide evidence of undergoing training for BMP water quality sizing and other plan requirements. For example, training conducted by institutions with BMP water quality design expertise, within two years of the plan signature date, may be considered qualifying.

Alternatively, if the project proponent can demonstrate that construction of treatment control BMPs are impracticable the municipality may authorize the project proponent to transfer equivalent funds to alternative BMP projects to control storm water pollution managed by a public or non-profit agency. Some examples of recognized situations of impracticability are unstable soil conditions, shallow groundwater, or extreme limitations of space.

8.0 LEGAL AND REGULATORY BASIS FOR ACTION[30]

Regional Board Authority to Adopt the Proposed SUSMP.

The Regional Board has the authority to adopt the proposed SUSMP and numerical mitigation standards for new development and significant redevelopment. Regional Board Order No. 96-054 ("Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles") requires that each of the Permittees develop an Urban Storm Water Mitigation Plan following the model approved by the Executive Officer.[31]The proposed action would adopt the model, or Standard Storm Water Mitigation Plan for the Co-Permittees to follow.

Although Order No. 96-054 provides that the Regional Board Executive Officer has authority to approve the model program, as proposed, the current proposal is being submitted to the Board itself for review and endorsement at an upcoming meeting. Following consideration by the Board, the Executive Officer would proceed to approve the SUSMP for Los Angeles County Co-Permittees. In addition, the proposal would make the SUSMP applicable to the City of Long Beach. This is required because the City of Long Beach has a storm water permit (Order No. 99-060 separate from the one applicable to other cities in the County.

The proposed SUSMP would require, *inter alia,* that (a) post-construction treatment control BMPs be required for nine categories of development and (b) the BMPs be designed to mitigate (treat or infiltrate) the runoff from all storms up to 0.75 inch of rainfall for 24-hour period or equivalent runoff volume. These requirements are based upon application of provisions of the Clean Water Act (CWA), section 402(p) and the 1987 Amendments to the CWA. The federal provisions require that a storm water program:

> "* * *
>
> (ii) Shall include a requirement to effectively prohibit non-storm water discharges into storm sewers; and

[30] Section 8.0 was prepared by the Regional Board's Legal Counsel, Mr. Jorge Leon

[31] Los Angeles Municipal Permit, (Part III.A., at Page 31.)

(iii) Shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." [Section 402(p)(3)(B), USC Section 1342(p)(3)(B), emphasis added.]

The proposal is an effort to meet the CWA requirements. In a 1992 decision, the U.S. Court of Appeals for the Ninth Circuit (NRDC *v.* U.S. U.S. EPA, 966 F.2d 1292) interpreted the above language as providing the Administrator or the State with a substantial amount of discretion:

> "[t]he language in (iii), above, requires the Administrator or the State to design controls. Congress did not mandate a minimum standards approach or specify that U.S. EPA develop minimal performance requirements...we must defer to U.S. EPA on matters such as this, where U.S. EPA has supplied a reasoned explanation of its choices."

The decision, sometimes referred to as "NRDC II," stands for the proposition that the U.S. EPA and the States are authorized to require implementation of storm water control activities that, upon "reasoned explanation," accomplish the goals of Section 402(p).

In a very recent decision, the Ninth circuit Court of Appeals reinforced the U.S. EPA's and the State's authority in this area. In Defenders of Wildlife *v.* Browner (1999) Case No. 98-71080, the Ninth Circuit Court of Appeals reviewed an action of the U.S. U.S. EPA to adopt a Storm Water Management Program in the State of Arizona. That program included best management practices such as storm water detention basins, retention basins, and infiltration ponds. The question was whether the U.S. EPA may require numeric limitations to ensure strict compliance with the state water-quality standards. The Court concluded that the CWA does not require strict compliance; however, citing the language of (iii), above, it stated: "[t]hat provision gives the U.S. EPA discretion to determine what pollution controls are appropriate. As this court stated in NRDC II, 'Congress gave the administrator discretion to determine what controls are necessary...[cites omitted] (at page 11687).

The SUSMP proposal is an effort to meet the CWA Section 402(p) requirements and the staff has provided a "reasoned explanation of its choices" in the SUSMP proposal, the staff report, and the accompanying materials. Accordingly, the proposed SUSMP requirements are well within the Regional Board's authority and discretion.

Process under Order 96-054.

The Executive Advisory Committee of the Storm Water Program for Los Angeles County has suggested that the present process, by which the Regional Board will consider endorsement of a storm water program, violates the model program adoption process as set out in Order 96-054.

The argument relies heavily on a premise that the Permit process provides significant notice, review and meet-and-confer protections that will benefit the Co-Permittees. The comment accurately sets forth the storm water program submittal, review, and approval provisions as set forth in Order No. 96-054. However, those provisions must be considered in their full context, including, significantly, the deadline set forth in the permit for implementation. That deadline (July 30, 1999) has come and gone. Because of the lapse of the deadline, the lack of

countywide implementation of an effective SUSMP, and the impending expiration of Order No. 96-054 itself, the process prescribed in the permit is now obsolete.

The process now proposed by the Executive Officer would expedite implementation of an effective SUSMP while still effectively providing the protections to the Co-Permittees provided under the Order's scheme. That is, while the proposed process differs from that set forth in Order No. 96-054, it creates no actual prejudice to the Co-Permittees. None is described in the Executive Advisory Committee's (EAC) comment letter of December 22, 1999. To the contrary, in order to provide for program submittal, review, and meet-and-confer, the Executive Officer and staff have held numerous discussions with the Co-Permittees, the County and the EAC regarding the SUSMP proposal, including a workshop held August 10, 1999 and the discussion before the Regional Board itself of September 16, 1999. During these discussions, several proposals have been exchanged between the staff and the interested parties and the record in this matter now contains a substantial number of comments and responses.

Significantly, the Executive Officer's proposal has the endorsement of the U.S. EPA.[32] Moveover, as a further consideration, the U.S. EPA's October, 1999 "NPDES Program Implementation Review" for this region was critical of the process set forth in Order 96-054 for model program approval.[33]

The unfortunate effect of adopting the EAC's argument to adhere at this time to the scheme laid out in Order 96-054 would be to further seriously delay implementation of the SUSMP without providing any real additional procedural protections to the Co-Permittees. It would also expose the Regional Board to court action for failure to timely move toward program implementation.

Given the circumstances of this matter, the fact that a change of process has not deprived the Co-Permittees of any opportunity to discuss the SUSMP provisions and propose alternatives or any other protections, and the fact that the Regional Board's primary responsibility is to protect the water quality in the Region (Water Code Section 13000), the Board may, within its legal discretion, determine that the best way to do so in the municipal storm water context, is to proceed with the SUSMP proposal under the process presented by staff, rather than delay program implementation.

Compliance with the California Environmental Quality Act.

The City of Los Angeles has requested the "Regional Board's analysis of the potential multi-media environmental impacts from the proposed requirement "(i.e. the California Environmental Quality Act documentation and supporting information developed for this specific discretionary regulatory action." The proposed action is a requirement of Order No. 96-054. The issuance of the order itself, and the requirements contained in the order, is exempt from CEQA (Water Code Section 13389). Accordingly, no specific CEQA documentation has been prepared for this proposal. Nonetheless, the staff has prepared preliminary cost-benefit analyses contained in the supporting material, and these can be provided.

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[32] See Letter of January 13, 2000 to Dennis Dickerson, Executive Officer from Alexis Strauss, Director, Water Division, U.S. EPA.

[33] See NPDES Program Implementation Review: California Regional Water Quality Control Board 4, Los Angeles Region. USEPA, Region 9, Final Report – October 1999., at page 10 of 45. The report notes at page 28 that the process was "...hindering overall progress towards achieving permit objectives".

Notice Sufficiency

A party commented that insufficient notice has been provided to the public regarding this matter. An earlier version of the SUSMP proposal was issued to the public in August 1999 and a public workshop was held on August 10, 1999. Additionally, this matter was heard before the Regional Board during a discussion at its September 16, 1999 meeting. While the only applicable legal notice requirement is 10 days (Govt. Code Section 11125), the Regional Board staff has provided 30 days public notice of the revised version that is currently scheduled to be heard by the Board at its January 26, 2000 meeting. This constitutes adequate legal notice.

Implementation Date.

Order No. 96-054 contemplates that implementation of the SUSMP requirements commence no later that July 30, 1999. Since that date has passed, a new implementation date must be determined following approval of the SUSMP by the Executive Officer. There is no legal standard upon which to base a new implementation date. The Executive Officer is free to establish a revised implementation schedule. Inasmuch as the municipalities will likely be required to adopt or amend existing ordinances to require compliance with the SUSMPS, a new implementation date should take that need into account. I recommendation that the Co-Prmittees be requested to submit comments on this issue and that the Board consider alternatives proposed.

Unfunded Mandate.

The requirements of the proposed SUSMP are not within the definition of "Unfunded Mandates" that would require reimbursement of costs under the California Constitution. This is because the requirements of the SUSMP are derived from the federal Clean Water Act, not from State Law. Inasmuch as the Regional Board staff's proposal would implement a federal requirement, rather than a state requirement, the SUSMP are not unfunded mandates.

Compliance With the Administrative Procedure Act.

The EAC argues that the proposed SUSMP constitutes rulemaking, in violation of the California Administrative Procedure Act, Government Code Section 11340 et.seq. The EAC's objection to the model program adoption process comes approximately three and a half years beyond the legal statute of limitations (Water Code Section 13320 provides 30 days for an aggrieved person to petition for review of a Regional Board action). The model programs provision, contained in Order No. The Regional Board adopted Order No. 96-054, on July 15, 1996. The argument is not only grossly untimely, it is also incorrect. The APA requirements apply only to rulemaking activities. Contrary to the EAC's assertion, the proposed action is not "rulemaking" in nature. Rather, it is the identification of further requirements set forth in permit Order No. 96-054. Under the APA itself, the issuance of such permits is not subject to the rulemaking requirements of the APA (Government Code Section 11352(b).

9.0 RECOMMENDATION

Staff has reviewed the state of current technical practice and the regulatory authority vested with the Regional Board to direct implementation of actions to reduce pollutants in storm water. The municipal storm water program for Los Angeles County and cities is in its ninth year of implementation. The municipal storm water program has been widely criticized as being

ineffective and there have been delays in achieving implementation of all facets of the 1996 permit requirements.[34] Some cities have adopted programs embracing many of the elements of the SUSMP program as proposed, including the numerical design criteria, and the County is using the 0.75 inch design standard (as a result of its own determination of the appropriateness of that value in reaching an accord regarding litigation settlement).

In view of 1) the legal authority of the Regional Board; 2) the practice already in place in a substantial portion of the County; and 3) the need to address the contribution of pollutants from storm water runoff; it is appropriate for the Regional Board to establish numerical design criteria for treatment BMPs for priority development projects. While the staff proposal cites a 0.75 inch standard, the specific design standard to be adopted and a schedule for its implementation remain matters which are within the discretion of the Regional Board.

Staff further recommends that the Regional Board adopt the numerical BMP design standard in the SUSMP as the minimum standard of review for post-construction BMPs, in the Los Angeles Region, for projects subject to coverage under the state general permit for storm water discharges associated with construction activity.

Regional Board staff recommends that the Regional Board endorse the December 7, 1999 staff proposal for SUSMPs with appropriate changes as included in the Change Sheet to be available at the Board meeting, and/or as modified and directed by the Regional Board. Comments are being received as this staff report is being developed and the Change Sheet to be submitted to the Board will likely include revisions based on comments received after the date of this Report.

[34] Runoff Remedies will be Complex, Costly, Los Angeles Times, September 6, 1999. M. Cone.

California Regional Water Quality Control Board

Los Angeles Region

Winston H. Hickox
Secretary for Environmental Protection

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Gray Davis
Governor

TO: Los Angeles County Municipal Storm Water and Urban Runoff NPDES Permittees
Long Beach Municipal Storm Water and Urban Runoff NPDES Permittees
Interested Parties

FROM: Dennis A. Dickerson
Executive Officer

DATE: December 7, 1999

SUBJECT: Proposed Standard Urban Storm Water Mitigation Plan and Supporting Regional Board Resolution

On September 16th, at the Regional Board meeting, I advised the Regional Board that additional time to develop a revised Standard Urban Storm Water Mitigation Plan proposal would be in the best interest to ensure that the proposal were more fully documented and supported by the record. At that time, I indicated that Regional Board staff would develop a revised proposal at the earliest opportunity but probably not less than 90 days later. This proposal has been developed and is being noticed through this memorandum to Permittees and Interested Parties. The proposal is also being mailed and placed on the Regional Board's Internet website.

The proposed Standard Urban Storm Water Mitigation Plan is designed to ensure that storm water pollution is addressed in one of the most effective ways possible, i.e., by incorporating Best Management Practices (BMPs) in the design phase of new development and redevelopment. The proposal also provides for numerical design standards to ensure that storm water runoff is managed for water quality concerns in addition to flood protection and that pollutants carried by storm water are retained and not delivered to waterways.

The proposed Standard Urban Storm Water Mitigation Plan adds two additional categories for controls, parking lots and environmentally sensitive areas. The proposal also attempts to respond to various concerns by incorporating provisions that allow for flexibility thereby recognizing that a single numerical standard may not be appropriate in every case. Also, the proposed Standard Urban Storm Water Mitigation Plan has taken the original language offered by the Principal Permittee and eliminates much of the duplication allowing for a more concise and understandable document.

A Tentative Resolution is also being offered to the Regional Board for their consideration at the January 6, 2000 Board Meeting. This Tentative resolution acknowledges the structure of both the Los Angeles and Long Beach Municipal Storm Water Permits by allowing the Standard Urban Storm Water Mitigation Plan approval to be accomplished by the Executive Officer for the Los Angeles permit while the Regional Board itself would approve the Standard Urban Storm Water Mitigation Plan pursuant to the City of Long Beach permit. If adopted by the Regional Board, the Tentative resolution would approve the Long Beach Standard Urban Storm Water Mitigation Plan while encouraging the Executive Officer to approve the Los Angeles Standard Urban Storm Water Mitigation Plan. In addition, the Regional Board is being asked to adopt the numerical design standards as the minimum standards for

post-construction BMPs required by the statewide general permit for construction activity for construction projects in the Los Angeles Region.

The September 16, 1999 public hearing was lengthy with many commentors. It is understood that many interested parties will again wish to speak before the Regional Board. In an effort to ensure that the Regional Board is provided with a comprehensive understanding of the concerns associated with this proposal, special arrangements for the presentation of comments are being considered. Specific details on the presentation arrangements for the January 6th Board meeting will be provided in the regular agenda notice. Interested parties are encouraged to contact the Executive Officer to suggest consolidation of comments from many parties into a more comprehensive presentation with an extended time limit.

If you represent a Permittee or other interested party, it would be helpful that by December 20, 1999 you would coordinate with other co-interested individuals and notify this office of (1) lead designated speaker; (2) amount of time needed by the lead speaker; and (3) your request for time for additional speakers and the identity of such additional speakers. The Board will announce the amount of time available for the submission of oral comments in this matter and for discussion among the Board members in the formal notice of the Board's agenda. Upon receipt of the above information, the staff will recommend an allotment of time for all interested parties, based upon the information received. Parties who have not submitted the requested information will be provided any remaining time following allotment.

CC: Regional Board Members

STANDARD URBAN STORM WATER MITIGATION PLAN

FOR LOS ANGELES COUNTY AND CITIES IN LOS ANGELES COUNTY

STANDARD URBAN STORM WATER MITIGATION PLAN

BACKGROUND

The municipal storm water National Pollutant Discharge Elimination System (NPDES) permit (Permit) issued to Los Angeles County and 85 cities (Permittees) by the Los Angeles Regional Water Quality Control Board (Regional Board) on July 15, 1996, requires the development and implementation of a program addressing storm water pollution issues in development planning for private projects. The same requirements are applicable to the City of Long Beach under its separate municipal storm water permit, which was issued on June 30, 1999.

The requirement to implement a program for development planning is based on, federal and state statutes including: Section 402 (p) of the Clean Water Act, Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 ("CZARA"), and the California Water Code. The Clean Water Act amendments of 1987 established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES program. The primary objectives of the municipal storm water program requirements are to:

- Effectively prohibit non-storm water discharges, and
- Reduce the discharge of pollutants from storm water conveyance systems to the Maximum Extent Practicable.

The Standard Urban Storm Water Mitigation Plan (SUSMP) was developed as part of the municipal storm water program to address storm water pollution from new Development and Redevelopment by the private sector. This SUSMP contains a list of the minimum required Best Management Practices (BMPs) that must be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the Permittee and applied generally or on a case by case basis. This SUSMP applies to projects that are Priority Projects (Discretionary Projects) as defined by the NPDES Permit. The Permittees are required to use this SUSMP to develop their own citywide SUSMP. Developers must incorporate appropriate SUSMP requirements into their project plans. Each Permittee will approve an Urban Storm Water Mitigation Plan as part of the development process and prior to issuing building and grading permits for the projects covered by the SUSMP requirements.

Discretionary projects, that fall into one of seven categories are identified in the NPDES Permit

as requiring SUSMPs. These categories are:

Single-Family Hillside Residences
100,000 Square Foot Commercial Developments
Automotive Repair Shops
Retail Gasoline Outlets
Restaurants
Home Subdivisions with >10 housing units*

* (Note: this category is two separate categories in the NPDES Permit)

The Regional Board Executive Officer has designated two additional categories subject to SUSMP requirements. These categories are:

Location adjacent to or discharging to an environmentally sensitive area, and
Parking lot 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff*

DEFINITIONS

"Greater than (>) 9 unit home subdivision" means any subdivision being developed for 10 or more 10 single-family or multi-family dwelling units.

"100,000 Square Foot Commercial Development" means Developments based on total impermeable area, including parking areas, as opposed to lot size or building footprint.

"Retail Gasoline Outlet" means a facility primarily engaged in selling gasoline and lubricating oils. These establishments frequently sell other merchandise, such as tires, batteries, and automobile parts. Frequently, these establishments also perform minor automotive repair work. Gasoline stations combined with other activities, such as grocery stores, convenience stores, or car wash facilities, are classified according to the primary activity.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope and where grading contemplates cut or fill slopes .

"Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. Exceptions do apply for SIC codes 5013, 5014, and 5541. For SIC code 5013, if the business has no outside storage of any recycled oil or other hazardous substances, it is not included. For SIC code 5014, if the business does not engage in any repair work, it is not included. For SIC code 5541, if the business does not engage in any onsite repair work, it is not included.

"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption. (SIC code 5812)

"Parking Lot" means land area or facility for the parking of commercial or business or private motor vehicles.

"Environmentally Sensitive Area" means an area designated as an Area of Special Biological Significance by the State Water Resources Control Board or an area designated as a Significant Natural Area by the California Resources Agency or an area designated as an area of Ecological Significance by the County of Los Angeles.

"Best Management Practice (BMP)" means any program, technology, process, siting criteria, operational methods or measures, or engineered systems, which when implemented prevent, control, remove, or reduce pollution.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures,, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media adsorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Infiltration" means the downward entry of water into the surface of the soil.

"Directly Connected Impervious Area (DCIA)" means the area covered by pavement, building and other impervious surfaces which drain directly into the storm drain without first flowing across pervious areas (e.g. lawns).

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

Redevelopment" means, on an already developed site, the creation or addition of impervious surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/ or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; land disturbing activities related with structural or impervious surfaces .

Treatment / Structural -

"Discretionary Project" means a project which requires the exercise of judgement or deliberation when the public agency or public body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.

CONFLICTS WITH LOCAL PRACTICES

Where provisions of the SUSMP requirements conflict with established local codes , (e.g., specific language of signage used on storm drain stenciling), the Permittee may continue the local practice and modify the SUSMPs contained herein to be consistent with the code, except where those practices would defeat or circumvent the intent of the SUSMP requirements.

SUSMP PROVISIONS APPLICABLE TO ALL CATEGORIES

REQUIREMENTS

1. PEAK STORM WATER RUNOFF DISCHARGE RATES

Post-development peak storm water runoff discharge rates shall not exceed estimated pre-development levels for developments where an increased peak storm water discharge rate may result in a foreseeable increased potential for downstream erosion.

2. CONSERVE NATURAL AREAS

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Every effort shall be made to concentrate or cluster development on portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and or drought tolerant plants. Wherever practical, promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

3. MINIMIZE STORM WATER POLLUTANTS OF CONCERN

Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the stormwater conveyance system. The development must be designed so as to minimize, to the maximum extent practicable , the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as

approved by the building official. Pollutants of concern, as defined by the Permit, consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at a level high enough to be considered potentially toxic to humans and/or flora and fauna.

In meeting this specific requirement, "minimization of the pollutants of concern" will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in the *California Storm Water Best Management Practices Handbooks*; *Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide*; *Manual for Storm Water Management in Washington State*; *The Maryland Stormwater Design Manual*; *Florida Development Manual: A Guide to Sound Land and Water Management*; and *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* , USEPA Report No. EPA-840-B-92-002, as "likely to have significant impact" beneficial to water quality for targeted pollutants that are of concern at the site in question..

Examples of BMPs that can be used for minimizing the introduction of pollutants of concern generated from site runoff are identified in Table 2. Any BMP not specifically approved by the Regional Board in Resolution No. 99-03, "Approving Best Management Practices for Municipal Storm Water and Urban Runoff Programs in Los Angeles County", for development planning may be used if they have been recommended in one of the above references.

4. PROTECT SLOPES AND CHANNELS

If applicable, project plans must include BMPs consistent with local codes and ordinances to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff:

- Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
- Stabilize permanent channel crossings.
- Vegetate slopes with native or drought tolerant vegetation.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion, with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers and the California Department of Fish and Game

5. PROVIDE STORM DRAIN SYSTEM STENCILING AND SIGNAGE

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the stormwater conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message.

- All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: "NO DUMPING – DRAINS TO OCEAN") and or graphical icons to discourage illegal dumping.
- Signs and prohibitive language and or graphical icons ~~discouraging~~ illegal dumping must be posted at public access points along channels and creeks within the project area. prohibiting
- Legibility of stencils and signs must be maintained.

6. PROPERLY DESIGN OUTDOOR MATERIAL STORAGE AREAS

Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials.

Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the stormwater conveyance system. Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system, the following *structural* BMPs are required:

- Areas where materials are to be stored must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area must be paved and sufficiently impervious to contain leaks and spills.
- Where feasible, the storage area should have a roof or awning to minimize collection of stormwater within the secondary containment area. delete per CoE

7. PROPERLY DESIGN TRASH STORAGE AREAS

A trash storage area refers to an area where a trash receptacle or receptacles are located for use as a repository for solid wastes.

Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas must meet the following *structural BMP* requirements:

- Trash container areas must have drainage from adjoining roofs and pavement diverted around the area(s).
- Trash container areas must be screened or walled to prevent off-site transport of trash.

8. PROVIDE PROOF OF ONGOING BMP MAINTENANCE

Improper maintenance is one of the most common reasons why water quality controls will not function as designed or which may cause the system to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP, and what equipment is required to perform the maintenance properly. As part of project review, if a project applicant has included, or is required to include, treatment control BMPs in project plans, the Permittee shall require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits.

For all properties, this verification will include the developer's signed statement, as part of its project application, accepting responsibility for all structural BMP maintenance until the time the property is transferred and, where applicable, a signed agreement from the public entity assuming responsibility for structural BMP maintenance. This transfer of property must have conditions requiring the recipient to assume responsibility for maintenance of any treatment control BMPs to be included in the sales or lease agreement for that property, and will be the owner's responsibility. For residential properties where the treatment control BMPs are located within a common area which will be maintained by a homeowner's association, language regarding the responsibility for maintenance must be included in the projects conditions, covenants and restrictions (CC&R's). Printed educational materials will be required to accompany the first deed transfer to highlight the existence of the requirement and to provide information on what stormwater management facilities are present, signs that maintenance is needed, how the necessary maintenance can be performed, and assistance that the Permittee can provide. It will also encourage the transfer of this information with subsequent sale of the property.

If treatment control BMPs are located within a public area proposed for transfer, they will be the responsibility of the developer until they are accepted for transfer by the County or other appropriate public agency. Treatment control BMPs proposed for transfer must meet design standards adopted by the public entity for the BMP installed and should be approved by the County or other appropriate public agency prior to its installation.

9. DESIGN STANDARDS FOR TREATMENT CONTROL BMPS

Treatment control BMPs selected for use at any project covered by this SUSMP shall meet the design standards of this Section unless specifically exempted.

Post-construction Treatment Control BMPs shall be designed to:

A. mitigate (infiltrate or treat) storm water runoff from either:

1. each runoff event up to and including the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

2. the volume of annual runoff based on unit basin storage water quality volume, to achieve 85 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial*, (1993), or

3. the volume of runoff produced from each and every storm event up to and including 0.75 inch of rainfall, prior to its discharge to a storm water conveyance system, or

4. the volume of runoff produced from each and every storm event up to and including a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

AND

B. control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency.

The area of roofing surfaces may be excluded from the total area for calculation of rainfall or runoff volume to be treated provided:

a. the roofing materials will not be a source of pollutants of concern in storm water, and

b. storm water from the roofing surfaces is diverted directly to a storm water conveyance system, and

c. roof based exhaust systems, vents, filters, and air pollution control devices will not present a significant source of pollutants of concern in storm water, and

d. the storm water conveyance system does not directly or indirectly discharge to a natural stream or unlined channel or channel segment scheduled for restoration.

Exclusions

Restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the requirements of this Section.

10. PROVISIONS APPLICABLE TO INDIVIDUAL PRIORITY PROJECT CATEGORIES

A. 100,000 SQUARE FOOT COMMERCIAL DEVELOPMENTS

1. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair maintenance bays must be indoors or designed in such a way that doesn't allow storm water runon or contact with storm water runoff.
- Design a repair maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

Vehicle equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, consider including in the project plans an area for washing/steam cleaning of vehicles and equipment. If such an area is included in the site design, it must meet the following:

- This area must be self-contained, covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer.

B. RESTAURANTS

1. PROPERLY DESIGN EQUIPMENT/ACCESSORY WASH AREAS

Outdoor equipment accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must meet the following:

- This area must be self-contained, equipped with a grease trap, and properly connected to a sanitary sewer.
- If this wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer.

C. RETAIL GASOLINE OUTLETS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. The project plans must include the

following BMPs:

- Fuel dispensing areas should be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.
- Fuel dispensing areas must be paved with portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable.
- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

D. AUTOMOTIVE REPAIR SHOPS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. Therefore, design plans, which include fueling areas, must contain the following:

- Fuel dispensing areas should be covered with an overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area.
- Fuel dispensing areas must be paved with portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water.
- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

Vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, consider including in the project plans an area for washing/steam cleaning of vehicles and equipment. If such an area is included in the site design, it must meet the following:

- This area must be self-contained, covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or to a permitted disposal facility.

4. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

E. PARKING LOTS

1. PROPERLY DESIGN PARKING AREA

Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that deposit on these surfaces from motor vehicle traffic. These pollutants are directly transported to surface waters.

- Reduce impervious land coverage of parking areas
- Infiltrate runoff before it reaches storm drain system.
- Treat runoff before it reaches storm drain system

2. PROPERLY DESIGN TO LIMIT OIL AND PERFORM MAINTENANCE

Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks.

- Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces , sports event parking lots, shopping malls, grocery stores, discount warehouse stores)
- Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal, and system fouling and plugging prevention control

11. WAIVER

A Permittee may, through adoption of an ordinance or code inc incorporating the treatment requirements of the SUSMP, provide for a waiver from the requirement if impracticability for a specific property can be established. Recognized situations of impracticability include (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because an underground source of drinking water is less than 10 feet from the soil surface. Any other justification for impracticability must be separately approved by the Regional Board Executive Officer before it becomes recognized and effective. A waiver granted to any development or redevelopment project may be revoked by the Regional Board ~~Executive Officer~~ for cause and with proper notice upon petition.

If a waiver is granted for impracticability, the Permittee must require the project proponent to transfer the savings in cost, as determined by the Permittee, to a storm water mitigation fund to be used to promote regional or alternative solutions for storm water pollution in the storm watershed and operated by a public agency or a non-profit entity.

12. LIMITATION ON USE OF INFILTRATION BMPS

Three factors significantly influence the potential for storm water to contaminate ground water. They are (i) pollutant mobility, (ii) pollutant abundance in storm water, (iii) and soluble fraction of pollutant. The risk of contamination of groundwater may be reduced by pretreatment of storm water. A discussion of limitations and guidance for infiltration practices is contained in, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA 600 R-94/051, USEPA (1994).*

In addition, the distance of the groundwater table from the infiltration BMP may also be a factor determining the risk of contamination. A water table distance separation of ten feet depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic.

Infiltration BMPs are not recommended for areas of industrial activity or areas subject to high vehicular traffic (25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway) unless appropriate pretreatment is provided to ensure groundwater is protected and the infiltration BMP is not rendered ineffective by overload.

13. ALTERNATIVE CERTIFICATION FOR STORM WATER TREATMENT MITIGATION

A Permittee may elect to accept a signed certification that the plan meets the criteria established herein and that the plan preparer has undergone training on designing BMPs to meet the numerical mitigation criteria, in lieu of conducting detailed BMP review to verify treatment control BMP adequacy. The training must have been conducted by an organization with storm

water BMP design expertise (e.g., a University, American Society of Civil Engineers, American Society of Landscape Architects, or the California Water Environment Association) with the training and curriculum accepted by the Regional Board Executive Officer. For the certification to be valid, training must have been received not more than two years prior to the signature date on the plan.

Table 1

SUGGESTED RESOURCES	HOW TO GET A COPY
Start at the Source (1999) by Bay Area Stormwater Management Agencies Association Detailed discussion of permeable pavements and alternative driveway designs presented.	Bay Area Stormwater Management Agencies Association 2101 Webster Street Suite 500 Oakland, CA 510-286-1255
Design of Stormwater Filtering Systems (1996) by Richard A. Claytor and Thomas R. Schuler Presents detailed engineering guidance on ten different stormwater filtering systems.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Better Site Design: A Handbook for Changing Development Rules in Your Community (1998) Presents guidance for different model development alternatives.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Design Manual for Use of Bioretention in Stormwater Management (1993) Presents guidance for designing bioretention facilities.	Prince George's County Watershed Protection Branch 9400 Peppercorn Place, Suite 600 Landover, MD 20785
Operation, Maintenance and Management of Stormwater Management (1997) Provides a thorough look at stormwater practices including, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	Watershed Management Institute, Inc. 410 White Oak Drive Crawfordville, FL 32327 850-926-5310
California Storm Water Best Management Practices Handbooks (1993) for Construction Activity, Municipal, and Industrial/Commercial Presents a description of a large variety of structural and good housekeeping BMPs.	Los Angeles County Department of Public Works Cashiers Office 900 S. Fremont Avenue Alhambra, CA 91803 626-458-6959

TABLE 1 (Continued)

SUGGESTED RESOURCES	HOW TO GET A COPY
Second Nature: Adapting LA's Landscape for Sustainable Living (1999) by Tree People Detailed discussion of BMP designs presented to conserve water, improve water quality, and achieve flood protection.	Tree People 12601 Mullholland Drive Beverly Hills, CA 90210 818-753-4600 (?)
Florida Development Manual: A Guide to Sound Land and Water Management (1988 Presents detailed guidance for designing BMPs	Florida Department of the Environment 2600 Blairstone Road, Mail Station 3570 Tallahassee, FL 32399 850-921-9472
Stormwater Management in Washington State (1999) Vols. 1-5 Presents detailed guidance on BMP design for new development and construction.	Department of Printing State of Washington Department of Ecology P.O. Box 798 Olympia, WA 98507-0798 360-407-7529
Maryland Stormwater Design Manual (1999) Presents guidance for designing storm water BMPs.	Maryland Department of the Environment 2500 Broening Highway Baltimore, MD 21224 410-631-3000
Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (1993) Report No. EPA-840-B-92-002. Provides an overview of, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	National Technical Information Service U.S. Department of Commerce Springfield, VA 22161 800-553-6847
Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide (Best Management Practices Handbooks (1998) Presents guidance for design of storm water BMPs	California Department of Transportation P.O. Box 942874 Sacramento, CA 94274-0001 916-653-2975

TABLE 2: Example Best Management Practices (BMPs)

The following are examples of BMPs that can be used for minimizing the introduction of pollutants of concern that may result in significant impacts, generated from site runoff to the storm water conveyance system. (See Table 1: Suggested Resources for additional sources of information):

- Provide reduced width sidewalks and incorporate landscaped buffer areas between sidewalks and streets. However, sidewalk widths must still comply with regulations for the Americans with Disabilities Act and other life safety requirements.
- Design residential streets for the minimum required pavement widths needed to comply with all zoning and applicable ordinances to support travel lanes; on-street parking; emergency, maintenance, and service vehicle access; sidewalks; and vegetated open channels.
- Comply with all zoning and applicable ordinances to minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. The radius of cul-de-sacs should be the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds should be considered.
- Use permeable materials for private sidewalks, driveways, parking lots, or interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.).
- Use open space development that incorporates smaller lot sizes.
- Reduce building density.
- Comply with all zoning and applicable ordinances to reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
- Comply with all zoning and applicable ordinances to reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas.
- Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the storm water conveyance system.
- Vegetated swales and strips
- Extended dry detention basins
- Infiltration basin
- Infiltration trenches
- Wet ponds
- Constructed wetlands
- Oil Water separators
- Catch basin inserts
- Continuous flow deflection separation systems
- Storm drain inserts
- Media filtration
- Bioretention facility
- Dry-wells
- Cisterns
- Foundation planting
- Catch basin screens
- Normal flow storage separation systems
- Clarifiers
- Filtration systems
- Primary waste water treatment systems

STANDARD URBAN STORM WATER MITIGATION PLANS

SUMMARY OF COMMENTS RECEIVED AND RESPONSE

The comments received on the Standard Urban Storm Water Mitigation Plans (SUSMPs) and Regional Board staff response is divided into two sections. The first sections lists main issues and staff response in detail. The second section summarizes all significant comments received by the Board on SUSMP before December 6, 1999, and the staff response including any actions taken to address the comment.

A. MAIN ISSUES AND RESPONSE

1. **Comment**: The Regional Board lacks regulatory discretion to establish a numerical mitigation measure for storm water treatment.

Response: The municipal storm water permit for Los Angeles County and Cities requires that SUSMPs achieve specific objectives which include to (i) minimize adverse impacts to natural communities; (ii) maximize infiltration to the extent practicable; (iii) minimize parking lot pollution; (iv) provide for appropriate controls to reduce storm water pollutant loads.[1] Staff interprets this provision of the permit, underlying federal law, and the statutory standard of Maximum Extent Practicable (MEP) as requiring SUSMPs to incorporate numerical mitigation measures for development planning projects in order to achieve compliance with water quality standards. Without a numerical mitigation measure, developers will select no treatment BMPs because there will be no BMP sizing guideline. Board Resolution No. 99-03 which states that "The Permittees shall select and require implementation of the most effective BMPs,...." will then be without effect.[2]

The 1987 Clean Water Act amendments give USEPA and States considerable discretion on establishing provisions for implementation in storm water programs.[3] Further, interim USEPA policy guidelines on BMPs for storm water programs explains that the permitting authority can require more specific conditions or limitations to meet water quality

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[1] Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles (Board Order No. 96-054; NPDES No. CAS614001). Part 2. III.A.2)

[2] The Regional Board adopted Resolution No. 99-03 approving BMPs for Development Planning and Development Construction on April 22, 1999.

[3] 33 U.S.C. Section 1342(p)(B)(iii). "require controls to reduce the discharge of pollutants to the maximim extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of pollutants."

standards where adequate information exists.[4] In addition, courts accord administrative agencies a high degree of deference in the areas of law they regulate.[5]

2. **Comment:** Anti-degradation policy prohibits new construction when water quality is already impaired.

Response: The municipal storm water permit in agreement with federal storm water regulations requires controls on new development to reduce storm water pollution. There is no prohibition on new construction.

3. **Comment**: The numerical mitigation criteria mandates the capture of storm water which will require expensive land acquisition cost.

Response: The numerical mitigation measure defines the definite volume of storm water that must be treated for water quality benefits. Treatment is the application of any physical, biological, or chemical method that can be used to remove pollutants in storm water. Providing storage volume for the runoff or capture is one form of treatment. It is not mandatory and other options may be considered such as reducing impervious cover and promoting infiltration.

4. **Comment**: The proposed numerical mitigation measure is not based on science and is an arbitrarily agreed to number in settlement of a lawsuit.

Response: The proposed numerical measures are technically defensible. The measures are based on the principle that most rainfall events are in the smaller range and higher rainfall runoff producing events are less frequent. Designing storm water treatment controls for the smaller events will reduce storm water pollutant loads significantly while optimizing BMP costs. The primary numerical method to determine BMP design criteria is the maximized water quality treatment volume method recommended by the American Society of Civil Engineers (ASCE). The 0.75-inch rainfall event method happens to be also the one that was agreed to in a lawsuit settlement agreement between the NRDC and the County of Los Angeles. The four methods proposed as choices are equivalent variants and in a technical comparison were in agreement to within 10% of one another. It is highly probable that parties that settle a litigation select a numerical criterion that is reasonable and factual.

5. **Comment**: The numerical mitigation measure will require implementation of BMPs that have not been proven to be effective in the region.

Response: The proposed numerical mitigation measure defines the quantity of storm water (volume) that has to be treated to remove pollutants. This criterion does not in anyway describe the effectiveness of BMPs to be used. The effectiveness of any particular BMP is dependent on design parameters and the range for its applications. Physical geography has little influence on the effectiveness of BMPs while proper

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[4] 61 Fed. Register 43761. "The interim permitting approach uses best management practices in first-round strom water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate."

[5] See, e.g., Chevron U.S.A. v. Natural Res. Def. Council, (1984) 467 U.S. 837

maintenance is a big factor. Information on BMP effectiveness can be found in research reports and national BMP databases. The numerical mitigation measure in combination with the effectiveness of a BMP determines the overall annual load of pollutant that can be removed.

6. **Comment**: The post-construction treatment BMPs will require costly maintenance

Response: Treatment BMPs do require proper maintenance and maintenance costs are BMP specific. Poor or non-existent maintenance will result in an ineffective BMP. Information on BMP maintenance costs can be obtained from national databases and reports. See references in the Record of Decision. A cursory review indicates that maintenance costs are reasonable.

7. **Comment**: The Regional Board did not perform an economic analysis required by State and Federal law.

Response: The implementation of a federal regulation does not require separate economic analysis. A relative quantitative comparison performed with similar criteria for storm water management or flood control, sediment removal from construction, combined animal feedlot operations, and State of Washington water quality criteria indicated that the numerical mitigation criteria would cost about three to ten times less. In addition, staff performed BMP cost calculations for an actual site in Los Angeles in the process of development and determined that the mitigation criteria cost is less than 0.5 percent of the project cost.

8. **Comment**: The Regional Board did not provide adequate public notices to interested parties.

Response: Regional Board action was not contemplated at the September Regional Board meeting and thus no public notice was necessary. Nevertheless, Board staff provided a 30-day public notice and mailed a copy to all parties on file. Staff was unable to verify the claim by some that they did not receive copies of the public notice or provide an explanation. Staff will again provide 30 day-notice of the proposed action on the SUSMPs scheduled by the Regional Board for January 6, 2000.

B. SUMMARY OF ALL SIGNIFICANT COMMENTS AND RESPONSE

COMMENTER	COMMENT	RESPONSE	ACTION
General City of Los Angeles, Western States Petroleum Association	1. Conduct first a quantitative review of the basis of designation of selected categories as priority-planning projects.	The categories are designated in the permit and were selected based on risk sources data compiled in the first term of permit implementation.	No action necessary
Los Cerritos Channel Task Force	2. Provide level playing field for unincorporated and incorporated cities within LA County	Four methods of determining the mitigation measure are provided to ensure some flexibility. The methods are equivalent. See ROD	Four equivalent methods included as mitigation criteria in SUSMP

COMMENTER	COMMENT	RESPONSE	ACTION
Bellflower, Claremont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, Lynwood, Maywood, Montebello, Paramount, Norwalk, Rancho Palos Verdes, Santa Fe Springs, Whittier	3. No other MS 4 permits in California require numerical criteria for runoff mitigation	All MS4 permits are required to have controls on new development and redevelopment that will reduce pollutants to the MEP. The USEPA has identified the lack of specific criteria as a deficiency in its Report to Congress ON Phase II (1999)	No action necessary
SCAG	4. Provide the opportunity for the development of regional BMPs instead of site by site requirements	May be considered by Board in a Resolution	Will suggest interest to Regional Board
SCAG	5. Make the numerical mitigation measure voluntary pilot program for the first two years.	Federal laws and regulations require that controls on new development and redevelopment be enforceable	No action necessary
Santa Monica	6. More studies not necessary to establish mitigation criteria and evaluate BMPs	We agree that there exists sufficient information to establisn numerical mitigation criteria and to design BMP for optimum performance and effectiveness.	No action necessary
Bellflower, Claremont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, Lynwood, Maywood, Montebello, Paramount, Norwalk, Rancho Palos Verdes, Santa Fe Springs, Whittier	7. Numerical mitigation measure is an unfunded mandate	Implementation of a federal permit program is not an unfunded mandate as described in the State constitution. See memo from legal counsel.	No action necessary
Bellflower, Claremeont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, Long Beach, Los Angeles, Lynwood, Maywood, Montebello, Paramount, Norwalk, Rancho Palos Verdes, Santa Clarita, Santa Fe Springs, Vernon, Whittier, BIA, EAC, New Hall Land and Farming, Long Beach Chamber of Commerce	8. Numerical mitigation measure is not based on sound science	Disagree. Our review of local data and implementation programs in states such as WA, FL, and MD indicates that the approach to establishing numerical mitigation measure is scientific and reasonable. The methods have also been endorsed by national science and engineering associations.	References to important documents provided in the SUSMP. A bibliography of references reviewed for the action is included in the ROD
Bellflower, Cerritos, Claremont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, Long Beach, Lynwood, Maywood, Montebello, Paramount, Norwalk, Rancho Palos Verdes, Santa Fe Springs, Whittier	9. Treatment controls will be required irrespective of siting factors limiting application.	Site conditions will determine what BMPs are appropriate. A provision for waiver is provided where mitigation may be infeasible. Mitigation banking may be an alternative.	Waiver provision has been included in the SUSMP where impracticability is established
Covina, Irwindale, La Mirada, Lomita, Norwalk, Whittier	10. Provide sufficient time for Council of Governments to review and comment	Staff will mail and e-mail copies to SCAG for distribution to COGs.	Staff will mail public notice of proposed action to SCAG and COGs
Cerritos, Diamond Bar	11. Developers will move to build in counties without numerical mitigation measures.	The mitigation measure requirement for new development is based on federal law. Other Regional Boards are likely to develop and evaluate compliance using similar criteria. The USEPA considers the absence of numerical storm water BMP design criteria for new development a deficiency. See USEPA Phase II Final Rule	No action necessary

COMMENTER	COMMENT	RESPONSE	ACTION
Bellflower, Cerritos, Claremont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, Long Beach, Lynwood, Maywood, Montebello, Paramount, Glendora, Norwalk, Rancho Palos Verdes, Santa Fe Springs, Whittier, Truxaw and Associates, Long Beach Chamber of Commerce	12. BMPs will require costly maintenance	Maintenance of BMPs is essential and strategies to support maintenance activities are discussed in USEPA's Phase II Final Rule	No action necessary
Azusa, Claremont, EAC	13. Perform cost benefit analysis	The implementation of federal law does not require a separate cost benefit analysis. Relative cost comparisons and BMP cost calculations performed indicate that the cost of the mitigation measure is reasonable for the water quality benefits it will bring	No action necessary
Centex Homes, Desert Partners, Bill Ehrlich, FORMA, Engineering Contractors Association, Greystone Homes, John Laing Homes, Mid-cities Escrow, JTL, New Hall Land and Farming, New Urban West, Pace Engineering, Pacific bay Homes, Pacific Soils Engineering, David Placek, Psomas, Ramseyer, Rasmussen, Shea Homes, Sikand, Southern California Contractors, Southern California Ready Mix Concrete Assoc., South Place Corp., SunCal Co., Taylsor Woodrow, Tetra Tech, Van Tilburg and Associates, Warmington Homes, Western Pacific Housing, LA County Supervisor Knabe	14. SUSMP is stringent enough without the numerical mitigation measure	Without the numerical mitigation measure the SUSMP does not provide adequate guidance on design criteria for BMPs. Thus no treatment BMPs or BMPs inadequately sized may be selected with no benefit to water quality. The USEPA in the preamble to Phase II Final Rule makes the same observation.	No action necessary
Technical Heal the Bay, American Oceans Campaign, Friends of the LA River, NRDC, Kuso and Daniels, Fusion Films, Santa Monica BayKeeper, Ballona Wetlands Foundation, AHHA, H & K Interiors, Kinsella & Associates, AKERS Entertainment, Ballesteros, Stenstrom-UCLA, Chatten Broan & Assoc., South Bay SurfRider (13 members), Shatz	15. Establish for all municipalities in LA County the 0.75-inch mitigation measure or similar criteria for development planning currently in effect for the unincorporated areas.	The proposed criteria provide for the treatment of 0.75 inch or equivalent volume of runoff from new development for all areas of LA County within the jurisdiction of the Regional Board.	Criteria is made applicable to all MS4 permittees in LA county
Heal the Bay, American Oceans Campaign, Friends of the LA River,	16. Require SUSMPs for development in environmentally sensitive areas	The requirement is included for the City of Long Beach but was not one of the priority categories specifically identified in the LA County MS4 permit.	This category has been added to the SUSMP.
Heal the Bay, American Oceans Campaign, Friends of the LA River,	17. Require mitigation of runoff from parking lots separately in each SUSMP	This is not one of the priority categories specifically identified in the LA County MS4 permit. Commercial categories specifically included have indicated that they are no different than parking lots. In addition, the Coastal Commission has often consulted the Board for appropriate BMPs and criteria	This category has been added to the SUSMP.

COMMENTER	COMMENT	RESPONSE	ACTION
NRDC	19. App., SUSMP requirement broadly rather than limit it to seven categories	A BMP checklist is already required for other priority projects. Expanding the SUSMP requirement may be appropriate once TMDLs have been allocated and other significant sources need to be controlled.	Two categories have been added locations in environmentally sensitive areas, and parking lots
County of Ventura and cities	19. Include an alternative method based on volumetric and flow which uses capture of annual runoff and peak flow rate control	An equivalent volumetric method is provided based on annual volume capture. Flow rate controls are left to the judgement of the local agency.	Eight five percent treatment of annual runoff volume is provided as an equivalent mitigation criteria
Heal the Bay, American Oceans Campaign, Friends of the LA River	20. Define hillside development and not defer definition to the local municipality	Will provide a general definition.	Defined in SUSMP.
Heal the Bay, American Oceans Campaign, Friends of the LA River	21. Apply requirements for retail gasoline outlets to any facility with a fueling dispenser	This is not one of the priority categories specifically identified in the LA County MS4 permit. Expansion of the applicability may be appropriate once TMDLs have been allocated and other significant sources need to be controlled	No action necessary
USEPA, San Gabriel Basin Water Quality Authority	22. Requirement for infiltration will promote pathways for groundwater and soil contamination	Risks for ground water contamination exist under certain situations. These are identified in a report by the USEPA (1993). Pre-treatment of storm water will reduce such risks. The soil acts as a natural filter and self regenerates.	A section is included in the SUSMP describing the limitations of infiltration BMPs
Truxaw and Associates	23. Promote non structural BMPs	SUSMPs already require source control BMPs in addition to structural BMPs and treatment control BMPs	No action necessary
Land Tech Engineering	24. Provide design specifications for BMPs based on criteria	Expect that BMP design specification will be developed by the municipalities based on the numerical mitigation measure. Interim BMP design information may be obtained from manuals developed by other states.	No action necessary
Centex Homes, Engineering Contractors Assoc., John Laing Homes, Land Tech Engineering, Pace Engineering, Pacific Soils Engineering, David Placek, Ramseyer Rasmusen, Sikand, Southern California Contractors, Southern California Ready Mix Concrete Assoc., Tetra Tech, South Place Corp., Taylor Woodrow, Western Pacific Housing, LA New Car Dealers Ass.	25. Staff proposal requires capture which is not the same as infiltration or treatment	Storm water capture is not mandatory. The proposal only requires that a certain quantity of storm water be treated with BMPs to remove pollutants in one of several ways.	No action necessary
Vernon, Los Angeles	26. Require similar criteria for USEPA Phase I industrial facilities	The requirements are for new development in selected categories. Expansion to other categories may be considered for the next permit term. Will recommend application to construction permits in the LA Region covered by the State General Storm Water permit for construction activity.	Will propose to the Board to consider in its Resolution that the same
Brash.	27. Filter media is not an effective BMP	Disagree. Filter media are effective BMPs if properly configured. See letter to Brash from RB Executive Officer date Oct. 19, 1999	No action necessary

COMMENTER	COMMENT	RESPONSE	ACTION
Santa Clarita	28. Provide criteria for flow based controls in addition to volumetric based controls	Flow based controls which are essential to maintain BMP effectiveness, reduce flow velocities, minimize downstream erosion potential, and prevent over bank flooding are left to the judgement of the local agency.	A statement has been included in the SUSMP that flow design criteria be determined by the local agency
Santa Clarita	29. Limit application of criteria to impervious surfaces	The criterion is applied to the whole area. Credit for the pervious areas is automatically considered through the runoff coefficient. Roofing areas have been excluded for commercial facilities.	No action necessary
Santa Clarita, EAC	30. Provide greater flexibility in application of the mitigation criteria	The four methods of selecting the numerical mitigatio through criteria and waiver procedures offer sufficient flexibility in application.	Provide in the SUSMP four equivalent methods of determining the numerical mitigation measure.
Los Angeles	31. The numerical mitigation measure should be a guidelines and not a requirement for land development	Federal laws and regulations require that controls on new development and redevelopment be enforceable.	No action necessary
Legal Los Angeles	32. Setting a numerical mitigation measure is a discretionary action. Provide cost estimates of impacts and benefits and release documentation for public comment and review under CEQA.	The requirements under an NPDES permit are exempt from review under CEQA. Preliminary costing estimates indicate that they are reasonable.	No action necessary
Los Angeles	33. Identify the regulatory authority, which authorizes the Regional Board to establish the numerical mitigation measure.	Regulatory requirement is found at 40 CFR 122.26 (d)(2)(iv)(A) (2). Statutory authority is at 33 USC 342(p)(B)(iii). See also court s opinion in Defenders of Wildlife v. Browner (No. 98-71080) (9th Cir. 1999) and in NRDC v. USEPA 966 F2d. 1292 (9th Cir. 1992)	No action necessary
Los Angeles	34. Setting a numerical mitigation measure is a discretionary action. Provide cost estimates of impacts and benefits and release documentation for public comment and review under CEQA.	The requirements under an NPDES permit are exempt from review under CEQA. Preliminary costing estimates indicate that they are reasonable.	No action necessary
Western States Petroleum Association (WSPA)	35. Postpone consideration because of inadequate notice.	A thirty-day notice on this action has been provided. A thirty-day notice on the September 1999 Board meeting was provided even though it was not required for a Regional Board Information item.	No action necessary
Apartment Association, BIA	36. There is no regulatory requirement that there be a numerical measure	Disagree. See detailed explanation under main issues and response.	No action necessary.
NRDC	37. Receiving water limits and anti-degradation policies apply independently from mitigation criteria.	Agree that mitigation standards are separate from the numerical mitigation measure. The Office of Chief Counsel confirms that MS4 programs must meet water quality standards in a memo dated October 14, 1999	No action necessary
Burke, Williams & Sorenson	38. Provide broad legal authority for the SUSMP requirement	We will include legal citations that are relevant to the jurisdiction of the Regional Board	Relevant laws are cited in the SUSMP to provide legal justification
Burke, Williams & Sorenson	39. Delay SUSMP requirements in light of PL 106-74 requiring USEPA to submit reports to Congress.	The USEPA has already submitted the reports to Congress and thus no delay is warranted.	No action necessary

COMMENTER	COMMENT	RESPONSE	ACTION
Santa Monica BayKeeper	40. New development can be prohibited under the Federal Anti-degradation policy if it degrades or adds pollutants to local waters	Disagree. See detailed explanation under main issues and response.	No action necessary
EAC, Downey, Lakewood	41. Provide authority in the Clean Water Act to regulate flow to address water quality.	The U.S. Supreme Court has held that regulation of flow to protect beneficial uses is within the authority of the Clean Water Act PUD No. 1 v. WA Dept. of Ecology, 511 U.S. 700 (1994)	No action necessary

TENTATIVE

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

Resolution No. xx-xx

APPROVING THE RECORD FOR
STANDARD URBAN STORM WATER MITIGATION PLAN
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF MANAGEMENT PROGRAMS
IN LOS ANGELES COUNTY

WHEREAS, THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION FINDS:

1. On July 15, 1996, a municipal storm water permit was issued to the County of Los Angeles and 85 incorporated cities to control and minimize the discharge of pollutants associated with storm water and urban runoff. This permit became Regional Board Order No. 96-054, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles.

2. On June 30, 1999, a municipal storm water permit was issued to the City of Long Beach which removed the City of Long Beach from Board Order No. 96-054, giving the City of Long Beach its own distinct Municipal Storm Water and Urban Runoff NPDES permit, Regional Board Order No. 99-060, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the City of Long Beach.

3. On August 19, 1999, a statewide general storm water permit for construction activity was adopted by the State Water Resources Control Board (State Board). This permit became State Board Order No. 99-08-DWQ, and applies to construction projects that disturbs five acres or more or is part of a larger common plan of sale in the Los Angeles region.

4. Many of the rivers and streams in Los Angeles County are formally designated as impaired, pursuant to Section 303 (d) of the federal Water Pollution Control Act, for specific pollutants that are commonly found in storm water and urban runoff.

5. Storm water runoff carries with it many pollutants in varying concentrations that are suspended in, and or dissolved, in the runoff. The sources of these pollutants include nearly all properties that have been developed since the pollutants originate through the many diverse activities of habitation and land use. Pollutants generated from individual property developments vary greatly in the concentration or loading of each pollutant. Generally, the relative contribution of the pollutant from runoff from any individual property development will represent only a small portion of the entire loading of a water body given the many square miles of land upon which storm water runoff is generated. When the individual contributions from tens of thousands of discrete property units are aggregated, the pollutant loading becomes significant. The resultant pollutant loads results in the impairment of that water body and the conveyance of pollutants, including sediments, metals, complex organic compounds, oil and grease, nutrients, and pesticides to the ocean and harbors within Los Angeles County. The loading of pollutants generated in the Los Angeles area are being measured through the monitoring program being conducted by the Los Angeles County Department of Public Works in conformance with its obligations as the Principal Permittee under the Los Angeles County Municipal Storm Water and Urban Runoff NPDES permit.

6. The nature of property use is related to the types and quantities of pollutants that are transported from that property during a rainfall event.

7. As property is developed or redeveloped, the utilization of Best Management Practices provide an opportunity to reduce the loading of pollutants to water bodies. This is accomplished by various techniques and can be passive (source reduction) or active (treatment). As property is developed from undisturbed lands, the project can be designed to incorporate structural BMPs that would normally not be available or practical to use on property that has been in urban use.

8. BMPs are effective means of reducing pollutants and treatment control BMPs can be "designed-into" a project in a cost effective way and in a manner that is either transparent to or which enhances the use to which the property has been placed. Some BMPs encourage the setting aside of areas as a greenbelt to allow storm water runoff to flow over areas which are permeable, thereby allowing all or a portion of the runoff to infiltrate. Other BMPs can be designed and built into structures such as catch basins that incorporate replaceable filters to absorb oily wastes or by installing screens to prevent litter from passing through the system and into the water body.

9. Arrays of treatment control BMPs are available to developers of both new and redevelopment properties. The use of BMPs is already required by the terms of the Los Angeles County and Long Beach Municipal Storm Water and Urban Runoff NPDES permits.

10. The ability of any BMP to be effective is limited by the volume of water that the BMP is exposed to in any discrete period of time. A BMP that can only be effective for a small volume of storm water runoff is inherently less effective than one sized to accommodate a larger volume of water.

11. Storm water runoff will normally convey a disproportionate loading of pollutants in the initial period runoff is generated during a storm event. Storm events generating up to 0.75 inches of precipitation, measured over a 24-hour period, constitute 85 percent of the total amount of runoff that can be expected during an average wet season. Designing a BMP to be able to accommodate this amount of runoff will result in the application of a BMP intervention to all but 15% of the total runoff during a year, and usually all of the critical runoff that occurs in the early phase of the precipitation event, commonly referred to as the "first Flush."

12. Both the Los Angeles County (Part III.A.1.c) and the Long Beach Municipal Storm Water and Urban Runoff permits contain provisions related to the adoption of Standard Urban Storm Water Mitigation Plans (SUSMPs) requiring their development and implementation.

13. Standard Urban Storm Water Mitigation Plans are required for a specified set of discretionary "Priority Projects" and the permit specifically identifies seven distinct categories for which SUSMPs are required to be prepared. The permit specifically states that the seven categories of "Priority Projects" are the minimum categories requiring SUSMPs.

14. Standard Urban Storm Water Mitigation Plans are also required for development or redevelopment of Parking Lots 5,000 square feet or greater and Locations in Environmentally Sensitive Areas. These categories have been added to advance efforts to control storm water pollution beyond the minimum in Los Angeles County.

15. Standard Urban Storm Water Mitigation Plans are required to be approved by the Regional Board Executive Officer following which they are to be implemented by the Permittees and used by the Permittees as the minimum criteria for the approval of project specific Urban Storm Water Mitigation Plans and the issuance of grading or building permits to project applicants.

16. The statewide general storm water permit for construction activity requires that Storm Water Pollution Prevention Plans (State SWPPPs) contain post-construction BMPs that will be implemented after construction is complete.

17. Section 402 (p) of the Clean Water Act requires the Administrator of the United States Environmental Protection Agency or her designated agent, in this instance, the Regional Board, to require as part of the storm water program "controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." [USC Section 1342 (p)(3)(B)].

18. A recent decision of the United States 9th Circuit Court of Appeals, Defenders of Wildlife v. Browner (1999) Case No. 98-71080, provides additional support and clarification of the authority of the Administrator and the Regional Board to impose additional controls on storm water pollution. The Court in Defenders of Wildlife v. Browner said that the USEPA and the States have discretion under the law to determine what pollution controls are appropriate to achieve compliance.

19. Pursuant to the requirements of Regional Board Order No. 96-054, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, the Regional Board Executive Officer received a proposal for Standard Urban Storm Water Mitigation Plans submitted by the Principal Permittee.

20. Upon the review of the Regional Board Executive Officer, the Standard Urban Storm Water Mitigation Plan submitted for the seven applicable categories was deemed inadequate. A revised SUSMP proposal was developed subsequent to a discussion of the proposal's conceptual foundation at a public workshop held on August 10, 1999. This workshop was well attended with over 80 municipal representatives and interested parties participating.

21. On August 16, 1999, a public notice was issued indicating that the Standard Urban Storm Water Mitigation Plans proposed by the Principal Permittee would be augmented by the addition of criteria related to specifying numerical design criteria for BMP construction. The matter was noticed for the Regional Board's September meeting to allow the issue to be discussed before the Board although no formal action of the Regional Board itself is required for SUSMP approval.

22. On September 16, 1999, the Regional Board conducted a public hearing on the Standard Urban Storm Water Mitigation Plan proposal as amended by the Executive Officer. At that hearing, the Regional Board Executive Officer suggested additional time would be necessary to develop a more comprehensive proposal incorporating the comments received at the public hearing.

23. Between September 16 and December 3, 1999, the Regional Board Executive Officer met with interested parties to discuss comments and concerns from interested parties.

24. The Southern California Council of Governments (SCAG) has indicated its interest in obtaining funding to prepare a regional plan(s) to address storm water pollution and identify regional treatment solutions for implementation.

25. On December 7, 1999, the Regional Board Executive Officer released a revised Standard Urban Storm Water Mitigation Plan document to interested parties.

THEREFORE BE IT RESOLVED THAT:

1. The Regional Board endorses the Standard Urban Storm Water Mitigation Plan prepared by the Regional Board Executive Officer and noticed to the public on December 7, 1999 and the concepts therein relating to numerical storm water mitigation standards for Best Management Practices; and

2. The Regional Board encourages the Regional Board Executive Officer to approve the Standard Urban Storm Water Mitigation Plan at the earliest opportunity incorporating any specific changes recommended and formally approved by the Regional Board at the January 6, 1999 Board Hearing;

3. The Regional Board adopts the approved requirements as provisions applicable to the SUSMP requirements for the City of Long Beach.

4. The Regional Board adopts the numerical mitigation standards for storm water, endorsed herein, as the minimum design criteria for review of post-construction BMPs in the Los Angeles Region for construction projects subject to coverage under the state storm water general permit for construction activity.

5. The Regional Board encourages the Permittees and all interested parties to work together in a spirit of cooperation to effect the implementation of the Standard Urban Storm Water Mitigation Plan at the earliest possible date, and

6. The Regional Board encourages the efforts by the Southern California Council of Governments and area Council of Governments (COGs) to develop regional plans and identify regional solutions to address storm water pollution from new development and redevelopment.

I, Dennis Dickerson, Executive officer, do hereby certify that the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on January 6, 2000.

DENNIS A. DICKERSON
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

320 W. 4th Street, Suite 200
Los Angeles, California 90013
Tel No. (213) 576-6600; Fax No.: (213) 576-6660

Public Notice No. 99-047

NPDES No. CAS0061654

NOTICE OF PUBLIC HEARING

CONSIDERATION OF STANDARD URBAN STORM WATER MITIGATION PLANS

SUBMITTED FOR APPROVAL TO THE EXECUTIVE OFFICER

UNDER

THE LOS ANGELES COUNTY MUNICIPAL STORM WATER PERMIT

This Regional Board will hold a hearing to consider standard urban storm water mitigation plans submitted for approval to the Executive Officer under the municipal storm water permit for Los Angeles County and Cities.

HEARING DATE AND LOCATION:

DATE: Thursday, September 16, 1999
TIME: 9:00 a.m.
PLACE: Metropolitan Water District of Southern California
700 N. Alameda Street (next door to Union Station), Main Board Room
Los Angeles

AVAILABILITY OF DOCUMENTS

The Standard Urban Storm Water Mitigation Plans, and other related documents and information are on file, and may be inspected, at the Regional Board office, 320 W. 4th Street, Suite 200, Los Angeles, California, 90013, between the hours of 8:00 a.m. and 5:00 p.m. Arrangements for file review and/ or obtaining copies of documents may be made by contacting Vilma Correa at (213) 576-6617. The Standard Storm Water Mitigation Plans may also be viewed on-line at the Los Angeles County Department of Public Works website address, http://dpw.co.la.ca.us/epd/mitigation/

Questions regarding the documents or the hearing should be directed to Dr. Xavier Swamikannu at (213) 576-6654.

BACKGROUND

Los Angeles County and Cities (except the City of Long Beach) implement a municipal storm water program to reduce storm water and urban runoff pollution under the requirements of Board Order No. 96-054. The City of Long Beach implements a separate municipal storm water program to reduce storm water and urban runoff pollution under Board Order No. 99-060.

The Regional Board at its April 22, 1999, Hearing approved a List of Best Management Practices for Permittees to select from and require implementation of the most effective BMPs in their Development Planning and Development Construction programs (Board Resolution No. 99-03). The Regional Board at that time also requested that the Standard Urban Storm Water Mitigation Plans (SUSMPs) for Priority Planning Project categories, which incorporate the BMPs, be brought to it for discussion. The municipal storm water permit for the City of Long Beach, adopted by the Regional Board on June 30, 1999, includes requirements that make SUSMP provisions adopted by the Regional Board or approved by the Regional Board Executive Officer to be applicable to its program.

Los Angeles County Department of Public Works (LACDPW), on behalf of Permittees, submitted SUSMPs for Executive Officer approval on July 22, 1999. These SUSMPs were revised and resubmitted on August 12, 1999, after a joint SUSMP workshop held on August 10, 1999, to clarify some text. SUSMPs have been submitted for: (i) 100+ home subdivision; (ii) 10-99 home subdivision; (iii) 100+ square-foot commercial development; (iv) automotive repair facilities; (v) retail gasoline outlets; (vi) restaurants; (vii) hillside located single-family dwelling. Prior to submittal to the Regional Board, draft versions of the SUSMPs were distributed to environmental groups, contractors, developers, consultants and trade industry groups for review and comment.

The SUSMPs for: (i) 100+ home subdivision; (ii) 10-99 home subdivision; (iii) 100+ square-foot commercial development include requirements that storm water runoff mitigation with "treatment control" BMPs be considered, in addition to structural control BMPs and source control BMPs. The SUSMPs for (iv) automotive repair facilities; (v) retail gasoline outlets; (vi) restaurants; (vii) hillside located single-family dwelling require only structural control BMPs and source control BMPs. The SUSMPs do not provide a numerical mitigation measure for storm water to facilitate the development of BMP design criteria.

For discussion before the Regional Board is staff recommendation that the Regional Board Executive Officer approve the SUSMPs with the following changes:

A. The SUSMPs for categories: (iv) automotive repair facilities; (v) retail gasoline outlets; (vi) restaurants; and (vii) hillside located single-family dwelling, require consideration of "treatment control" BMPs; and include the BMPs in "SUSMP Section 3. Minimize Storm Water Pollutants of Concern" as Example BMPs.

B. Incorporate in, "SUSMP Section 3. Minimize Storm Water Pollutants of Concern", numerical mitigation measures for BMP design criteria based on the "mitigation" of smaller storms to capture a large percentage of runoff events, runoff volume and pollutant loads. This mitigation measure may be derived from:

   1. the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area (*Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, 1998*), or

2. a historical-record based reference 24-hour rainfall criterion (0.75 inch for the Los Angeles County area) that achieves the same or greater reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

COMMENTS AND QUESTIONS

Persons wishing to comment on the SUSMPs are invited to submit them in writing at the above address to the attention of Dr. Xavier Swamikannu. In order to be evaluated by Board staff and included in the Board's agenda folder, written comments or testimony on the tentative permit must be received at the Regional Board's office by September 2, 1999. Comments received after that date will be provided, *ex agenda*, to the Board for their consideration.

HEARING PROCEDURE

The Board meeting, in which the hearing will be part of, will start at 9:00 am. Interested persons are invited to attend. Oral statements will be heard; however, for the accuracy of the record, all important testimony should be in writing. Oral testimony may be limited to 5 minutes or less for each speaker, depending on the number wishing to be heard. Parties with similar concerns or opinions are encouraged to choose one representative to speak.

Date: August 16, 1999

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100

HARRY W. STONE, Director

ADDRESS ALL CORRESPONDENCE TO
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

August 12, 1999

IN REPLY PLEASE REFER TO FILE EP-3

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

STANDARD URBAN STORMWATER MITIGATION PLANS

I am writing to clarify the intended meaning of some wording in the Standard Urban Stormwater Mitigation Plans (SUSMPs) submitted to you on July 21, 1999.

At the workshop held on August 10, 1999, regarding SUSMPs, you indicated that the following statement in the SUSMPs would be interpreted to mean that all runoff would need to be mitigated:

> "The development must be designed so as to mitigate (infiltrate and/or treat) the site runoff generated from impervious directly connected areas that may contribute pollutants of concern to the stormwater conveyance system".

The actual intent of that statement was to omit a numerical standard from the SUSMPs. Enclosed is a revised version of the SUSMPs to clarify the intended meaning.

If you have any questions, please call me at (626) 458-5948, Monday through Thursday, 7:00 a.m. to 5:30 p.m.

Very truly yours,

HARRY W. STONE
Director of Public Works

Terri M Grant

TERRI M. GRANT
Supervising Civil Engineer III
Environmental Programs Division

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Enc.

cc: All Permittees

Post-it® Fax Note 7671	Date 8/12/99	# of pages ▶ 25
To Dennis Dickerson	From Terri Grant	
Co./Dept. LRWQCB	Co. LACDPW	
Phone # (213) 576-6605	Phone (626) 458-5948	
Fax # (213) 576 6625	Fax (626) 458-3534	

11-35

R0068047

Consideration shall be given to the type of development and the potential for storm water pollution when determining the applicability of BMPs. Cost effectiveness, ease of maintenance, and consistency with other environmental mandates may also be considered.

For developments where increased storm water discharge rates will result in an increase in downstream erosion potential, the list of recommended BMPs shall include those BMPs which can be used to maintain peak runoff rates at pre-development levels to the maximum extent feasible.

The list of recommended BMPs shall be submitted to the Regional Board for approval.

c. Standard Urban Storm Water Mitigation Plans (SUSMPs) and guidelines for their preparation not later than six months after Regional Board approval of the BMPs in Part 2.III.A.1.b. The SUSMPs shall incorporate the appropriate elements of the recommended BMPs list. At the minimum, SUSMPs and guidelines shall be prepared for the following development categories:

i. a 100+ home subdivision;
ii. a 10-home subdivision;
iii. a 100,000+ square-foot commercial development;
iv. an automotive repair shop;
v. a retail gasoline outlet;
vi. a restaurant; and
vii. a hillside-located single-family dwelling.

2. Planning Control Measures

Each Permittee shall develop a program on planning control measures for priority projects (Part 2.III.A.1.a) consistent with the programs developed under Part 2.III.A.1.b. & c.. Each Permittee shall initiate implementation of its program not later than six months after commencement of its next fiscal year following approval of the model Standard Urban Storm Water Mitigation Plans by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be initiated later than July 30, 1999. Each Permittee shall require that the project applicant submit an Urban Storm Water

Mitigation Plan appropriate and applicable to the project, and that the Permittee approve the Plan prior to the issuance of any grading or building permit. The Urban Storm Water Mitigation Plan shall incorporate by detail or reference appropriate post-construction BMPs to:

a. Implement, to the maximum extent practicable, requirements established by appropriate governmental agencies under CEQA, Section 404 of the Clean Water Act, local ordinances and other legal authorities intended to minimize impacts from storm water runoff on the biological integrity of natural drainage systems and water bodies;

b. Maximize, to the maximum extent practicable, the percentage of permeable surfaces to allow more percolation of storm water into the ground;

c. Minimize, to the maximum extent practicable, the amount of storm water directed to impermeable areas and to the MS4;

d. Minimize, to the maximum extent practicable, parking lot pollution through the use of appropriate BMPs such as retention, infiltration, and good housekeeping;

e. Establish reasonable limits on the clearing of vegetation from the project site including, but not limited to, regulation of the length of time during which soil may be exposed and, in certain sensitive cases, the prohibition of bare soil; and

f. Provide for appropriate permanent controls to reduce storm water pollutant load produced by the development site to the maximum extent practicable.

The Permittee may refer applicants to the *'California Storm Water Best Management Practice Handbooks,* California Storm Water Quality Task Force, Sacramento, CA (1992)' and its revisions; the Countywide Storm Water Management Plan; *'USEPA Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Issued under the Authority of Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990,* Document No. EPA 840 B 92-002 (1993),'; and similar manuals for specific guidance on selecting post-construction BMPs for reducing pollutants in storm water discharges.

3. Planning Process

In order to integrate storm water management considerations into

discretionary development projects at the time that they are first proposed to jurisdictions, and to support other provisions of this Order:

a. The Principal Permittee, in consultation with the Permittees, shall develop storm water management guidelines for use in preparing/reviewing CEQA documents, and in linking storm water quality mitigation conditions to local discretionary project approvals not later than January 30, 1998.

The guidelines shall address the preservation of areas that provide water quality benefits such as riparian corridors and wetlands and shall promote protection of the biological integrity of drainage systems and water bodies.

Each Permittee shall review the guidelines for the purpose of making appropriate modifications in their internal procedures not later than six months after commencement of its next fiscal year following approval of the program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

b. Each Permittee shall include watershed and storm water management considerations in the appropriate elements of the Permittee's General Plan, whenever said elements are significantly rewritten. Appropriate elements may include the following:

i. Conservation; and/or
ii. Open space; and/or
iii. Land-use; and/or
iv. Public utilities; and/or
v. Infrastructure; and/or
vi. Other appropriate elements.

4. Developer Information Program

The Principal Permittee, in consultation with the Permittees, shall develop a model program not later than January 30, 1998, to inform developers seeking discretionary approvals about:

a. Development and construction storm water management;

b. Maximization of pervious areas and storm water infiltration (where geology and topography permit); and

c. Cost effective storm water pollution control measures.

The program shall provide specific guidance on selecting BMPs to reduce pollutants in storm water discharges from urbanized areas, and include appropriate BMPs, educational materials, and handbooks and guidelines described in Part 2. III.A.3.

Each Permittee shall implement a developer information program consistent with the model program not later than six months after commencement of its next fiscal year following approval of the model by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999. Each Permittee's program shall include information about its legal authorities. Permittees are encouraged to engage in joint efforts in implementing the program.

B. Development Construction

Table 4 on the following page shows the summary of requirements and corresponding compliance dates under this section.

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Standard Urban Stormwater Mitigation Plans (SUSMPs)
Statement of Dennis Dickerson
Executive Officer
January 26, 2000

City of LA
Resolution

Mr. Chairman, members of the Board, it is perhaps fitting that Agenda Item 11 Standard Urban Stormwater Mitigation Plans is on the agenda for today, our 50th Anniversary as a Regional Board. At the very least, what the Board does today will serve as a key point of reference in our quest to meet the mission of this Regional Board, "to protect and restore the water quality of the Region."

Before I begin my formal presentation I would like to take a moment to thank Dr. Xavier Swamikannu for his tireless efforts to manage this permit. This is one of the most significant stormwater permits in the nation and one of the greatest water quality challenges we face as a Board and YET **we have only a fraction of one person funded to manage this permit. I would also like to thank the members of my staff who over the past few weeks and days have been drawn into this maelstrom of activity, especially Robyn Goodman and Ronji Harris who have responded to** MY **urgent cry for help with good nature and dedication. Jorge Leon has also been instrumental in developing a legal basis for**

this action which you have in the staff report. My sincere appreciation to each of them.

The notion of Standard Urban Stormwater Mitigation Plans (SUSMPs) is rooted in the Municipal Stormwater and Urban Runoff permit issued to the County of Los Angeles and its 85 municipalities in 1996. The permit requires that SUSMPs be developed for, at a minimum, several development categories. These include home subdivisions, commercial developments of at least 100,000 square feet in size, automotive repair shops, retail gasoline outlets, restaurants, and single family homes on hillsides. Once adopted, the SUSMP would be a set of standards or criteria that developers and architects could use to design their projects in ways that would result in those properties contributing inherently less pollution when it rains. Cities would use the SUSMPs to adopt their own enforceable ordinances and then apply them in their review and approval of project plans.

SUSMP standards only apply to new development or substantial redevelopment projects in the applicable SUSMP categories. As a consequence, the applicability of SUSMPs is limited and their

consequent effect on storm water quality in our streams will, at first, be relatively small. As years pass, and more and more property is redeveloped, a greater percentage of urban land will be retrofitted with SUSMPs. Eventually, much of the LA Basin will gain the benefit of some enhanced level of stormwater management. It must be remembered, however, that SUSMPs are only a small part of the 1996 stormwater permit requirements. Many other aspects of that permit address other issues and current problems. SUSMPs are simply one long-term approach to address the ubiquitous problem of pollution from stormwater runoff and to address that problem for new development to prevent the problem we have from getting worse.

That problem is pervasive and growing. Stormwater is the vehicle by which pollution that is deposited on our highways and roads, our curbs and gutters, our yards and alleys, is conveyed to our streams and the ocean. When it rains, the runoff carries amazingly large amounts of pollutants that reach the ocean, it adds to toxic levels of sediments in estuaries, which contribute to the deterioration of our aesthetic environment and the degradation of the aquatic environment. The amounts of these pollutants that reach our streams every year are not

measured in ounces but in thousands of pounds and in ~~some cases~~ the case of waterborne litter hundreds of tons. The problem is real and the contribution of these pollutants contributes to many of our streams being listed on the federal 303 (d) listing of impaired waters. These are impairments for which Total Maximum Daily Loads or TMDLs are required and their requisite load allocations and implementation plans to remove those impairments.

Briefly, we are here today to consider what are the appropriate SUSMPs to apply to the categories of developments in the staff's SUSMP proposal. We began this process with the formal submittal of SUSMPs to the Regional Board by the Principal Permittee of the 1996 permit, that is, the County of Los Angeles. In reviewing that submittal, staff determined that additional requirements were needed to enhance the SUSMP submittal. After a public workshop last August, staff proposed the addition of a numerical design standard to establish the size of Best Management Practices, which are simple and commonsense techniques that reduce the amount of pollution in stormwater runoff. Under the terms of the 1996 permit, the Executive Officer is vested with the authority to approve the SUSMPs. However, by proposing a

significant modification of the SUSMP by including a numerical design standard, I sought Regional Board concurrence with that recommendation. A hearing was held on September 16th before the Regional Board. The outcome of that hearing was your agreement with my recommendation that a better record was needed and possibly some modifications to the SUSMP proposal were necessary. The result was a series of discussions with interested parties that led to our publishing a December 7th proposal which is now before you in your binder as pages 11-1 through 11-19. A formal staff report has been developed which is dated January 18th and was submitted to you separately. Additionally, a Change Sheet has been issued, and is being augmented today.

The SUSMP proposal before you, while an extensive document, is really quite simple and much of the language of the proposal is also non-controversial and carries over from the text of the SUSMP submitted to the Regional Board last August. Since the September 16th Board hearing, some changes have been made to the proposal in an effort to create flexibility and to recognize the problems associated with the implementation of any substantive permit requirements. Some of these

have become the focus of additional controversy, adding to the numerical design standard that was the principal point of controversy last September.

The proposal itself is partitioned into several main segments. These are:

Definitions

Requirements applicable to all SUSMP categories including:

Peak Stormwater Runoff Rates

Conservation of Natural Areas

Minimization of stormwater pollution though use of BMPs

Protection of Slopes and Channels

Providing storm drain identification

Proper design of outside storage areas

Proper design of trash storage areas

Establishing proof of long-term BMP maintenance, and

Design standards for treatment controls

Specific Requirements applicable to certain categories

Most of these provisions provide additional BMPs for certain types of development where those are believed necessary to provide additional controls to reduce stormwater pollution.

Two additional categories of SUSMPs have been added, Parking Lots and Environmentally Sensitive Areas, which result in additional requirements.

A waiver provision has been included to allow for flexibility under carefully limited circumstances.

Infiltration BMPs may pose a risk to groundwater quality under certain circumstances so a waiver can be applied in that circumstance

There may not be adequate space available to use BMPs so a waiver option is allowed,

Finally, soil conditions may not be suitable for infiltration BMPs, therefore allowing a waiver seems appropriate.

The final element is provision for the county and cities to use a professional certification to represent the adequacy of a project plan as meeting SUSMP requirements rather than having to review and approve those documents resulting in additional work by city plan review staff.

Those are the fundamental elements of the SUSMP proposal. As you move to consider this matter, I would request that you think of it as two distinct proposals. First, the "basic SUSMP" and second, the issue of the numerical design standard. The former is a lot less controversial than the latter. Also, keeping them separate will allow you, at the end of the day, to perhaps provide greater clarity in your direction to staff.

As you know, we have developed a change sheet—

So ~~Is~~ what ~~is~~ was wrong with the proposal as offered that required changes by staff? Let's talk about the Basic SUSMP first.

To begin, we needed to better state some of our definitions:

Hillsides were not adequately defined. In response to comments, we have now added additional clarity to state that hillsides are property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is twenty-five percent or greater.

While we added a definition for parking lots we did not make it clear that we were talking about commercial stand alone parking lots between 25 and 200 spaces in size, not all parking areas for commercial facilities under 100,000 square feet in size.

We also were unclear on setting a threshold for when a redevelopment project would have SUSMPs be applied. We now have added a threshold of fifty percent of impervious surface addition or the making of improvements to fifty percent or more of the existing structure as the threshold for SUSMP conditions to apply.

The term environmentally sensitive area means different things to different people and agencies. We have limited our definition to the one adopted by the Board for the City of Long Beach storm water permit. This definition limits the areas to those identified by the County of Los Angeles, the State Water Resources Control Board, and the California Resource Agency. Reference documents have been included.

We have made a number of less significant changes in the document that are identified in the Change Sheet and I will address them only if you wish clarification.

As noted above, we have a waiver provision that has sparked opposition. The intention was to add flexibility and a creative mechanism for funding regional projects with the funds that would be saved by not installing BMPs at a given site. However, the waiver is controversial because it does provide an out. Ultimately, you will need to provide guidance on its propriety.

Now lets turn to the numerical Design Standards, which has been and remains the principal focus of comments. The fundamental notion is that if you install a BMP as part of a new development it ought to be of an adequate size that it can be effective. Last April you approved a resolution adopting a set of BMPs that should be used in those instances. You also said they should be the most effective BMPs. Effectiveness is largely determined by size and degree of maintenance. If a BMP is large enough it could manage all the runoff generated from the largest measured storm event. If it is too small, it will be less effective and perhaps ineffective for all but the smallest rain events. We do not specify the degree to which a BMP should remove pollutants. Rather, we have proposed an amount of rainfall that a BMP should be able to manage thereby resulting in the removal of a reasonable amount of pollutants.

The 0.75 inch standard is proposed since it will provide coverage by a BMP for 100% of the volume of 85% of the storm events. It will rain more than 0.75 inches and our proposal will not address the volume of rain over 0.75 inches. But we do not belief it necessary to do so to effect a considerable reduction in polluted runoff. Most pollution is picked up

in the earliest phase of a rain event. By addressing the first part of runoff, and most of the runoff, most of the time, through BMPs sized to that standard we will make a significant difference in runoff water quality. As I noted earlier, we are talking about a relatively small amount of land for the early years. While the overall impact will be difficult to notice early on, the payoff is really for the next generation who will have a much more intrinsically cleaner environment. Think of it as a milestone that the Regional Board in 50 years will mark as the highlight of millennial foresight.

The proposal has included two exemptions that we believe are reasonable. First is the rooftop runoff exemption. The concept here is simple. Runoff from rooftops is less polluting than runoff that traverses streets picking up oil or passing through lawns picking up what people didn't. If you don't need to run this cleaner water through a BMP, that BMP can be smaller and cheaper to build and maintain. This rooftop exemption may not work in all cases. Where the roof itself is shown to be inherently polluting, it is excluded, where the rooftop has vents or air pollution control systems that may result in a residue on the roof that can then be washed off during a rain, it is excluded. If the runoff from

the roof is not channeled away from the ground surface so it can pick up pollutants, no exemption. Finally, if the rooftop runoff is diverted to a stream that is natural, there is no exemption. These criteria seem to make sense. NRDC in their comment letter challenges the rooftop exemption but then cannot cite a study to show that the rooftop runoff would pose a water quality problem saying the studies are underway. It would be inappropriate to require BMPs for rooftop runoff without a clear showing that the runoff from rooftops is a substantial portion of the stormwater pollution problem. Right now, we don't know and the proposal is flexible to allow the numerical standard to apply once a showing is made that there is indeed a problem to be addressed.

The other exemption from the 0.75 inch standard is for restaurants that are less than 5,000 sq. ft. in size. The intent is to preclude applicability of the numerical design criteria to many restaurants that are small businesses in urbanized areas while still applying the "basic" SUSMP package. Larger stand alone restaurants or those located in a commercial complex will generally be covered by exceeding the 5,000 sq. ft. criteria or by their placement in a commercial complex that is larger than 100,000 sq. ft. in size.

While we have proposed a 0.75 inch standard applicable to all the SUSMP development categories, the Board may wish to consider some alternative to what staff has proposed. Between the 0.75 standard and no standard there are many options.

First, the Board could impose a more stringent number than 0.75 inches. One inch or more could be imposed.

Alternatively, a lesser number could be chosen. For example 0.5 inches or 1/3 of an inch.

No numerical standard could be adopted leaving the "most effective BMP standard" a judgement call rather than a measurable, quantifiable, and ultimately verifiable standard.

A standard could be required immediately or phased in over time.

The standard could be applied to only a few categories now and applied to more on the basis of more information at a later time. Perhaps tied in with the consideration of the next permit renewal in July 2001.

The County of Los Angeles has adopted a 0.75 inch standard as a result of litigation with NRDC. In their letter of January 11th, at page 11-90 in your comment binder, the County argues caution in moving too fast with a SUSMP proposal given their own difficulty in implementation. The County's cautionary comments suggest that the Board should carefully consider their problems with implementation.

Another issue that we have not yet addressed, is that of a cost trigger. By that, I mean is there an upper limit as to how much of a project's total cost that should be spent on BMPs. These costs vary substantially based on the BMP selection. But it may be worthwhile for the Board to consider some value beyond which SUSMPs would not be required based on some cost factor expressed, perhaps, as a percentage of the project's total cost.

With this proposal, we have tried to advance the cause of stormwater pollution control. I am confident that whatever the Board's action today, we have already sent a strong message that the time for a concerted effort to address stormwater pollution is now. We have

already seen substantial progress by cities to informally apply the 0.75 inch numerical standard and in other instances to establish stormwater management programs that go beyond the basics. We are on the right track with this proposal although I believe there is ample room to fine tune the proposal to make it either more comprehensive or to instill greater flexibility. Either way, the goal of improving stormwater quality will be achieved.

- City of LA Resolution PY 11-153-A-6+7
- City of West Hollywood 11-153 A-8

Now, Dr. Xavier Swamikannu will comment briefly on several issues including BMP costs and a bit more detail on how the 0.75 inch numerical design standard is applied. He will be followed by Jorge Leon who will address a few legal issues.

Then acknowledge late comment letters
involved individuals

Mtg w/ Don Wolfe 12/28/99
Terri Grant

> New Development definit. - pg. 4

- delete land subdivision

> ESA definition

> Hillside definition

most parking lots may already be covered

(problem - "pollutant of concern" oil + grease not identified -)

* > Parking lots ← 200 spaces

> Redevelopment - needs additional definition

- 50%

- cumulative effects

> Peak Runoff

will result in an increased potential for downstream erosion

> #3 Minimize

add back in language

> #6,7 Outdoor material storage areas

- ~~only~~ except - single family dwellings

R0068068

#9 needs clarification
"runoff"
define "event"

Roofing Surface Exclusion

delete "indirectly"
delete "mulched"
add "improved"

E. PARKING Lots
- needs transitory "requirement" language

11. Waiver
add "potential"

13. "signed by a licensed architect or engineer
& conformance with standards"
Change to

Dec 15
Jan 26

- Lisa Boyle
- Alex Mackenzie
- Andy
- Nina Byrd

Andy Lipkis - Treepeople (20,000 members, 45 staff, $3 million budget)

David Able - Planning Report (LA County/City is ½ funding for stormwater education)

- major article to be published : synopsis of proposed action

Mary Nichols - when w/ EnviroNow funded economic analysis

Cost -

- most expensive part is the cistern
- most can be done for ~$2,000/home

Cost-benefit Model

- very detailed + comprehensive

- San Jacinto Watershed Pilot Project
  2,700 ac (8,000 homes) in progress

Special provisions for projects > certain size
- require cisterns ?

- Parking lots
- Schools
- Playgrounds

} not selected : SUSMPs

> SUSMPs

transportation category to an NPDES stormwater permit

- 6 reports due from permit
  July 31, 2000
  - monitoring
  - countywide permit
  - 5 yr public education strategy

  } principal permittee responsible

- Ex Summary Annual Report - Dec 23rd to submit

Feb 2001
ROWD is due
- performance stds
- WMAPs

11/29/99 w/ Ron Wilkens
Tiffany

State Stormwater Task Force BMPs are "efficiency" suggested by WSTA and members

has a problem w/ anything other than the "basic BMPs"

.75 inch opposition - lack of benefit (definable)
contamination of sub surface groundwater

3/4" over 1 ac = 27,000 gal

† data collected runoff - showed non-detect (Orange Cty)

NPI study underway - runoff from service stations

Most new RGOs do no service

inadequate filter for slow contribution

Compelling environmental disbenefits

- sub surface pathway

< need to be specific re: storm frequency

* Opt out mechanism (based on data collection)

↓ balance provision

R0068072

– Mtg w/ David Nahai !

10/25/99 **SUSMPs** w/ BIA

Impacts re: county requirement
- no clear info currently / may be several months
- county does not have a good idea of how to implement
- county says it will be a year before any good info is available

Renewels request to meet w/ enviros to dispell distrust

SCAG water policy committee
- BIA wants to give recess w/ SCAG (SCAG wants to facilitate)

Concern over cost increases / LA County requirements have delayed a project by two months (1st)
can't quantify additional costs yet –

Concern that no water quality benefit will accrue
- concern w/ lack of future maintenance
- Home owners assns are not universal (who will maintain?)

> if no HOA – how can it be done

Create a stormwater maintenance district

? ** Trigger 0.75 in criteria to a future date

Evaluate SCAG proposal w/ XAVIER

Nov 12 10 am next mtg

R0068073

10/1/99

w/ NRDC SUSMPs

- County has a list of 20-30 projects/activities
- Design standard for volume 0.75 in

Every expert says that development is a critical aspect of stormwater pollution
Dr. Rich Horner

Structural BMPs need a performance standard to provide clear objective standards for compliance

- opposition is not

Only some BMPs are "infiltration" - these should only be used under certain conditions (not appropriate when there is shallow groundwater)

Even so, choice of BMP is contingent upon the circumstances

- 0.75 w/ county was reached after the settlement discussions closed

Have Dennis make presentation

Elicit some cities -

Get professors - > Stenstrom <

Enviros will not go below 0.75

WP - $ 30 million grants for sewer systems - small communities

need legal justification for more

R0068074

310 846 0460

10/12/99 Mtg w/ City re SUSMPs

Desi - suggests a longer study - time frame to address the issue

Desi/Gary - are these discretionary standards
do they apply to discretionary projects
guideline not mandatory

Gary - local agencies should have the ability to adopt SUSMPs selectively

Rich's - mandatory language issues - creates too many opportunities for litigation
clarity issues / lack of specificity

technical problems w/ language regarding

Ed S. - adopt this as a pilot to allow facts to be developed
efficiency of SUSMPs are not known
cost-benefit ratio is a problem

Desi - some pollutants will not be addressed
baseline is not known

Gary - only a few projects have been affected
- large subdivision projects (70 - 100 homes)

- working w/ developers to develop calculations
e.g. infiltration trenches on individual properties
- county is requiring street runoff
- streets need to be included in the analysis
- problem w/ individual homeowner changing BMP

Rich - development is a vested right / SUSMP conditions cannot be employed

* Cities will need to adopt an ordinance to make controls / SUSMPs fully effective

Terri - this is a learning experience
some locations are inappropriate for infiltration
- soil condition variability

Gary - infiltration benefits are a positive (flood control)

GROUND WATER QUALITY

Neil - cities cannot inspect many thousands of individual BMPs over time to ensure effectiveness

"No net increase in pollutant loading"

R0068076

Gary - does the SUSMP adopted by RWQCB require cities to inspect these systems

Memo of law - needs to be part of the ROD
- obligation of city to inspect SUSMP (what if no ordinance in place)

Ray Tahir - issue of

> Developed vs. undeveloped land SUSMPs

* Require all cities to increase permeable area by X percent over a period of time

** Set up meeting w/ envir community

> need to resolve ambiguities between words
long Beach vs. LA.

* > What about a design certification for SUSMP application

> SCAG stormwater mtg next Tues <

(Next ~~Friday~~ Tues) = here

(Conflict / dispute resolution)

R0068077

> To receive options <
what are alternatives

mtg w/ BIA

> SCAG process (another mtg just this past Monday)
WSPA attended
Brash industries
City of LA, County, Santa Clarita

ideal approach would be to set a timeline to determine actual BMP effectiveness / lack of science
- lots of people just don't know what to do

likes SCAG process to pursue timelines / additional study
- phased approach

County does not know how they can implement the 0.75 in std
* → - maintenance / County does not want to assume responsibility

SCAG - new water policy committee

Roy - County does not know how to make 0.75 in work
- 1st project has been delayed (now 2 months)
- stormwater is key issue
- county will not do maintenance (HOA is being the designee)

- some developers don't want to set up HOAs

next Fri
state task force
stormwater

Jan mtg
in SD.

R0068078

City of Calabasas allows site specific considerations
- recognizes differences in the area

Fossil filters are cheap - county will not accept

$2,000 / house is estimate of costs

> Baykeepers have filed 60 day notices to challenge the new construction stormwater permit

Suggestion - require cities to report info on how BMPs have been implemented

Problem w/ infiltration (many clay lenses - unpacked soils)
- difficult to get infiltration to work

Cliff - Annual Building Conf - June : S.F.
Brochure
Taking issue very seriously

Rich - set up a process which is productive not coercive

> What BIA can do / or needs

- improve site planning (Key element)
- voluntary pilots
- implementation of SUSMPs as proposed
- practical definition of MEP
- controlled experiments are needed

BIA
- members are very leery of a number

- Clean water act is being used to stop growth
  numerical standard provides a strong lever
  of litigation justification

Ventura County experience
- flexibility is built-in / ~~rigid~~ rigid standards don't work
- 70% capture of runoff

Process would need to show results relatively quickly
↖ is not seen as delay

- info to be developed on BMP selection/maintenance

BMPs may impede urban high density redevelopment

- Ventura
Range 0.2 → 0.9 incl. of runoff

SUSMPs

1) 85th percentile (based on amount of runoff - impervious ground / if ground is ~~less pervious~~ less developed - ~~more~~ a higher flow rate will apply)

2) 0.75 (default)

3) we did not include requirement to ecologically sensitive areas
   - Long Beach allows SUSMPs to ecological sensitive areas
   - LA County does not (HTB wants this in)

1) not treatment, but application of BMPs
   - efficiency of BMP not ~~an~~ required
   - BMPs to work at various levels
     - different density → different BMPs
   - website ~~has~~ - national database on BMP effectiveness

Santa Monica, Calabasas } already - place w/ numerical limits
↑ 0.7 inch

BayKeeper / HTB went more -
apply development to curb degradation pollution

We will address legal authority in the presentation

SUSMP

Would a structural BMP require a WDR -
if so - under what conditions / how often

Add → permanent tile to sidewalks (instead of stenciling)

Reg 2 - pursuing enforcement of municipalities ~~to~~ ~~take~~ for enforcement of permit requirements

Send inspectors to new developments to check for stenciling requirements

When a BMP fails - ~~the~~ and a release to a stream occurs - is that a violation of the receiving water standard

system failure (all controls on site) vs. individual BMP unit (one set of sandbags around a catch basin)

1) municipal stormwater
2) Construction appears to be an area of growing regional differences of application

w/ CCoke / Fair

discrete-ing vs. non

Pg. 4 1) top comment - power to - Can it be applied - to everyone

2) are enumerated categories comprehensive or are non-discrete-ing in that category excluded ?

XS Single family - category addressed in hillside but not ESA

"Consider"

R0068083

11/20/99

Mtg w/ Craig Perkins / Neal Shapiro   City of S.M.

Waivers - technical or economic infeasibility

- considering off site BMPs
- in lieu fees

* - Santa Monica does not have an absolute requirement for compliance (if it can't be done onsite) - if in an area is designated for lot line to lot line development

- Buy-outs on a "case by case" basis
  - funds used for other projects

- Follow-up inspections for maintenance
  - no formal program
  - validation of effectiveness is an open issue (except for parking lot clarifiers)

- no specific measurement underway to evaluate function / effectiveness

new developments over a certain size (new dev'p res. 100 area)

R0068084

EAC mtg 1/12/00

> SANTA Clarita

$24/yr for avg single family home 7,000 sq ft lot w/ 2500 sq ft of impervious surface

now reduced to $21/yr.

Process at Board mtg

EAC mtg

Part B vs. Part A of the permit

City of LA - objects to including new categories of SUSMPs since the permit did not

* Do we have a scientific basis for including parking lots

(*) Argument from Sheila Kennedy & City of LA that 2 new categories are covered by Part B of the form?

↳ Why isn't Part B good enough —

100,000 & 50,000 sq. ft parking spaces

Ed S. - 25 spaces @ 250 sq. ft.

Pg. 13 Are the requirements for parking lots already covered so as not to need this ~~desc~~ specification?

Is it redundant?

pg. 13 Does the Waiver concept actually circumvent the permit's language re: Max. Extent Practicable

pg. 13 Waiver - legal hurdle of mandating a fee issue ?

XS Jan 6 letter from City to me — 0.75 in

12/30/99

w/ Dow W. 0.75

- many concerns being raised
- solutions that comply but long term nuisances or maintenance problems are emerging
  - detention basins that don't percolate after 2 or 3 rains
  - dry wells only work for a short time and require maintenance
- setting up a "fast acting" task force to DPW right of ways / standardization
- set up SW maintenance dist (financing sources) for new developments
- will send us a letter outlining problems faced by county to implement the 0.75" standard -

pg. 9 of 17 "significant source of pollution

9 of 17 (d) consider adding provision re: energy dissipators

add > I offered July 1, 2001 kick-in (firm date)

> evaluation w/ architects for SW control

> define commercial (problem to include industrial

12/30/99 mtg w/ EAC

Commercial developments include parking lots
4 stalls / 1,000 sq ft
250 ft² / parking space

250
25
1255
500

25 spaces = 6,000 sq ft
6,000
12,000 ft² / store
1/4 ac.

= lots of mini malls

100,000 = 50,000 ft³ for parking ≡ 200 spaces
2½ ac.

* Parking lots / structures - stand alone
not assoc. w/ commercial
developments

increase to 50 cars?
100 cars?

USC Architecture Dept

possible SUSMP commentor

Dr. Achva Stein — Ecological Factors in Design

USC School of Architecture
Room 0204
USC
CA 90089-0291

213 740 2090

fax 213 740 8884

BOARD MEETING EXHIBITS

Board Meeting Date: January 26, 2000

Exhibit	Submitted by	Description
A	California Environmental Associates John D. Claussen.	Re: California Restaurant Assoc. Comments on the proposed SUSMP ~~Mitigation~~ Rule.
B	City of Santa Clarita Anthony J. Nisich	Opposition to Proposed SUSMP
C	University of California Los Angeles	Support of SUSMP
D	Building Industry Association of Southern California - Richard J. Lambros	Opposition of SUSMP
E	City of Los Angeles, City Hall LosAngeles, CA 90012	Support of SUSMP.
F	Steve Fleischli, SantaMonica BayKeeper	Overall Program Scope is Unnecessarily and Counter-productively Limited.
G	Tom Kennedy, City of ?	Chronology of Model Development Planning Program
H	Richard Montevideo, EAC	(Administrative Review) L.A. Municipal StormWater Permit Order No. 96-054
I	Carl Kolicott	L.A. Municipal Storm Water Permit Order No. 96-054 1. County wide Dev. Plan. Guidance
J	City of Santa Monica	Recommendation to Adopt a Resolution to Support the Efforts of LARWQCB - SUSMPs
K	Tim Wilkness	Legal Comments of the Western States Petroleum Assoc. Re: Proposed SUSMPs.
L	Councilmember City of Carlsbad Charles Burrows	Resolution NO. 2000-1
M	Tim Piasky	Re: Comments opposition SUSMP
N	Marvin Sachse, Brash Industries	Comments to LARWQCB SUSMP Program

R0068090

BOARD MEETING EXHIBITS

Board Meeting Date: January 26, 2000

O	Richard Watson	Testimony before the Board 1/26/2000, and The Clean Water Initiative
P	Lynn L. Jacobs, Ventura Afford. Homes	Urge the Board to support the "Clean Water Initiative"
Q	Southern CA Watershed Alliance Conner Everts, Director	(support) Thank You letter Re: SUSMP
R	Richard Montevideo, Rutan & Tucker	Overview of Legal Deficiencies of Proposed Regional Board Action
S		
T		
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V		
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R0068091

BOARD MEETING EXHIBITS

Board Meeting Date: January 26, 2000

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BOARD MEETING EXHIBITS

Board Meeting Date: January 26, 2000

Exhibit	Submitted by	Description
A		
B		
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Exhibit A

CEA CALIFORNIA ENVIRONMENTAL ASSOCIATES

January 14, 2000

Xavier Swamikannu
Storm Water Program
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Re: California Restaurant Association comments on the proposed Standard Urban Storm Water Mitigation Plan Rule

Dear Mr. Swamikannu,

California Environmental Associates (CEA) represents the California Restaurant Association (CRA) and Burger King Corporation (BKC). On behalf of CRA members in Los Angeles County, we submit the following comments on the proposed Standard Urban Storm Water Mitigation Plan for Los Angeles County (SUSMP) to the Los Angeles Regional Water Quality Control Board (Board).

GENERAL

CRA has reviewed the proposed SUSMP rule (December 7, 1999) and has developed comments requesting reconsideration of the numeric treatment standards and offering clarification on specific issues elsewhere in the rule.

CRA is interested in working with the Board, Los Angeles County, the co-permitees (municipalities), and other stakeholders to establish a fair and effective SUSMP rule. The CRA and their member organizations believe that, with the Board's consideration of the changes and clarifications discussed in this letter, the SUSMP rule will accomplish the goals and requirements of the Los Angeles County National Pollution Discharge Elimination System (NPDES) Permit.

CRA's comments address the proposed "SUSMP Provisions Applicable to All Categories" and the specific provisions applicable to priority project categories for "Restaurants" and "Parking Lots".

R0068094

11-420

423 Washington Street, 3rd Floor • San Francisco, CA 94111 • Ph: 415/421-4213 • Fax: 415/982-7989

NUMERIC TREATMENT STANDARDS

The Los Angeles County Department of Public Works currently requires, as part of their Storm Water Program[1], monitoring and inspection of existing "food establishments" (including restaurants) for proper implementation and maintenance of various physical and management storm water BMPs. These BMPs are designed to address the following elements of a storm water program at restaurants:

- Spill prevention, control, and cleanup
- Outdoor equipment operations and maintenance
- Outdoor materials storage and handling
- Waste disposal and handling
- Equipment washing and cleaning
- Building and grounds maintenance
- Employee training

When these BMPs are applied, they provide an effective means of preventing the discharge of pollutants to the storm drain system from restaurant operations without the need for numeric treatment standards.

CRA believes that there is a lack of data demonstrating that the required numeric treatment standards are cost effective[2] or that they provide a net benefit to the beneficial uses of receiving waters through their use. Also, while the NPDES Permit calls for mitigation of pollutants from storm water runoff to the "maximum extent practical" it does not go so far as to mandate the use of numerical treatment standards - nor are numerical treatment standards necessary to enforce the implementation of the minimum BMP requirements laid out in the SUSMP rule. CRA requests that the Board defer including the numeric treatment standard in the final SUSMP rule until such time as the Board can demonstrate that implementation of such a standard is feasible, cost effective, and will lead to further reduction of pollutants of concern than already occurs under the current program.

Furthermore, CRA concurs with the position and recommendations of the Southern California Association of Governments (SCAG) outlined in their SUSMP Policy that was approved by the SCAG Regional Council on January 6, 2000, including[3]:

- Not adopt SUSMP numeric standards until such time as the Board can validate the feasible, technical and scientific bases for numeric standards.
- Monitor pilot programs similar to those underway in Los Angeles County.
- Ask SCAG to manage a legal authorities initiative in which all of the 85 cities in the Los Angeles Basin would work to develop model language which would then be available for municipal implementation throughout the Basin.

[1] A program of the Los Angeles County Department of Public Works (LACDPW), Environmental Programs Division.

[2] The implementation of treatment BMPs will be potentially costly, exceeding the estimated 0.5% of total project costs as estimated by the Board, particularly when retrofitting existing parking lots is considered as part of a "redevelopment" project.

[3] Recommendations cited from the January 6, 2000, SCAG document, *SUSMP Policy Approved by the Regional Council of the Southern California Association of Governments.*

CLARIFICATION

CRA offers the following clarifying comments to the Board for consideration and incorporation into the final SUSMP rule.

Issue 1: Redevelopment
The definition of redevelopment in the proposed SUSMP rule is too vague.

First, CRA requests that the definition of redevelopment clarify the word "remodeling". CRA members are concerned that changes to the interior or décor could trigger the application of this rule. At a minimum, the rule should not be triggered if you don't change the footprint of the building.

Second, CRA requests that a minimum alteration standard of 50% of the size of an existing project be considered for inclusion into the rule. A minimum alteration standard will effectively restrict the requirements of the SUSMP rule redevelopment standard to those projects that are effectively changing the original use and purpose of a facility and substantially increasing the potential for source pollutants of concern being discharged into the storm drain system.

Also, the SUSMP rule defines as one form of redevelopment "replacement of impervious surface that is not part of routine maintenance activity". For parking lots particularly, it is unclear how the distinction between maintenance and "redevelopment" projects will be defined. For instance, will periodic blacktop application of a parking lot be considered "maintenance" or "redevelopment"?

CRA recommends that the Board adopt the interpretation of "maintenance" exclusions defined in the State Construction Permit[4] Fact Sheet. This definition states: "Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety" (Page 2, State Construction Permit Fact Sheet).

Issue 2: Project Should be Assessed Independently
Restaurant redevelopment projects and parking lot redevelopment projects must be assessed independently.

It is CRA's understanding that redevelopment of an existing restaurant will not trigger the application of the proposed SUSMP rule to an adjacent parking lot, unless the parking lot is "redeveloped" in accordance with the definition provided in the rule. Consequently, the redevelopment of an existing parking lot will not trigger the application of the proposed SUSMP rule to an adjacent restaurant, unless the restaurant is "redeveloped" in accordance with the definition provided in the rule. Please insert language that will clarify that "redevelopment" of a discretionary project will not affect adjacent discretionary projects.

[4] State Water Resources Control Board Water Quality Order 99-08-DWQ, *National Pollutant Discharge Elimination System General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity.*

Issue 3: Maintenance
The SUSMP rule is vague on the issue of BMP maintenance requirements. It is also unclear how these BMP maintenance requirements will be enforced consistently across Los Angeles County. The rule, as currently written, requires property owners to "provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements, and/or Conditional Use Permits" (Requirements, Section 8). However, most BMPs simply have generally accepted standard (e.g., vendor recommended) maintenance requirements, while common sense dictates other maintenance schedules (e.g., cleaning catch basin grates at least once before wet season).

While it is clear that the SUSMP rule will allow developers and property owners to evaluate and determine the proper maintenance requirements in an agreement with municipalities, please provide additional clarification and guidance (e.g., guidance documents) for how municipalities will effectively and consistently approve, monitor and enforce these maintenance requirements.

Issue 4: Trash Storage Areas
The proposed SUSMP rule requires that all trash storage areas adequately prevent "offsite transport" of trash and "divert" drainage from adjoining roofs, etc. around trash areas.

The current restaurant industry practice of using self contained, self-enclosed dumpsters meets these requirements. The SUSMP rule should explicitly identify this as an acceptable BMP option for trash storage areas.

Issue 5: Parking Lots
In the Definitions section of the proposed SUSMP rule "parking lot" is defined as "land area or facility for the parking of commercial or business or private motor vehicles". In section 10 of the proposed SUSMP rule, Provisions Applicable to Individual Priority Project Categories, the proposed rule states that parking lots must be properly designed to "treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g., fast food outlets, lots with 25 or more parking spaces, sports event parking lots, shopping malls, grocery stores, discount warehouse stores)". It is unclear which threshold criteria (size, # spaces, type) is to be used to determine applicability of the SUSMP policy to a particular parking lot. It appears that a parking lot with only 10 spaces could fall under the definition of parking lot for the purposes of this rule, irrespective of other factors (e.g., use) limiting applicability.

CRA requests that the definition of a parking lot consider the relative level of "use" and be limited to lots with 25 or more spaces (i.e., lots with 25 spaces or less should be excluded form the rule and lots with 25 or more spaces should be evaluated for their inclusion based on relative level of use).

Issue 6: Additional Permit Requirements
It is unclear whether the SUSMP rule will require developers and property owners to obtain additional permits as a result of implementing the required treatment BMPs. For instance, will design and implementation of SUSMP treatment control BMPs for parking lot runoff require a property owner to obtain a treatment permit under DTSC Permit-by-Rule program? This poses potential operation and compliance, as well as cost, burdens that need to be considered when evaluating the cost effectiveness of the numeric treatment standards.

Please provide an assessment and impact analysis of the potential for additional permitting requirements due to implementation of the SUSMP rule.

CONCLUSION

CRA trusts that these comments will help the Board to develop a fair, effective, and consistent SUSMP rule while considering the concerns of the restaurant industry in Los Angeles County. Please feel free to contact me at any time should you have any questions or comments.

Regards,

John D. Claussen
for the California Restaurant Association

CC: Jot Condie, California Restaurant Association
Rick Burkett, Burger King Corporation
Fred Phillips, Burger King Corporation
Joyce Dery, Burger King Corporation
Marion Hoffman, Burger King Corporation
John Harrietha, Burger King Corporation
Mike Kissel, Carl Karcher Enterprises
Ed Conklin, McDonalds Corporation
Paul Deneka, Jack In The Box

Exhibit B

23920 Valencia Blvd.
Suite 300
Santa Clarita
California 91355-2196
Website: www.santa-clarita.com

Phone
(661) 259-2489
Fax
(661) 259-8125

City of
Santa Clarita

January 25, 2000

Dennis A. Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Subject: PROPOSED STANDARD URBAN STORMWATER MITIGATION PLAN

Dear Mr. Dickerson:

The purpose of this letter is to provide comments to the Regional Water Quality Control Board (RWQCB) regarding the December 7, 1999 proposed Standard Urban Stormwater Mitigation Plan (SUSMP). The City of Santa Clarita is opposed to the imposition of numeric limits and the addition of the two new design priority categories that have been added to the SUSMP at this time. The RWQCB has received many letters from cities and other interested parties regarding potential problems with the SUSMP that has been proposed by your staff. In an effort to save you from reading a lengthy dissertation about the shortcomings and insurmountable challenges presented by the proposed SUSMP, the following highlights are provided for your consideration:

- Costs and benefits should be carefully considered.
  Santa Clarita is one of the fastest growing community in California and one of the more desirable and affordable places for young families to live. Environmental quality is critical to the community's sustainability. Higher housing costs hurt young families and the community's ability to achieve a strong economy. The overall impact of regulatory costs should be carefully considered prior to implementation.

- Requirements should apply to all.
  Narrowness of application (new v existing development) of the new standards place developing areas at a distinct disadvantage compared to developed areas, simply because it costs more to build, start a business or build a home and potentially minimizes the beneficial impacts.

- Real data should support treatment requirement.
  Design standards in other communities have been developed over a period of time using real data about the specific area and/or watershed

in question. Stakeholders were also involved in the process of development. Data is needed to support the legality of the imposition of land development requirements and to help cities explain and defend the effectiveness of their programs.

- Details in SUSMP.
  - Exclude individual single family residences from the requirements for design of outdoor material storage and trash storage.
  - Hillside definition should be changed to include only disturbance of any natural slope that is 25 percent or greater.
  - Redevelopment should be defined as "the addition, to an already developed site of 50 percent or more impervious area or improvements to 50 percent or more of the existing improvements on the site."
  - Numeric standard for treatment requirement should be eliminated.

- Flexibility needed for implementation.
  Local government implementation will vary among jurisdictions. Time and flexibility is needed in the process and documents to allow for customizing the requirements to each jurisdiction's needs.

- Creating and perpetuating an unfunded mandate.
  The NPDES program creates additional expense for the jurisdictions subject to it. Local government resources are limited. Maintenance of treatment control devices requires ongoing funding.

The City of Santa Clarita remains committed to working with the RWQCB and the environmental community in continuing to achieve improved water quality.

Thank you for your consideration. If you have any questions or would like to discuss any of the issues raised above, please contact me at (661) 255-4963.

Sincerely,

Anthony J. Nisich
Director Transportation & Engineering Services

AJN:AJR

cc: George A. Caravalho, City Manager
Jeffrey J. Lambert, AICP, Director Planning & Building Services
Amelia Rietzel, Environmental Services Coordinator

Exhibit C

UNIVERSITY OF CALIFORNIA, LOS ANGELES UCLA

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Michael K. Stenstrom, Ph.D., P.E., Professor
Department Of Civil And Environmental Engineering
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January 26, 2000

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Dickerson

I am writing to you in again in support of a proposal to require new development to meet stricter stormwater standards by requiring the first 0.75 inches of rain fall to either be treated or captured for infiltration. This letter is in addition to my letter of September 15, 1999.

I have read Heal-the-Bay's January 14 letter and I support its recommendations. I want to emphasize that the provisions to exempt roof areas are counterproductive to the purposes of the proposal

Capturing runoff from impervious areas, including roofs, is the most important aspect of the proposal. If we allow roofs to be exempted, we will largely negate the potential environmental benefits of the proposal. I believe you should eliminate the exception for roofs. If it remains in the proposal, we will have accomplished very little. I believe that it would be better to abandon the existing proposal than to have it pass with such a large "loop hole"

As I said in my earlier letter, the application of this proposal will not be without cost. However, there are new technologies being tested to help new developments comply with the proposed changes. The proposal, if passed without the exception for roofs, will provide significant and much needed improvements for Santa Monica Bay and other receiving waters.

Very truly yours,
Michael K. Stenstrom, Ph.D., P.E.

CC:
Xavier Swamikannu
Mark Gold

Exhibit D

Building Industry Association of Southern California

1330 South Valley Vista Drive
Diamond Bar, California 91765
909.396.9993
fax 909.396.9846
http://www.biasc.org

January 25, 2000

Chairman H. David Nahai
and Members of the Board
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Dear Chairman Nahai and Members of the Board:

On behalf of the Building Industry Association of Southern California (BIA/SC), I must express strong concern with the way the SUSMP issue has been handled by Board Staff. The lack of a set process for addressing this very important issue, coupled with last minute and seemingly arbitrary changes in the facts involved with this hearing, concern our industry greatly and leave us with a sense of "foul play." What is most disturbing is that the handling of this issue to date has most certainly limited informed public access to the decision making process.

Specific Concerns

As you will recall, at your September 16th Hearing on SUSMP several individuals noted for the Board their concerns over a lack of proper notification and other problems with how the issue had been handled. Also, our industry and others raised specific concerns over, what appeared to be, favorable treatment to the environmental community as to the rules governing their testimony and presentation to the Board.

Since the September hearing things have not gotten better and in fact have gotten even worse. Several specific actions by Board Staff continue to concern us. First of all, the meeting location for the hearing was changed late Friday afternoon, long after we (and other organizations) had already sent out numerous notices asking our members to attend and giving them the original meeting location.

Second, in a memo from Xavier Swamikannu of Board Staff dated December 17, 1999, we were told to coordinate all of the individuals speaking on behalf of our industry into one comprehensive presentation on SUSMPs. We were specifically asked to give Board staff a list of the individuals that would be speaking and the amount of time required. After complying with this request and believing that this is how the hearing would be handled, we were told just last Friday afternoon (only 3 business days before the hearing) that the hearing would be handled in a completely different fashion. We now learn that we will have only three minutes per individual and no opportunity for a comprehensive presentation from our

industry. We are concerned, not only over the late nature of this change in plans, but also over the fact that the procedure the Board is now planning to use is in no way sufficient to cohesively convey our industry's concerns, especially considering the highly technical nature of some of our issues.

Third, we are concerned that we were given a December Draft of the SUSMP proposal to comment on. Then in the January 18th staff report we were told that a "Change Sheet" would be issued later which would make changes to the Draft SUSMP document. After regular business hours last Friday, a very hard to follow list of changes (Change Sheet) was sent out from the Board Staff. Most people did not even receive this document until Monday morning, just two days before the hearing. Even after reviewing the Change Sheet it is difficult to understand what is the exact language being proposed in the revised SUSMP that will be before the Board on Wednesday.

To give Board Staff insight into our industry's position and to gain clarification on a number of issues within the Change Sheet, we met with your Executive Officer, Dennis Dickerson yesterday. While we appreciate Mr. Dickerson's time, there were several questions that he could not answer regarding what the final language submitted to the Board would include. He referred us to Xavier Swamikannu of the Board Staff as the person writing the final language and the individual that could answer our questions. We asked to talk with Mr. Swamikannu yesterday but he was in San Diego at a meeting. This morning (Tuesday) we finally did reach Mr. Swamikannu at the Board Office and after reviewing with him the questions which Mr. Dickerson could not answer, we were still unable to confirm what would be in the specific language in the final SUSMP proposal before the Board. He further informed us that an additional Change Sheet would be issued later today or tomorrow morning before the hearing.

Our concern here is that once again the Board Staff has engaged in last minute changes that will make it difficult for our industry and all other concerned parties to provide truly informed testimony during tomorrow's hearing. The "ever-changing" nature of the staff's proposal has limited informed public access to the process and has created an environment that is not conducive to the formation of sound public policy.

Finally, after meeting with Mr. Dickerson yesterday we asked Board Staff for a copy of the full comment binder that was sent to you as Board Members. Staff was kind enough to provide us a copy, however, after we went through the binder we could not locate the January 12, 2000 request letter or the January 14, 2000 comment letter submitted to the Board by BIA/SC. Also missing from the binder was a January 14, 2000 comment letter from one of our BIA members. When we pressed Board Staff for a reason why these letter were not included we were told that Mr. Dickerson had chosen which letters went into the binder and which did not. Board Staff assured us that all letters, even those not included in the binder, were eventually sent out to the

Board Members through supplemental packages. When we asked if they had copies of the supplemental letters that had been sent or if they could just verify for us that our letters were indeed sent to the Board Members, they could not. They also could not locate the file which contains all of the original comment letters received by the Board on the SUSMP issue because Mr. Swamikannu had taken the file with him to San Diego. (This struck us as a risky policy for original documents which are part of the public record.) Since Board Staff could not confirm that our January 14, 2000 comment letter ever got to you, the voting Board Members, they did agree to send it out in yesterday's supplemental package.

This incident causes us great concern, both because we wonder what other information may not have made it to Board Members and also because of the arbitrary approach that Board Staff has used in determining what was included in your binder. For example, your binder included two old letters from our association, but not the most relevant one, our January 14th comment letter. Also, while our letter somehow didn't make the comment binder, Board Staff took the time to send all Board Members an additional binder completely dedicated to the NRDC position paper and support material. Lacking a consistent process, the staff's actions appear arbitrary and unfair.

Summary of Concerns

Taken together – and within three business days before the hearing – the Board has changed meeting locations, changed the way we will be allowed to address the Board during the hearing, and (up to the last minute) has changed the actual language of the policy being considered at the Hearing. This is hardly a professional way to do business. Further, it is hard to argue that these activities invite informed participation from the public and concerned organizations.

Please also consider that those of us wishing to address you, the Board Members, are not allowed to do so independently because of your ex parte communication policy. This means that our only opportunity to address you directly on this important issue will occur during Wednesday's hearing. This makes these proceedings extremely important to us. Yet, we are forced to try to communicate our numerous concerns on complex and technical issues in the context of a three-minute presentation to the Board. If that weren't hard enough, please consider that we have had less than three business days to prepare for this restrictive format and that we have still not even seen the final SUSMP language that will be before the Board. Add to this that we are now forced to question whether you, the Board Members, are receiving all of the valuable information that we and other interested parties are sending to you in advance on this critically important SUSMP issue.

Because of these concerns, our industry strongly objects to the way the SUSMP issue has been handled to date. We are happy to participate in a fair process, but the one that we have been subjected to is not such a process. Further, we believe that you, as Board Members,

need to know that your staff has created an environment that is not conducive to the creation of sound public policy.

Request for Time

One means by which the Board could rectify some of the concerns we have raised is by allowing for an additional half-hour presentation during tomorrow's hearing. The process you have outlined for the hearing includes two 30-minute segments of time, one segment in support of and one segment in opposition to the SUSMP proposal. The Board's memo describing this process states that, "The Board will accept, at the beginning of the meeting, a list of 10 speakers from those in favor and a list of 10 speakers from those in opposition who will use this time." While this sounds fair and impartial, the fact is that Board Staff has allowed David Beckman from NRDC to coordinate the 10 speakers (30 minutes) in support and Desi Alvarez from EAC to coordinate the 10 speakers (30 minutes) in opposition. This means that the Board will hear a 30-minute presentation from the environmental community in support of the SUSMP proposal and a 30-minute presentation from the municipalities (permitees) in opposition to the SUSMP proposal. (It should be noted that the environmental community does not completely support, nor do the municipalities completely oppose what has been presented in the SUSMP proposal.)

What is missing from this plan is a presentation from another very important group – the regulated community. Board Members should have the benefit of hearing a comprehensive presentation from those who will ultimately be asked to implement and comply with the SUSMP proposal. Failure to include the regulated community in the initial presentations is tantamount to receiving only part of the story.

With this in mind, the Building Industry Association of Southern California requests that the Board amend the procedure for public comment to include a third 30-minute presentation from the regulated community. We hope that your desire for an informative and inclusive public hearing on the SUSMP proposal will justify this request

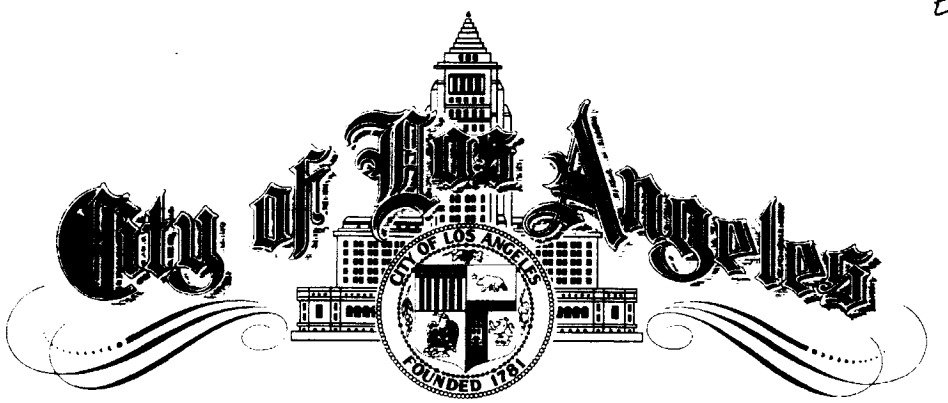
Thank you for your attention in this important matter and for your consideration of our request.

Sincerely,

Richard J. Lambros
Executive Vice President

cc: Dennis Dickerson, Executive Officer

Exhibit E



CITY HALL
LOS ANGELES, CALIFORNIA 90012

January 26, 2000

Dennis Dickerson
Executive Officer
California Regional Water quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Dickerson:

The City of Los Angeles appreciates the opportunity to comment on the Regional Water Quality Control Board's (RWQCB) proposed revisions to the Standard Urban Stormwater Mitigation Plan (SUSMP) submitted by Los Angeles County for your consideration. The City Council of the City of Los Angeles acted today to support the expeditious implementation of programs and policies to reduce water pollution associated with urban-runoff. The City supports, in concept, the proposed requirement to retain or treat approximately the volume of run-off produced from a 3/4 inch of rainfall in a 24 hour period (85% retention/treatment) included in the proposed revisions to the SUSMP as a minimum acceptable standard for new development planning. However, there are several implementation issues that must be addressed to ensure that the proposed program is successful. The City therefore requests that the RWQCB Governing Board provide a 30-day extension to provide the City with the opportunity to work with RWQCB staff and other stakeholders to resolve implementation issues. The request for additional time to ensure development of a successfully implementable program is intended to minimize delay in the overall implementation of the program, and in no manner is intended to delay the water quality benefits we all seek and support.

Given the relatively large size of the City of Los Angeles and various environmental, public health and safety, and other concerns and mandates of municipalities, program flexibility will be essential to ensuring successful program implementation and integration into the existing City administrative infrastructure. The need for flexibility is also essential to being able to accommodate the different circumstances and abilities of cities of varying sizes, terrains, and resources. Flexibility is also essential to accommodating modifications to the program as additional data and experience is gained. This flexibility must include a firm commitment from the RWQCB Governing Board and

staff to re-evaluate the 85% retention/treatment standard as experience with the retention/treatment requirement is obtained and as the new Municipal Stormwater Permit is negotiated in July, 2001.

The requirements included in the proposed revised SUSMP are anticipated to be implemented by the City through ordinances. The process to draft and approve ordinances can be lengthy and provides several important opportunities for public participation. Therefore, the time frame provided for implementation of the program needs to also be flexible, providing municipalities the full opportunity to engage in their existing public processes and to address concerns expressed as appropriate.

The attached Motion adopted by City Council on January 25, 2000, and comments detail the implementation issues of greatest concern to the City. In addition, technical comments on the SUSMP language are provided.

The City appreciates and supports the substantial efforts of the RWQCB in moving programs to address urban run-off pollution forward. We do respectfully request however that the adoption of the SUSMP be delayed for approximately 30-days to provide adequate time to address the very important and essential implementation issues of the program. You consideration of the City's comments and requests is appreciated.

Very truly yours,

Ronald F. Deaton
Chief Legislative Analyst

4-4A

SUBSTITUTE MOTION

On a daily basis, massive amounts of pesticides, metal residue, oily waste and solid garbage flow into the ocean, polluting our coastal waters. Human viruses and bacteria sicken surfers, swimmers and young children at play in the Santa Monica Bay. The source of this pollution is urban runoff from our lawns, parking lots and streets. In fact, urban runoff is the leading cause of water pollution in our region.

Los Angeles County has the worst urban runoff problem in the nation. While significant efforts have been made in recent years to address the problem, too little progress has been made. The condition of Santa Monica Bay, the Long Beach Harbor, and the Los Angeles River is a disgrace.

We can change that.

On January 26, 2000, the California Regional Water Quality Control Board (RWQCB), Los Angeles Region, is expected to discuss a proposed Standard Urban Stormwater Mitigation Plan (SUSMP). The new standards are far-reaching and promise to increase significantly efforts to reduce the insidious effects of urban runoff.

Under the proposed new standards, cities would have to ensure that new developments capture either 85 percent of the runoff from a storm in a 24-hour period or the first three-fourths of an inch of rain. The standard would apply to new commercial projects of more than 100,000 square feet and all new gas stations, auto repair garages, restaurants and subdivisions of 10 or more houses.

Developers and city planners would have a range of options for compliance. They could leave grassy swales and other open space so runoff could seep into the ground instead of flowing into stormdrains. Developers could also seek other options, such as building detention ponds, using permeable pavement or installing filters in curbside drains. Experts contend that the proposed limits could be achieved with relatively simple and inexpensive design changes.

The proposed new standards make sense. Retaining stormwater on site, allowing it to percolate into the land, not only protects the ocean from pollution, but it also replenishes the groundwater supply, a major source of our drinking water.

During previous meetings of the RWQCB, the office of the Chief Legislative Analyst raised questions about details of the board's proposal. These comments were perceived by many as an official objection by the City of Los Angeles to a sound policy to protect the environment and public health and safety. An editorial in the Los Angeles Times (Oct. 6, 1999) excoriated the City for its position.

Granted, given the enormous size and varied terrain of the City of Los Angeles there are several questions and concerns the city should raise about the proposal. Those are: whether Best Management Practices (BMPs) are effective for parking lots, auto repair garages, restaurants, residences and gas stations; whether the RWQCB will pursue public education programs to reduce emissions from motor vehicles to streets and parking lots; whether the RWQCB will provide a variance process for unusual situations and circumstances, such as areas with high ground water or high liquefaction potential; whether the RWQCB will collect regional ambient water quality data to confirm the effectiveness of the 85th percentile-0.75 inch provision and refine their rules accordingly; and whether the RWQCB will allow for a flexible process for establishing runoff requirements through the planning process for unusual situations.

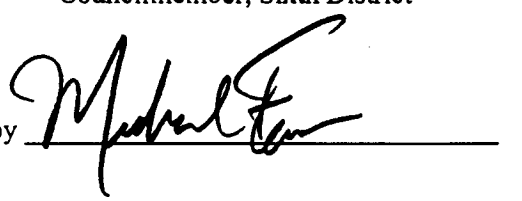
However, these concerns should not be interpreted as an objection to or opposition of the proposed 85 percent retention/treatment standard. Nor should those concerns be considered reason to unnecessarily delay or obstruct implementation of the board proposal. They should be seen, rather, as a request for additional information, data and analyses on the proposed standard and control measures to be implemented to achieve the standard. The City should assist the Board in obtaining the information necessary to support and implement a retention/treatment standard. The City should encourage the RWQCB to consider and address the City's concerns during its deliberations, but move quickly toward implementation of a policy that protects the environment and public health.

I THEREFORE MOVE that City Council adopt as City policy a position that endorses, in concept, the proposed Standard Urban Stormwater Mitigation Plan currently before the Regional Water Quality Control Board, including the 85th percentile/0.75-inch proposal as the minimal acceptable standard for development planning.

I FURTHER MOVE that the Council encourage Regional Water Quality Control Board to address the City's aforementioned concerns, and develop and implement as quickly as possible a policies that are flexible enough to consider the different circumstances and abilities of cities of varying sizes, terrains and resources, are supported by scientific data, and are subjected to meaningful public review and comment.

I FURTHER MOVE that the Chief Legislative Analyst report back on the status of the board's deliberations to the City Council's Committee on Environmental Quality and Waste Management.

Presented by 
RUTH GALANTER
Councilmember, Sixth District

Seconded by 

Tuesday, January 25, 2000

CITY OF LOS ANGELES
TECHNICAL COMMENTS ON THE PROPOSED REVISIONS TO THE STANDARD URBAN STORMWATER MITIGATION PLANS (SUSMP)

GENERAL COMMENTS

Public Process

Development of proposed water quality requirements and regulations need to provide for a full and meaningful public participation process. Such a process needs to include the opportunity for the public and stakeholders to review the various documents and studies considered and evaluated by the RWQCB staff in development of regulatory proposals.

The RWQCB released a staff report in August 1999 regarding the proposed RWQCB revisions to the SUSMP. The report did not provide water quality or cost information, but rather cited several reports as justification for the proposal. However, when City staff visited the RWQCB offices in August, the reports were not available for public review. The City subsequently submitted a written request for a 30-day public review period for the data. The data was not made readily available for public review and comment prior to the September RWQCB Governing Board meeting where the proposed RWQCB revisions were discussed and the item continued.

The RWQCB subsequently released a revised SUSMP proposal on December 7, 1999. However, the City learned early in January 2000 that the RWQCB would not release the staff report with supporting information and data until January 14, 2000. The City immediately submitted a written request asking that 30-days be provided to review and comment on the staff report and associated data. The staff report was released January 18, 2000. The Governing Board of the RWQCB is scheduled to consider the proposed revisions to the SUSMP January 26, 2000.

Implementation Issues of Concern

There is uncertainty as to how the proposed requirement to retain or treat approximately the volume of run-off produced from a 3/4 inch of rainfall in a 24 hour period (85% retention/treatment) would be achieved in practice and what structural best management practices would be appropriate. Effective Best Management Practices that achieve the 85 retention/treatment must be identified for each of the proposed land-use categories.

The RWQCB staff report released on January 18, 2000, does not present any information regarding pollution reduction or control cost associated with the RWQCB's proposal. Rather the staff report cites various studies as a method of supporting and justifying the proposed revisions. Although the City has not had adequate time to fully review the various studies cited in the January 18, 2000, RWQCB staff report, those we have reviewed clearly indicate that more information is needed.

The RWQCB staff report cites the City's Consent Decree -Strip Filter report dated March 16, 1999. The City's Bureau of Sanitation, Stormwater Management Division conducted a pilot program to test strip filters as a method of reducing pollution from parking lot run-off. The report concluded that "the strip-filter should be kept at an experimental stage. Maintenance frequency appears to be on a storm-to-storm level which is impractical." The report further indicates that the City continues to experiment to find an alternative design to assist in extending the useful performance of the structure. However, "at this stage of stormwater management research, the sand filter is not recommended for further implementation."

The RWQCB also cites the study "Results of a Retail Gasoline Outlet and Commercial Parking Lot Stormwater Runoff" (Western States Petroleum Association (WSPA) and American Petroleum Institute (1994). Apparently the study concludes that fueling activities at normally operated and maintained retail gasoline stations do not contribute additional significant concentrations of measured constituents to stormwater run-off. In addition, the fuel related constituents from pump islands were either not detected or below the applicable maximum contaminant levels.

Regarding the concern of which controls are most appropriate for retail gasoline outlets, there is some recent work done by Pat Ashley, a student of the California State University, Fullerton Environmental Studies program not discussed in the RWQCB staff report. Although the study is preliminary in nature, it appears to indicate that fuel island canopies may be as effective at reducing pollutants from gas stations as structural "treatment" controls. The results of the study further indicate that "there was no measurable difference in petroleum hydrocarbons for stormwater entering and existing station clarifiers." This clearly needs additional investigation, as it indicates the structural BMP has limited water quality benefit for those pollutants. It may however have benefits of reducing other pollutants of concern not tested for as part of the study.

It has been the City's experience that "one size does not fit all." Variances from City, air quality management district, and other regulatory agency requirements have always been accommodated. Therefore, there needs to be flexibility to accommodate variances from the retention/treatment requirement as appropriate. It has been discussed that in areas of high groundwater or high liquefaction potential certain controls may not be appropriate. In addition, it may be determined that due to construction constraints a lower level of retention, such as 50%, may be appropriate. Finally, since the benefits of the water pollution/treatment are currently uncertain, if controls become too expensive, it may be appropriate to allow less expensive control options. It is recommended that developers be allowed to appeal to the implementing municipality, in the City of the Los Angeles to Bureau of Sanitation, Stormwater Management Division, for re-evaluation if the 85% retention/treatment requirement exceeds 0.5% of the total project costs during the pilot study period. There may be other cases, as the requirement is implemented, where it is determined appropriate for variance allowances.

The City of Long Beach Municipal Stormwater Permit adopted recently includes a requirement to complete a parking lot study due to the controversy over parking lots. The study is scheduled for completion July, 2000. Therefore, including parking lots could appear to be premature without the

study results. Also, as discussed above, the best technology for use to address parking lot run-off is still being researched.

The 85-cities included parking lots of 200 spaces or greater within the Model Development Program, a separate program required under the Permit, to address potential stormwater impacts associated with such projects. Therefore, large parking lot projects are not neglected, but handled through a separate review process, as determined appropriate by the 85 co-permittee cities. The appropriateness of this process in conjunction with the proposed vehicle source control programs (see comments below) should be re-evaluated by the RWQCB.

Although the City supports the proposed 85% retention/treatment control in concept, flexibility to accommodate the technical and cross-media impact uncertainties need to be provided to municipalities to ensure successful implementation of the program, protect against potential litigation, and protect against unintended impacts.

Potential Cross-Media Impacts

Also of concern is that there has been no documented evaluation of the potential environmental impacts associated with the proposed retention/treatment requirement. Concern has been expressed regarding the potential for proposed retention-infiltration best management practices (BMP) to negatively impact groundwater. In addition, in some cases, such as treatment through grassy swales where suspended solid pollutants are reduced, there may be a potential to increase dissolved pollutants associated with herbicides and pesticides. Although these impacts are not currently envisioned as being insurmountable, clearly they warrant evaluation to ensure that BMPs are designed and engineered to address these issues. The BMP design and implementation requirements must be thoughtful to prevent new environmental problems, such as has been experienced with MTBE.

Controlling Pollution at its Source Versus Land-Use Retention /Treatment Requirements

Controlling run-off from parking lots would serve to address a very small portion of vehicle related water quality problems. A much more comprehensive approach to address vehicle pollution would seem appropriate and would likely be more cost-effective and require less oversight by all regulatory agencies, thereby minimizing administrative and enforcement costs. The most effective method of water pollution control is to control pollutants at their source. Such control prevents pollutants from ever entering the environment. Source control requires regulation of the source itself, such as consumer products and on- and off-road vehicles, which is generally best accomplished at the national or state level. National and state regulation of such sources creates a market large enough to sustain the substantial costs associated with research and development necessary to achieve pollutant free or reduced pollutant product reformulation. Regulation of sources on a local or state level cannot create such a market, making such controls too expensive for implementation.

The U.S. EPA and the State of California have successfully worked with engine and car manufactures to reduce vehicle air emissions. There may be opportunities to minimize vehicle/equipment leaks through vehicle modifications. This program could perhaps be supplemented through a public education program implemented in those areas that must comply with smog-check provisions of the Clean Air Act. Since vehicles are called in on a regular basis for emission testing, inspecting cars for leaks, and informing and educating vehicle operators as to the impacts of such leaks would result in minimal additional costs to the state program, while potentially resulting in substantial benefits to water quality. Such a source control approach is more practical and cost-efficient that trying to catch and treat urban run-off contaminated though contact with pollution on streets, highways, parking lots, and homes. The City therefore urges the RWQCB to work with the EPA and the State to undertake similar actions to address liquid leaks from cars, as a potential alternative to implementing parking lot treatment controls through the SUSMP at this time.

Administrative Implementation Issues

If the proposed RWQCB revisions to the SUSMP are passed by the RWQCB, the RWQCB is not responsible for implementing and enforcing the requirements on developers, rather cities are. The City anticipates adopting ordinances to implement the RWQCB proposed SUSMP requirements. This would require significant City resources, a California Environmental Quality Act (CEQA) evaluation, a public participation process, and Council action approving the ordinance. The process to draft and approve ordinances can be lengthy and provides several important opportunities for public participation. Therefore, the time frame provided for implementation of the program needs to also be flexible, providing municipalities the full opportunity to engage in their existing public processes, to address concerns expressed as appropriate, and comply with all administrative and legal requirements/procedures.

Data Gathering

To ensure that the information collected and water quality testing methodology is consistent among agencies, it is recommended that the RWQCB establish a regional workgroup consisting of local governments, regulated industry, environmental groups, and other stakeholders as appropriate to establish recommended best management practice water quality monitoring protocols and methodologies. Recommended protocols should be released for a minimum of a 30-day public review prior to Board consideration.

Without development of such basic data collection protocols and methodologies, the basic science of the stormwater program will always be at question, serving to delay needed water quality improvements with each proposed new requirement. Therefore, early development of such procedures and collection of baseline data is essential to the stormwater program.

It is further recommended that the RWQCB establish a regional ambient water quality monitoring program. This network should be similar to the ambient air quality network administered by the

South Coast Air Quality Management District, which measures air quality at representative locations throughout the air basin. Such baseline data would assist in measuring benefits of the stormwater program overall. It is anticipated, that as with the air quality program, as water quality improvements are documented the regulatory program will increase in credibility and gain more public support. The ambient monitoring will also assist in providing baseline scientific data for the upcoming total maximum daily load regulatory processes.

SPECIFIC COMMENTS

Background (Page 2 of 17)

The third paragraph, second sentence reads "This SUSMP contains a list of the minimum required Best Management Practices (BMPs) that must be used for a designated project." This implies that all the BMPs must be used in a project, which is inaccurate. The City requests that the sentence be revised to read: "This SUSMP contains a list of BMPs approved by the LARWQCB that are to be considered in Priority Projects."

In the following sentences, it's redundant to mention "Discretionary Projects" after Priority Projects. The term "Discretionary Projects" should be deleted. As provided in the Permit, SUSMP requirements can be implemented through the CEQA review process. It is recommended that this be reiterated in the SUSMP by adding the following language at the end of the sentence: "and may be implemented through the CEQA review process".

The last sentence of the third paragraph states that "Each Permittee will approve an Urban Stormwater Mitigation Plan ....." This is not consistent with the Model Development Planning Program (Model) which clearly states that the Urban Stormwater Mitigation Plans will be required for specific projects when SUSMPs are not appropriate and/or not adequate for the specific project in review. For clarity and consistency purposes we therefore recommend deleting the last sentence.

SUSMP Categories (Page 3 of 17)

As listed in the proposal, the category for home subdivisions means projects larger than 10 units. The Permit actually includes projects with 10 units and larger. For consistency purposes, the category should be the same as in the Permit and be stated as follows: "Home Subdivisions with 10 or more housing units".

The location of a project "adjacent" to an ESA would not automatically result in negative impacts to the ESA, unless the project were actually discharging pollutants into the ESA. Therefore, merely being adjacent to an ESA should not trigger the site as a "priority project" unless it can be demonstrated that a discharge will occur. To recognize this distinction, we recommend that the word "adjacent" be replaced with adjoining.

Definitions (Page 3 of 17)

Once the home subdivision category is listed consistent with the Permit (see above), there is no need to define "Greater than (>9) unit home subdivision". This definition should therefore be deleted.

Hillside: This definition will render almost all project sites to be in "hillside" under the broad definition given in the proposal. We recommend changing the definition to read as follows: "Hillside means property located in an area with known erosive soil conditions, where the development contemplates permitted grading on any natural slope that is 25% or greater."

Redevelopment: The given definition is too expansive and may be interpreted to include almost any project requiring any modification. The definition should be made more precise by including a minimum threshold value for considering a redevelopment as a Priority project. We recommend that redevelopment be defined as "the addition of or improvements to 50% or more of the existing site or any modification that alters the value of the existing development by 50%".

Conflict with Local Practices (Page 5 of 17)

The last part of the sentence will lead to misinterpretation and make the provision impossible to comply with. In addition, it is inappropriate to assume that the SUSMP requirements should overrride all City ordinances and policies, even those established for other public health and safety and environmental reasons. The City recommends deleting the following portion of the sentence "except where those practices would defeat or circumvent the intent of the SUSMP requirements." However, to keep RWQCB informed of these conflicts, we recommend the addition of the following statement: "Each Permittee will notify the Executive Officer of the LARWQCB of any conflict with their municipal codes that are encountered during implementation of the SUSMP." This once again highlights the flexibility required by municipalities to successfully implement the SUSMP program.

Provide Proof of On-Going BMP Maintenance (Page 7 of 17)

We agree that on-going maintenance of structural BMPs is highly important for their successful performance. It may appear that implementing the requirements of this provision is simple, however, ensuring that owners/operators perform the routine maintenance of BMPs year around is certainly difficult, and would place a tremendous administrative burden on municipal stormwater programs, and diverting limited resources away from more important programs. We do not have the necessary administrative procedures and inspection staff to ensure compliance, at this time. The City should not be held responsible in case of non-compliance by individual project owners/operators. Such is not the case for the RWQCB for Phase I facilities that it is responsible for overseeing.

We recommend that this requirement be clarified by adding the following sentence at the end of the first paragraph: "It's the responsibility of the project owners/operators to make sure that the routine maintenance of BMPs are carried out throughout the life of the project.

Design Standards for Treatment Control BMPs (Page 9 of 17)

Section 9 part B of the design criteria should be eliminated because the goal of an efficient BMP is improving quality of the runoff not controlling it. Although we concur with the concept, the permit does not include requirements for flood control, nor is flood control within the jurisdiction of the RWQCB. All standard design criteria given in scientific references for BMPs already include provisions for overflow capacity.

We agree with your decision to exempt some roofing surfaces for total area calculation. However, the fourth condition (part "d") will disallow almost all projects from qualifying for this exemption. The condition should be revised to read as follows: "the storm water conveyance system does not directly discharge to a natural stream or unlined channel or channel segment scheduled for restoration".

Waiver (Page 13 of 17)

We concur with the three recognized situations of impracticability. However, it should be also recognized that the list can not be limited to these three only because there may be numerous other very reasonable justifications that may arise in the future, for example, when public safety or human health is at risk. The last two sentences of the first paragraph create a cumbersome process of requesting approval from RWQCB Executive Officer every time such a situation arises. We recommend that the sentences be deleted and replaced with the following: "Any other justification for impracticability may be granted for cause by the municipality. All waivers granted by municipality will be reported to the Executive Officer of the LARWQCB on an annual basis.

Local governments must retain the sole authority to establish mitigation fees or fees of any kind. It is inappropriate for the RWQCB to mandate that municipalities implement fee programs. There are several issues which must be considered by local governments in establishing fee programs. It is therefore requested that the last paragraph of this section be revised as follows: replace "must" with "may"; replace "storm water mitigation" with "municipal".

Alternative Certification for Stormwater Treatment Mitigation (Page 13 of 17)

We agree with the concept of this section of the SUSMP, however, we recommend that the certification be required to be signed by a Civil Engineer or Architect registered in the State of California. This would provide assurance that the design of the BMPs was conducted with technical expertise and also an opportunity for recourse for negligent designs.

Other Issues

Establishing BMP monitoring requirements through property deeds or similar mechanisms is unworkable and should not be included in the SUSMP.

Exhibit F

OVERALL PROGRAM SCOPE IS UNNECESSARILY AND COUNTER-PRODUCTIVELY LIMITED

1. **"Discretionary Project" Limitation Should Be Dropped**

2. **Failure to Adopt Los Angeles County List**

3. **Nine project types are Ostensibly Covered But Restrictive Definitions Profoundly Limit the Meaningfulness of Coverage**

   - **"Retail Gasoline Outlet" should include all pumping stations**
   - **Hillside**
   - **"Restaurants"**

     All restaurants should meet the same standards. The 5,000 foot limitation should be eliminated.

   - **"Commercial Stand-Alone Parking Lots"**
   - **"Redevelopment"**
   - **Outdoor Material Storage Area BMP**

Hillside Definition: Hillside means property located in an area that has any of the following characteristics, or where the planned development has any of the following characteristics:

location in an area known to have erosive soil conditions as identified in the Los Angeles County Dept. of Public Works Hydrology/Sedimentation Manual; **OR**

Grading will occur on any natural slope where the natural slope is **15%** or greater; **OR**

Plans include cut or fill slopes that are 30 feet high or greater.

R0068118

The Proposed Design Standard is Cost-Effective

A. BMPs Can Be Very Inexpensive

B. BMPs Have Been Proven to be Highly Effective if Sized Appropriately

C. The Proposed Design Standard is One of the Most Cost-Effective Ways to Reduce Urban Runoff

D. Implementation of the Proposed Design Standard, and Even More Environmentally Protective Standards, Has Not Impeded Development

Program Scope Is Fatally Hindered by a Host of Exceptions that Render the Current Proposal Virtually Meaningless

A. Across-the-Board Exceptions Restrict the Program's Application Unduly, Rendering Certain Aspects Almost Meaningless

1. Rooftop Exemption

2. Waiver Provision

3. Self-Certification

4. Conflicts with Local Practices

Exceptions - one major loophole after another to get out of the numeric DESIGN standard requirement. The August Draft contains no exemption

Focus -

Rooftop - Background FACA UNW EPA - every controversial issue you can think of was discussed. No one mentioned a Rooftop exemption

Exhibit G

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- Florida
  - 2 ½ years to develop design standard
  - "hundreds" of meetings
  - 29 drafts
  - wide involvement of stakeholders

- Maryland
  - 5-6 years to develop design manual
  - statewide involvement by stakeholders
  - currently undergoing public review
  - [two counties have proceeded with early implementation based on draft documents due to local concerns or significant stream bank de-stabilization—a hydraulic/hydrologic concern more than a water quality concern.]

- Denver Area
  - Development of criteria took over one-year
  - Criteria were developed only as guidance with the MS4 permittees making their own determination a to how and to what extent the criteria would be implemented

  City of Denver has required use of criteria by ordinance, but acknowledge that the actual application of criteria is somewhat subjective.

- Seattle
  - Intitiated development of design standards in 1988
  - Final adopted in June 1992
  - Process incuded wide involvement of stakeholders
  - Two rounds of drafts for public review over a 2 year period
  - Several workshops/meetings – lots of communication

Summary – Those responsible for developing design standards recognized the significance and impact of these requirements.

- In each case development of design standards
  - Reflected the unique climate, geography and environmental needs of the area
  - took 2 years or longer
  - required broad stakeholder involvement
  - recognized that without local buy-in and support, at best, implementation would be inconsistent, and at worst, would lead to litigation.

- In no case did:
  - a regulatory body attempt to unilaterally impose a design standard
  - a program adopt a standard developed by another jurisdiction.
  - any program blindly impose a design standard strictly based on recommendations in the ASCE or WEF manual

Exhibit H

Part 2.I.G and 2.I.H.

G. Administrative Review

The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the Regional Board under this Order. In addition, it provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement action.

1. Storm water program documents, including progress reports, guidelines checklists, BMPs, databases, program summaries, and implementation and compliance schedules, developed by the Principal Permittee or a Permittee under the provisions of this Order, shall be submitted to the Executive Officer or the Regional Board, where required for approval. The process is as follows:

   a. For documents that require Executive Officer's approval, the Executive Officer will notify the Principal Permittee and/or Permittee of the results of the review and approval or disapproval within 120 days. If the Executive Officer has not responded within 120 days following submittal, the Permittee shall notify the Regional Board of its intent to implement the program components as submitted. If after 10 days the Executive Officer has not responded, the Permittee will implement the submitted program and the Executive Officer may not make modifications; and,

   b. Documents that require formal Regional Board approval will undergo public review and comment before Board consideration at a public meeting.

2. If the Executive Officer determines that a Permittee's storm water program is insufficient to meet the provisions of this Order, the Executive Officer shall send a "Notice of Intent to Meet and Confer (NIMC)" to the Permittee, with specific information in support of the determination. The NIMC shall include a time frame by which the Permittee must meet with Regional Board staff. The processes are as follows:

   a. The Permittee, upon receipt of a NIMC, shall meet and confer with Regional Board staff to demonstrate that the Permittee's program is sufficient to meet the requirements of this Order; and, if not, seek clarification on the steps to be taken to completely meet the provisions of this Order. The meet and confer period will conclude with either a notice of program sufficiency to the Permittee, or the

submittal to and acceptance by the Executive Officer of a written "Storm Water Program Compliance Amendment (SPCA)" which shall include implementation deadlines. The Executive Officer may terminate the meet and confer period after a reasonable period due to a lack of progress on issues and may order submittal of the SPCA by a specified date. Failure to submit an acceptable SPCA by the specified date shall constitute a violation of this Order;

b. The Executive Officer will approve or reject the submitted SPCA or an amended SPCA within 120 days. Rejection of an SPCA by the Executive Officer shall state the reasons for the failure to approve the SPCA. A Permittee that receives a rejection of an SPCA shall have sixty (60) days to remedy the specified deficiency and resubmit the SPCA. If the Executive Officer has not responded within 120 days following submittal of an SPCA, the Permittee shall notify the Executive Officer of its intent to implement the SPCA as submitted. If after 10 days the Executive Officer has not responded, the Permittee will implement the submitted SPCA and the Executive Officer may not make modifications;

c. The Permittee shall comply with the terms of the SPCA. The Permittee shall submit reports to the Executive Officer on progress made under the SPCA. The frequency of progress report submittal shall be quarterly unless otherwise prescribed by the Executive Officer. Failure to comply with the terms and conditions of the SPCA shall constitute a violation of this Order and shall be cause for enforcement action by the Regional Board; and,

d. The Executive Officer shall not take enforcement action against a Permittee until the Executive Officer has notified the Permittee in writing that the Administrative Review Process has been exhausted and that the Executive Officer has determined that a violation exists warranting enforcement.

H. Public Review

1. The Principal Permittee shall maintain a current mailing list of interested parties, organized by WMAs, for distribution of documents that require the Executive Officer's approval. The Executive Officer will provide the Principal Permittee with the initial list of interested parties.

2. The Principal Permittee shall distribute for public comment the initial CSWMP, WMAPs, and other storm water program requirements that are submitted to the Executive Officer or the Regional Board for approval.

1. Countywide Development Planning Guidance

The Principal Permittee, in consultation with the Permittees, shall develop the following development planning guidance materials for use during planning and permitting of all development projects requiring discretionary approval:

a. A model documented system, such as a checklist, for determining priority projects as well as a list of specifically exempt projects not later that January 30, 1998. Priority and exempt projects are defined as follows:

   i. Priority Projects are development and redevelopment projects requiring discretionary approval which the Building Official (or equivalent municipal authority) determines may have a potential significant effect on storm water quality.

   ii. Exempt Projects are development and redevelopment projects which the Building Official (or equivalent municipal authority) determines will not have a potential significant impact on storm water quality.

   The documented system shall consider location of the project with respect to designated environmentally sensitive areas and the slope and erosion potential of the site and surrounding areas.

   Each Permittee shall incorporate a substantially similar system into its procedures not later than six months after commencement of its next fiscal year following approval of the of the documented system by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

b. A list of recommended BMPs not later than January 30, 1998. The list of BMPs shall include:

   i. Site planning practices;
   ii. Post-construction best management practices; and
   iii. Redevelopment and infill practices.

Consideration shall be given to the type of development and the potential for storm water pollution when determining the applicability of BMPs. Cost effectiveness, ease of maintenance, and consistency with other environmental mandates may also be considered.

For developments where increased storm water discharge rates will result in an increase in downstream erosion potential, the list of recommended BMPs shall include those BMPs which can be used to maintain peak runoff rates at pre-development levels to the maximum extent feasible.

The list of recommended BMPs shall be submitted to the Regional Board for approval.

c. Standard Urban Storm Water Mitigation Plans (SUSMPs) and guidelines for their preparation not later than six months after Regional Board approval of the BMPs in Part 2.III.A.1.b. The SUSMPs shall incorporate the appropriate elements of the recommended BMPs list. At the minimum, SUSMPs and guidelines shall be prepared for the following development categories:

i. a 100+ home subdivision;
ii. a 10-home subdivision;
iii. a 100,000+ square-foot commercial development;
iv. an automotive repair shop;
v. a retail gasoline outlet;
vi. a restaurant; and
vii. a hillside-located single-family dwelling.

2. Planning Control Measures

Each Permittee shall develop a program on planning control measures for priority projects (Part 2.III.A.1.a) consistent with the programs developed under Part 2.III.A.1.b. & c.. Each Permittee shall initiate implementation of its program not later than six months after commencement of its next fiscal year following approval of the model Standard Urban Storm Water Mitigation Plans by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be initiated later than July 30, 1999. Each Permittee shall require that the project applicant submit an Urban Storm Water

Mitigation Plan appropriate and applicable to the project, and that the Permittee approve the Plan prior to the issuance of any grading or building permit. The Urban Storm Water Mitigation Plan shall incorporate by detail or reference appropriate post-construction BMPs to:

a. Implement, to the maximum extent practicable, requirements established by appropriate governmental agencies under CEQA, Section 404 of the Clean Water Act, local ordinances and other legal authorities intended to minimize impacts from storm water runoff on the biological integrity of natural drainage systems and water bodies;

b. Maximize, to the maximum extent practicable, the percentage of permeable surfaces to allow more percolation of storm water into the ground;

c. Minimize, to the maximum extent practicable, the amount of storm water directed to impermeable areas and to the MS4;

d. Minimize, to the maximum extent practicable, parking lot pollution through the use of appropriate BMPs such as retention, infiltration, and good housekeeping;

e. Establish reasonable limits on the clearing of vegetation from the project site including, but not limited to, regulation of the length of time during which soil may be exposed and, in certain sensitive cases, the prohibition of bare soil; and

f. Provide for appropriate permanent controls to reduce storm water pollutant load produced by the development site to the maximum extent practicable.

The Permittee may refer applicants to the *'California Storm Water Best Management Practice Handbooks,* California Storm Water Quality Task Force, Sacramento, CA (1992)' and its revisions; the Countywide Storm Water Management Plan; *'USEPA Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Issued under the Authority of Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990,* Document No. EPA 840 B 92-002 (1993),'; and similar manuals for specific guidance on selecting post-construction BMPs for reducing pollutants in storm water discharges.

3. Planning Process

In order to integrate storm water management considerations into

C. Program Evaluation Report

1. The Principal Permittee, shall, not later than July 31, 2000, mplete an analysis of the general success of the Five-Year Storm ter Public Education Strategy and identify its accomplishments. Thi eport shall serve as the basis for the next Five-year Storm Water Public Education Strategy that will be part of the ROWD.

2. The Principal Permittee shall, not later than July 31, 2000, and in consultation with the Permittees, prepare and submit a report on the assessment of the effectiveness of the CSWMP components (except that identified in C.1.).

3. The Principal Permittee shall, not later than February 1, 2001, submit a report on the identification of CSWMP components for which performance standards will be developed and implemented during the next term of the permit. The report shall include a schedule of development of performance standards. The performance standards will indicate the level of implementation necessary to demonstrate that efforts are being made to reduce the discharge of pollutants in storm water to the maximum extent practicable. This report will be an integral part of the ROWD.

D. Integrated Receiving Water Impacts Report

The Principal Permittee shall not later than July 31, 2000, prepare and submit an Integrated Receiving Water Impacts Report. The report shall include, but not be limited to a comprehensive analysis of the results of the different monitoring data (land use, mass emissions, critical source, load assessment, receiving waters, and other pertinent studies available), and feasible environmental indicators. It should also include recommendations on future monitoring requirements, e.g., integration of storm water receiving water monitoring with regional receiving water monitoring, if applicable. This report will be an integral part of the ROWD.

Exhibit J

6E

JAN 25 2000

EPWM:CP:NS:f/EPWM/ADMIN/Staffrpt/1-25-00/SUSMPS.doc
Council Meeting: January 25, 2000 Santa Monica, California

TO: Mayor and City Council

FROM: City Staff

SUBJECT: Recommendation to Adopt a Resolution to Support the Efforts of the Los Angeles Regional Water Quality Control Board to Establish a Numerical Standard for Stormwater Runoff Reductions in the Standard Urban Stormwater Mitigation Plan.

Introduction

This report recommends that the City Council adopt a resolution in support of the Los Angeles Regional Water Quality Control Board's effort to establish a numerical standard for reducing stormwater runoff from a parcel during each storm event.

Background

Approximately 50 percent of rainfall in the greater Los Angeles area becomes urban runoff, carrying a mixture of heavy metals, organic chemicals, pathogens, nutrients and sediments from parking lots, streets, sidewalks, rooftops and yards into the Santa Monica Bay. Urban runoff, according to the U.S. Environmental Protection Agency, is the single greatest source of water pollution in the ocean, contributing 50-60 percent of the pollutant load. Visitation rates to Santa Monica beaches have dropped dramatically during the past 15 years in large part due to more frequent and larger incidents of beach and ocean contamination. Recent studies have concluded that people who swim near flowing storm drains are more susceptible to contracting certain illnesses.

In 1993, Santa Monica adopted one of the nation's first urban runoff pollution control

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JAN 25 2000

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ordinances to reduce ocean pollution from both new construction and existing parcels. The Santa Monica ordinance requires a minimum 20% reduction in urban runoff from all newly developed parcels in addition to specific runoff reduction requirements for surface parking lots and also specifies guidelines for existing properties and new construction sites.

The Executive Officer of the Los Angeles Regional Water Quality Control Board has recommended a numerical standard for onsite rainfall retention to capture a larger percentage of runoff events, that is, runoff volume and pollutant loads. The current recommendation to the Board includes a numerical standard of 0.75 inches per 24-hour period of rainfall – the first three-quarters inch of a rain falling in 24 hours must be retained on site for percolation. By requiring a numerical standard for new development, such as that found in the City's Urban Runoff Pollution Ordinance, less urban runoff finds its way to the Bay, thereby reducing the overall amount of ocean pollution.

Discussion

Many of the co-permittees and regional building associations oppose a numerical standard for stormwater reduction, citing the potential for excessive costs to be imposed on cities and private construction projects, concern that BMPs are not effective in removing specific pollutants, and inadequate information on whether certain pollutants are a problem in the Bay and need to be controlled in the first place. They support, instead, a regulation that would require retention to the "*maximum extent practicable*".

Supporters of the proposed requirements include many individual citizens and major

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environmental groups including Heal the Bay, NRDC, BayKeeper and TreePeople. The environmental groups called for a 100% retention standard originally, but support the highest possible standard. Many of the interested environmental groups fear that without a specific numerical standard municipalities will not aggressively require urban runoff retention since interpretation of *maximum extent practicable* will be inevitably ambiguous.

The City is the only co-permittee city where staff has publicly expressed support for the Board's efforts to approve a numerical standard. The City of Calabasas has a municipal ordinance similar to Santa Monica's and has expressed at various meetings its support of strategies to put more storm runoff back into the ground, but has not publicly commented on the proposed requirements. The City of Los Angeles opposes a numerical standard. Los Angeles County has already adopted the same numerical standard for unincorporated Los Angeles County areas. The current proposal before the Regional Board pertains to incorporated cities within Los Angeles County.

In their proposal for a numerical standard, Board staff has provided examples of successful BMP implementation in projects throughout the United States, including the San Francisco Bay area. Board staff has received authoritative presentations on engineering and hydrology standards and principles from the Water Environment Federation and the American Society of Civil Engineers to calculate the optimal rainfall retention amount, and has drawn from professional publications on proper BMP design and successful practices, including a national BMP database.

The guiding premise of Santa Monica's ordinance, and the proposed Regional Board requirements, is to focus on the reduction of runoff quantity, which will in turn result in concomitant pollutant reductions in the storm drain system. In terms of BMP effectiveness, much empirical data is available to aid in the design and maintenance of systems that maximize storm harvesting and infiltration. Reducing stormwater pollution through the intelligent planning and design of new construction, which is the objective of the City's ordinance, is the most cost-effective approach to reducing runoff and associated pollutants. Incorporating BMP systems into future development prevents the existing problem from getting worse by reducing future runoff and preventing increases in future costs to remediate the problem.

Budget/Financial Impact

No specific financial impact to the City is anticipated as a result of the City Council's support of a numerical standard for the SUSMPs.

Recommendation

Staff recommends that the City Council adopt the attached Resolution in support of the Los Angeles Regional Water Quality Control Board's effort to establish a numerical standard for stormwater runoff reductions from a parcel during a storm event.

Attachment: Resolution of the City Council of the City of Santa Monica in support of the LA Regional Water Quality Board efforts to establish a numerical standard

Prepared by: Craig Perkins, Director of Environmental & Public Works Management
Neal Shapiro, Urban Runoff Management Programs Coordinator

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EPWM:CP:NS:f/EPWM/ADMIN/Staffrpt/1-25-00/SUSMPS.doc
City Council Meeting 1-25-00

Resolution Number _____ (CCS)
(City Council Series)
Resolution of the City Council of the City of Santa Monica in Support of the Los Angeles Regional Water Quality Control Board to Establish a Numerical Standard for Stormwater Runoff Reduction in the Standard Urban Stormwater Mitigation Plan

WHEREAS, the City of Santa Monica has a Sustainable City program and a General Plan Conservation Element that promote long-term efficiency and environmental-responsibility in the use of all water resources, including urban runoff; and

WHEREAS, the City supports and encourages efforts to maximize the amount of rainfall and urban runoff put back into the ground and to minimize the runoff pollution that enters the ocean; and

WHEREAS, the City's Urban Runoff Pollution Control Ordinance requires a 20 percent reduction of total runoff for new development as well as significant reduction of total runoff from new parking lots and is working to reduce total runoff and pollutants entering the Santa Monica Bay; and

WHEREAS, numerous studies, design documents and a national database demonstrate BMP effectiveness and successes, including significant reductions in pollutants of concern; and

WHEREAS, a numerical standard, which includes all portions of a new development site including all roof areas and surface parking lots, is necessary in the Standard Urban Stormwater Mitigation Plans (SUSMPs) to ensure that a minimum baseline amount of runoff is captured for percolation, based on sound and widely accepted principles of hydrology; and

WHEREAS, the up-front amount spent on BMPs is a small percentage of total construction costs with region-wide benefits, and site-specific BMPs are more cost-effective than "end-of-the-pipe" mitigation and treatment; and

WHEREAS, each new development project must become part of the urban runoff solution and not continue to be part of the growing problem;

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SANTA MONICA DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. The City of Santa Monica is committed to restoring and preserving the health of the Santa Monica Bay, which is vital to the health of both residents and visitors.

SECTION 2. As an expression of this commitment, the City of Santa Monica hereby formally supports the Los Angeles Regional Water Quality Control Board efforts to establish a numerical standard for stormwater runoff reduction in the Standard Urban

Storm Water Mitigation Plan.

SECTION 3. The City of Santa Monica hereby formally supports the December 7, 1999, SUSMP Draft prepared by the Regional Board Executive Officer. The City opposes proposed amendments which would considerably weaken the requirements through the exclusion from the numerical standard of roof runoff and most surface parking lot runoff as well as delay full implementation of the requirements, all of which would dramatically compromise the goal of maximizing the amount of stormwater runoff diverted into the ground.

SECTION 4. The City Clerk shall certify to the adoption of this Resolution, and henceforth and thereafter the same shall be in full force and effect.

APPROVED AS TO FORM:

MARSHA JONES MOUTRIE
City Attorney

Exhibit K

LEGAL COMMENTS OF THE WESTERN STATES PETROLEUM ASSOCIATION REGARDING THE PROPOSED STANDARD URBAN STORM WATER MITIGATION PLAN

Submitted January 26, 2000

The Western States Petroleum Association (WSPA) commends the Regional Board staff's recommendation to delete the proposed numerical design standards from application to retail gasoline outlets and to apply only the Best Management Practices contained in the California Stormwater Quality Task Force's 1997 Best Management Practices Guide. See Staff Report, p. 12. If the Board disagrees with that recommendation or nonetheless elects to apply numerical design standards to retail gasoline outlets, however, the Western States Petroleum Association has a number of concerns regarding the legal basis for such action, which are outlined below:

1. Applying Numerical Design Standards To Retail Gasoline Outlets Is Arbitrary, Capricious and Contrary to Law.

The Staff Report correctly recognizes that only implementation of economically achievable management practices are required by the Clean Water Act. See Staff Report, p. 3. Indeed, the Board must consider "economic considerations" when establishing waste discharge requirements and water quality standards. Water Code Sections 13241(d) and 13263(a). No analysis has been performed to determine whether any of the proposed four different numerical design standards would be economically achievable or reasonable if applied to retail gasoline outlets. Without such economic analysis, the Board cannot know whether the numerical design standards are practicable and any application of such requirements to retail gasoline outlets would be arbitrary, capricious and without authority.

2. The Lack of Adequate Time For Public Review of the Proposal Violates Due Process And The Requirements of Order 96-054.

The 19-page Staff Report and Record of Decision supporting the proposal was only released on January 18, 2000. In addition, a Change Sheet containing significant substantive modifications to the proposal was released on Friday, January 21, 2000 and the revised version of the proposal has not been made available to the public before the Board hearing. By delaying the release of the Staff Report and changes to the proposal, the Board violated due process principles by depriving affected members of the public of an adequate opportunity to review and comment on this proposal.

Moreover, the short time period allowed for public review of these critical documents is contrary to the public review requirements contained in this Board's prior Order No. 96-054. That order required a 45-day period for interested parties to submit comments and provided the

Executive Officer with a 120-day period to consider the proposal and comments before reaching its decision. Due to the late release of key documents, the staff has prevented the requirements of Order No. 96-054 from being fulfilled and the public has been deprived of the opportunity to meaningfully participate in the agency's process.

3. The Board Has Not Satisfied CEQA Requirements.

The Staff Report incorrectly suggests that the proposed numerical design standard is required based on the application of Section 402(p) of the Clean Water Act. In fact, the Clean Water Act does not require municipal stormwater discharges to comply with numeric limitations -- any such requirements are discretionary. Defenders of Wildlife v. Browner, 191 F.3d 1159, 1166-67 (9th Cir. 1999). Therefore, if the Board adopts numerical design standards, it does so through its State authority.

The Staff Report asserts that the proposed regulation is exempt from CEQA through Water Code Section 13389. Contrary to the Staff Report's contention, however, Water Code Section 13389 only exempts the adoption of federally mandated waste discharge requirements and permits. See Water Code § 13372; Committee for a Progressive Gilroy v. State Water Resources Control Bd., 192 Cal. App. 3d 847 (1987). As noted, numeric design standards are not federally mandated. Furthermore, it is clear that the proposal would have a significant impact on the environment because it would require many new construction projects to submit an Urban Storm Water Mitigation Plan for approval and implement specific post-construction controls,which, in the case of retail gasoline outlets at least, could have very significant adverse effects on groundwater. Since the proposed numerical design standards are not federally required and they will significantly affect the environment, the Board must follow CEQA requirements if it wishes to adopt such standards.

4. The Board Has Not Complied with the Administrative Procedure Act.

The Board has not fulfilled the requirements of the Administrative Procedure Act (APA) since the proposed numeric design standards are a standard of general application which meets the APA definition of a regulation. See Government Code Section 11342. Contrary to the Staff Report's assertion, Government Code Section 11352(b) does not exempt the proposal from the APA because this provision only exempts required "waste discharge requirements and permits" and, as described above, federal law does not require numeric design standards to be included in permits. Therefore, Board adoption of the proposed numeric design standards would be a quasi-legislative action and the APA will apply. Moreover, the Staff Report's assertion that any challenge to the Board's action would be untimely is ludicrous. The current proposal far exceeds what was contemplated by Order No. 96-054 because the proposed numerical design standards were only recently added. Until the Board has satisfied APA requirements, the proposed numeric design standards cannot be adopted.

5. The Numeric Design Standards Are An Unfunded Mandate.

Similarly, the proposed numeric design standards would constitute an unfunded mandate prohibited by the California Constitution. Since the proposed numeric design standards would be implemented at the option of the Board, the limits are not "costs mandated by the federal government." Government Code Section 17513. Therefore, the Board must consider how the proposed numeric design standards would be funded.

Exhibit L

RESOLUTION NO. 2000-1

A RESOLUTION OF THE GATEWAY CITIES COUNCIL OF GOVERNMENTS ADVISING THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION, OF ITS INTENTION TO PETITION THE STATE WATER RESOURCES CONTROL BOARD FOR RELIEF FROM UNREASONABLE RUNOFF POLLUTION CONTROLS FOR NEW DEVELOPMENTS.

WHEREAS, the Gateway Cities Council of Governments (hereinafter "Gateway Cities COG"), is a sub-region consisting of 27 member cities of Southeast Los Angeles County.

WHEREAS, on September 8, 1999, the Gateway Cities COG adopted "A RESOLUTION OF THE GATEWAY CITIES COUNCIL OF GOVERNMENTS URGING THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION TO DEFER DISCUSSION OF NUMERIC STANDARDS FOR TREATING OR RETAINING STORM WATER RUNOFF FROM NEW DEVELOPMENTS PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL NPDES PERMIT (HEREINAFTER "NPDES permit");

WHEREAS, on September 16, 1999, the California Regional Water Quality Control Board, Los Angeles Region (hereinafter "regional board") convened a public hearing to discuss requiring cities in Los Angeles County to impose stringent numeric storm water retention/treatment requirements (hereinafter "numeric requirements") on certain categories of new developments, through so-called Standard Urban Storm Water Management Plans (hereinafter "SUSMPs") -- a requirement of the development planning program component of the NPDES permit;

WHEREAS, such numeric limits were intended to retain or treat about 80-85% of runoff from the subject new developments, which include 10-99 home sub-divisions, 100-plus home sub-divisions, and 100,000 square foot commercial developments;

WHEREAS, during aforementioned public hearing, 50 cities expressed opposition to the proposed numeric storm water retention/treatment requirements because of the following:

i. They were inflexible to the extent cities would have been required to meet he numeric standard, even if it were difficult or possible to do so because of economy, practicality, or the new risk of creating another environmental problem;
ii. They were largely based on a settlement agreement between the County of Los Angeles and the Natural Resources Defense Council;
iii. They were targeted at reducing oil, grease, and unspecified metals without specifying the purpose of such a stringent requirement, such as protecting a beneficial use of a particular receiving water (e.g., ground-water recharge areas of the Los Angeles and San Gabriel Rivers);
iv. They would have been the most stringent new development runoff pollution control requirement in the State; and

v. They are not authorized either under the NPDES permit or the development planning program, which calls for SUSMPs.

WHEREAS on September 16, 1999, the Executive Officer of the regional board recommended to continue discussion of this issue to another time;

WHEREAS, on December 7, 1999, the Executive Officer issued a revised SUSMP and proposed its adoption through a tentative RESOLUTION APPROVING THE RECORD FOR STANDARD URBAN STORM WATER MITIGATION PLAN FOR MUNICIPAL STORM WATER AND URBAN RUNOFF MANAGEMENT PROGRAMS IN LOS ANGELES COUNTY;

WHEREAS, although the revised SUSMP addresses several of the concerns expressed in the Gateway Cities COG resolution, it made the SUSMP more stringent by requiring a numeric-based design standard for retaining or treating runoff from ANY PARKING LOT WITH 25 OR MORE SPACES OR GREATER THAN 5000 SQUARE FEET -- instead of requiring a numeric standard just for housing sub-divisions and 100,000 square feet commercial developments as initially called proposed;

NOW THEREFORE, the Gateway Cities COG does hereby resolve as follows:

Section 1. Advise regional board members of its opposition to the regional board's proposed tentative resolution;

Section 2. Recommend that the regional board approve the Standard Urban Storm Water Mitigation Plan, which does not include broad numeric limits, as proposed by the Executive Advisory Committee on August 1, 1999;

Section 3. Notify the regional board that if it or its Executive Officer adopts any requirement calling for a numeric standard to treat or retain storm water runoff from any development project, or controlling runoff from a surface area of any new development, without the consent of the Gateway Cities COG, that this COG may, within 30 days of the action, prepare a petition with the State Water Resources Control Board enabling its members to challenge such action.

PASSED, APPROVED, AND ADOPTED THIS 5th DAY OF JANUARY 2000.

ATTEST: Richard Powers, Executive Director

I, Richard Powers, Executive Director to the Board of Directors of the Gateway Cities Council of Governments hereby certify that the foregoing Resolution was duly adopted by the Executive Committee of the Board of Directors of the Gateway Cities Council of Governments at a regular meeting thereof, held on January 5, 2000, by the following vote:

AYES: ALL MEMBERS PRESENT

EXECUTIVE DIRECTOR

Exhibit M

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100

HARRY W. STONE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

January 26, 2000

IN REPLY PLEASE
REFER TO FILE: EP-3

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

STANDARD URBAN STORMWATER MITIGATION PLANS

We have reviewed your "Comments Received and Response - Supplement" and your "Change Sheet" both dated January 21, 2000, as well as the "Change Sheet" dated January 25, 2000. Although the majority of our comments from our December 28, 1999, letter have been addressed, we still have serious concerns with some of our comments that were not addressed and some of the new changes that you have made to the Standard Urban Stormwater Mitigation Plan (SUSMP). The following are our comments that we would like you to consider.

Comments From Our December 28, 1999, Letter Not Addressed:

SUSMP Categories

Although you have clarified the definitions of parking lots and projects discharging into environmentally sensitive areas, the two additional categories are nearly identical to project characteristics that are already identified as priority projects in the Development Planning Program. The priority project categories identified in Part B of the checklist includes project locations adjoining, bisected by, or directly discharging to a designated environmentally sensitive area, riparian corridor or wetland and parking lots with greater than 200 parking spaces for any office, commercial, or industrial use. The mention of these categories in a different manner in multiple components of the Development Planning program documents will lead to confusion.

Definitions

Hillside: The definition of hillside was revised to only partially address our concern. We still recommend changing the definition to read, "Property located in an area with known erosive soil conditions, where the development contemplates regulated grading on any natural slope that is 25 percent or greater." The municipalities only have the authority to implement the program on regulated grading.

Environmentally Sensitive Area: You have simply added references here for Areas of Special Biological Significance and Area of Ecological Significance. Your proposed definition of "Environmentally Sensitive Area" would still be very difficult to implement and enforce. We still recommend that these areas be defined as those adjoining, bisecting, or directly discharging to a Significant Ecological Area, identified by Los Angeles County or other environmentally sensitive areas identified by the local jurisdiction. This definition would provide clarity and be more consistent with that given in the Model Program. It would also be enforceable and have a reasonable basis.

Sections 6 and 7 of the General Requirements

Though you have exempted individual, single-family residential developments from the requirements of (Section 7) covering trash storage areas; you did not exempt the same from the requirements of (Section 6) covering outdoor material storage areas. An exemption, in that case, is appropriate as well.

Roofing Surface Exclusion

The wording of Part D was revised to read, "The storm water conveyance system does not directly discharge to a natural stream or a channel segment scheduled for restoration." We still recommend adding "to a natural stream" following restoration. This will help clarify what is meant by restoration. Also, you have added a statement at the beginning of the Roofing Surface Exclusion that reads, "A proportional area of roofing surface may be excluded..." This statement is vague and needs clarification.

Parking Lots

To address our earlier concern, you have now revised this section to require all the listed Best Management Practices (BMPs). As we stated earlier, these should be recommendations because it will not be possible, and is probably not necessary, to meet all these requirements on any one parking lot. For example, requiring the reduction of impervious land coverage **and** infiltration of runoff **and** treatment of runoff for parking lots seems to be excessive. Also, this section is redundant to the runoff mitigation requirements shown earlier in the SUSMP for the new parking lot category. This redundancy and overlap will make implementation of the SUSMP for this type of project confusing.

Concerns With the New Comments That Have Been Added:

Section 2 (Conserve Natural Areas) of the General Requirements

You have removed the "Every effort shall be made to" from the first requirement of this section. This eliminates the flexibility for situations where it is not feasible to concentrate or cluster development on portions of a site while leaving the remaining land in a natural undisturbed condition. This statement should be left at the beginning of the first requirement of this section.

Section 3 (Minimize Storm Water Pollutants of Concern) of the General Requirements

You have changed a portion of the definition of Pollutants of Concern by replacing "at a level high enough to be" with "concentrations or loads." The original definition of Pollutants of Concern was taken verbatim from our Stormwater Permit and therefore would create a conflict between the Permit and the SUSMP. We recommend leaving the definition as stated in the Permit.

Section 4 (Protect Slopes and Channels) of the General Requirements

You have added text that reads, "Utilize natural drainage systems to the maximum extent practicable." It is unclear what utilization means in this instance.

Section 8 (Provide Proof of Ongoing BMP Maintenance) of the General Requirements

You changed text regarding transfer of property to apply to a private or public owner. It is unclear as to why this addition is needed. The owner will always be a private or public owner. Therefore, this added text is not needed.

If you have any questions, please call me at (626) 458-5948, Monday through Thursday, 7:00 a.m. to 5:30 p.m.

Very truly yours,

HARRY W. STONE
Director of Public Works
Tim Piasky for

Terri M. Grant
Supervising Civil Engineer III
Environmental Programs Division

TP:sv

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cc: All Permittees
City of Long Beach
CRWQCB (David Nahai)

Exhibit N

BRASH INDUSTRIES

COMMENTS TO THE LARWB SUSMP PROGRAM

JANUARY 26, 2000 MEETING

Marvin H. Sachse, P.E.

BRASH INDUSTRIES

My name is Marvin Sachse. I am a State Licensed Professional Engineer, with Master's Degrees in Environmental and Industrial Engineering. I am the Program Manager for a State approved Storm Water Group serving 300 Southern California Automobile Recyclers and their trade associations.

As a group we wish to place before the board our concerns that the well intentioned SUSMP program will be compromised by the use of numeric limits.

1) TECHNICAL FEASIBILITY:

SUSMP program BMPs were derived from East coast studies with very few actual installations and less hard data.

The litigious nature of the CWA exposes all SUSMP installations to possible law suits over the term, "maximum extent practicable." Clearly defined effluent limits will eliminate the potential for unending litigations from this vague and inexact term. TMDLs will establish clearly defined effluent limits.

R0068159

P.O. BOX 957 ■ VENICE, CALIFORNIA 90294-0957
TELEPHONE: (310) 305-8637 ■ FAX: (310) 574-0875 ■ brashind@aol.com

The Sacramento Stormwater Management Program published a November 1999 Final Report. This report's data showed that under some conditions Total Suspended Solids and Zinc, are discharged from grassy swales and sand filters, increasing pollution loading in storm water treated by these BMPs. Of 14 BMPs evaluated 13 were rated "Not Acceptable," and 1 was, "Conditionally Acceptable."

2) COST: The Sacramento Report estimated the installed unit costs to range between $20,000 and $500,000. Operation and maintenance cost range between $400 and $4,500 per year. No cost benefit data has been provided by the RWB or in its recommended list of BMPs.

3) REGIONAL CONSIDERATIONS:

Los Angeles is a desert. BMP effectiveness data has not been presented for cities with similar weather patterns, soil conditions, rainfall, and topography.

4) AERIAL DEPOSITION

Aerial deposition sampling studies and City of Los Angeles sidewalk washing studies indicate that the amount of non-point source pollution in storm water exceeds US EPA Multi sector permit benchmarks. Zinc and lead are pollutants of concern but will not be impacted significantly by the SUSMP numeric limits because of their pervasiveness in the background and that they are not produced by SUSMP targeted operations.

5) POLLUTANT LOADING

Porter Cologne requires the Water board to evaluate beneficial uses of waterways and determine what pollutant loading will not impact the beneficial uses of the water way. This issue is not addressed in the SUSMPs, or its numeric limits, but is required as part of the TMDL Process.

CONCLUSION:

The SUSMP program numeric limits were developed without a scientific basis as to receiving water capacities, pollution from non point sources, and determination of BMP effectiveness.

It is our recommendation that the LARWB considers expedited development of TMDL Program instead of implementing a parallel, albeit less well developed SUSMP Program. The TMDL program provides the necessary scientific tools for the implementation of a storm water NPDES program that affords better protection for the environment, water shed residents, and businesses, than the numerical limits of the SUSMP program.

Exhibit D
192

Testimony of Richard Watson
before the
California Regional Water Quality Control Board, Los Angeles Region
26 January 2000

My name is Richard Watson. I have been active in the building industry since 1978 and I have been working on storm water issues since 1990. My clients include both builders and the public sector. I served on committees of the California Stormwater Quality Task Force that assisted the State Water Resources Control Board with preparation of the original General Construction Permit and the re-issued General Permit adopted last year.

I am here today to both support and oppose. We in the building industry support the general objectives of the SUSMPs and the use of appropriate best management practices. We could have supported the September 16, 1999 SUSMPs without the proposed numerical mitigation measures. We could even support the SUSMPs before you today with a couple of policy changes and the elimination of the numerical mitigation measures.

We have specific concerns in the broad areas of definitions, implementation, numerical mitigation measures, and relationship to the General Construction Permit.

Definitions

The latest change sheet appears to answer most of our concerns with the staff's December changes to the definitions of Hillsides and Parking Lots. The definition of Environmentally Sensitive Areas remains overly broad and unworkable. The proposed environmentally sensitive area language is an excellent example of policy that has not been well thought out. It includes an overly vague definition that could be interpreted as meaning that virtually any development discharges to an environmentally sensitive area.

Implementation

The building industry is also concerned with the details of implementation. When will the proposed requirements become effective? More importantly, at what stage of the planning process will vulnerability to change cease? Ideally, SUSMP issues should be addressed during the tentative map process when spatial relationships are considered. Once tentative maps are approved, plans should not be subject to further SUSMP related changes.

Numerical Mitigation Measures

The imposition of the proposed numerical mitigation measure and the associated costs in the absence of sufficient information is poor public policy. It is not clear how the proposed requirement is going to help maintain and/or improve the beneficial uses in the receiving waters. What specific benefits will the proposed numeric mitigation measure requirements achieve? The proposed numerical mitigation policy has all the appearances of a ready, fire, aim policy.

There is no legislative or regulatory requirement to revise the SUSMPs to include numerical mitigation measures based on capture of a percentage of rainfall events at this time. Considering the questionable technical basis for the proposed numerical mitigation measure requirement and its potential economic impact upon business, it would seem prudent to move cautiously when considering new and far reaching requirements.

Relationship to the General Construction Permit

Another serious policy flaw is the staff recommendation that the Regional Board adopt the numerical BMP design standard in the SUSMP as the minimum standard of review for post-construction BMPs for projects subject to coverage under the state general construction permit. This proposal is an intrusion into the prerogatives of the State Board and is contrary to the Porter-Cologne Act. The Regional Board is charged with enforcing the General Permit – not embellishing it. The State Board set certain performance standards, but in conformance with section 13360 of Porter-Cologne did not specify design parameters. The staff recommendations must be rejected.

Conclusion

The members of the building industry are willing to do our share. We want equitable treatment based on good science. We do not want to waste money attacking the wrong problems with the wrong tools just because we get caught up in the "we've got to do something" syndrome.

I request that the Board direct the Executive Officer to make necessary changes in the SUSMPs and defer the addition of any numerical mitigation measures to the Standard Urban Storm Water Mitigation Plans and to instead move forward with the process identified in the Clean Water Initiative. This initiative outlines a process supported by SCAG and the municipalities which would involve all of the stakeholders in a review of the critical issues underlying the achievement of clean water. Together, we can establish workable performance standards for achieving clean water in the region.

Exhibit O
292

THE CLEAN WATER INITIATIVE

The following is an alternative approach to SUSMP implementation which is supported by a variety of organizations, companies and individuals. Those supporting this initiative favor enhanced water quality and improved storm water management.

The centerpiece of this initiative is a strong commitment to clean water through actual and measurable pollutant reduction. This is achieved through an inclusive process driven approach based on sound science (water quality and waste load analysis) and proven techniques (applied and tested BMPs). This is far better than simply relying on a volumetric approach (numeric standards) which is based solely on the "quantity" of water captured rather than the "quality" of the water released.

Commitments

The organizations, companies and individuals supporting this initiative make the following commitments toward clean water and stormwater mitigation in Southern California:

- We commit to clean water
- We commit to implementing quality Best Management Practices (BMPs)
- We commit to doing demonstration projects and pilot programs on specific BMPs
- We commit to developing watershed management plans for each watershed in the Basin
- We commit to work cooperatively with **all** of the other stakeholders in this issue (the regulated community, the environmental community and the municipalities) to enhance water quality and improve stormwater management

Expectations

While we as organizations, companies and individuals are willing to make important commitments towards clean water and stormwater mitigation, we also expect the Los Angeles Regional Water Quality Control Board (LARWQCB) to live up to its legal responsibilities regarding this issue. It is our belief that the LARWQCB can best do this by committing to support only those policies based on sound science, quality research and proven techniques. To do this it is our expectation that the LARWQCB will do the following analysis to verify the value of their policy initiatives:

- Water Quality Analysis
- Waste Load Analysis
- Cost Effectiveness Analysis

Process

We believe that a thoughtful "process driven" approach should be employed for the development of appropriate public policy regarding stormwater mitigation in Southern California. Further, we believe that the SUSMP Policy approved on January 6, 2000 by the Regional Council of the Southern California Association of Governments (SCAG) offers a quality process driven approach to SUSMPs. We support this policy, as outlined below, and would seek its inclusion in the final SUSMP resolution adopted by the LARWQCB.

The Southern California Association of Governments recommends that:

- *the Los Angeles Regional Water Quality Control Board not adopt SUSMP numeric standards until such time as the Board can validate the feasible, technical and scientific bases for numeric standards.*
- *the Board monitor pilot programs similar to those underway in Los Angeles County.*
- *the Board work closely with cities such as Calabasas, Santa Clarita and Santa Monica to assess the effectiveness of local initiatives aimed at managing runoff water flows and quality.*
- *the Board develop a Memorandum of Understanding with SCAG in which SCAG would incorporate a Best Management Practices for Preventing Storm Water Runoff Pollution in the Los Angeles Basin project in its Environmental Programs and Livable Communities work elements.*
- *the Board ask SCAG to manage a legal authorities initiative in which all of the 85 cities in the Los Angeles Basin would work to develop model language which would then be available for municipal implementation throughout the Basin.*
- *the Board invite SCAG to contribute its Section 208 authorities to a collaboration with other key organizations/stakeholders in scoping out plans for a watershed management initiative program in each watershed of the Basin.*
- *the Board evaluate the operating results of watershed (regional) mitigation programs prior to its consideration of any general retrofit mandates on existing land uses.*
- *the Board and SCAG cooperate with other stakeholders in putting best efforts into raising the new financial resources needed for planning and implementing these water quality commitments.*
- *the Board's staff be encouraged to meet with those SCAG sub-regional councils affected by the SUSMP program prior to any Board action on these matters.*

Support for the Clean Water Initiative

Attached to this document is a list of some of the leading organizations and companies supporting the Clean Water Initiative as a better approach to SUSMP implementation. Those supporting this initiative favor enhanced water quality and improved storm water management through actual and measurable pollutant reduction.

SUPPORTERS OF THE "CLEAN WATER INITIATIVE"

Building Industry Association of Southern California
California Building Industry Association
California Business Properties Association
California Chamber of Commerce
California Manufacturers Association
California Restaurant Association
California Apartment Association
Los Angeles Area Chamber of Commerce
Southern California Contractors Association, Inc
Los Angeles County Board of Realestate
Apartment Association, California Southern Cities
Cabrillo Economic Development Corp.
Ventura Affordable Homes
The Insco Dico Group
Del Webb's Sun City Palm Desert
Weston Communities
Pardee Construction Company
Ann Romano Associates
Shea Homes
SunCal Companies
Lennar Communities
The Newhall Land and Farming Company
John Laing Homes
Pacific Bay Homes
VTN West, Inc.
DeVere Anderson Enterprises
Land Concern, LTD.
Centex Homes
First American Title Company
Kaufman & Broad of Southern California, Inc.
Lantex
B&E Engineers
Justice & Associates
Premier Homes

Exhibit P

VENTURA AFFORDABLE HOMES, INC.

208 East Main Street
Ventura CA 93001
(805) 643-8269

January 26, 2000

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th St., Suite 200
Los Angeles, Ca. 90013
HAND DELIVERED

Dear Mr. Dickerson:

As President of the Building Industry Association of Greater Los Angeles/Ventura, and President of Ventura Affordable Homes, Inc., a provider of entry level housing to our local families, I applaud your efforts to improve our quality of life by reducing water pollution. However, another important component of quality of life, safe, decent affordable housing, may suffer as a result of some of the components of the revised SUSMP.

I urge you and the Board to support the "Clean Water Initiative", which I have provided you a copy of with my letter of January 20,2000. This Initiative provides a process which will achieve the Board's goals of reducing pollution at the same time it allows for collaboration of all affected parties in a cost-effective and scientific approach.

Using up our land, another precious resource, to reduce pollution without exploring other proven techniques merely pits one limited resource against another. We must use our limited resources efficiently to accomodate our diverse community interests.

Our quality of life includes decent housing, job opportunities, access to education, recreation, clean air and clean water. Comprehensive, collaborative planning with everyone at the table, as contained in the "Clean Water Initiative" is key to maintaining and improving the quality of life that California residents deserve.

People as well as buildings are part of our environment along with our State's natural resources. All of us must work together to protect our entire environment. Thank you for considering the "Clean Water Initiative", which provides the opportunity to improve California's environment.

Sincerely,

Lynn L. Jacobs
President
cc: Mr. Hamid Nahai, Chair

To: ~~CA~~ Regional Water Control Board, LA Region Exhibit Q
Re: Standard Urban Storm Water Mitigation Plans.
From: Conner Everts, executive director, Southern California Watershed Alliance

Thank you for this opportunity, members of the Regional Water Control Board. I am Conner Everts, executive director of the Southern California Watershed Alliance, which includes all of the watersheds within your jurisdiction. I also am past president of the Ojai Basin Groundwater Management Agency. In that capacity, I faced reaction to our attempts to monitor our basin. I encourage you to stand strong on these guidelines and not fall to exemptions. Rather than the discussion of exemptions we should be thinking of incentives to reduce pollutants in the water.

We in Southern California have more pressure on our rivers, wetlands and coast than any other area. This, with the extremes of the climate change we are experiencing and our steep hydrology, demands solutions. While the many watershed organizations, environmental groups and proactive agencies & municipalities are moving forward with innovative programs strong guidelines will only help forge alliances & collaboration to positively impact all of our waterways through out the region. This will allow the maximization of local resources, and eventually restore water quality to the level of safety for current & future generations.

R0068168

Lastly, the 3rd hat I wear is as vice-convenor of the California Urban Water Conservation Council, overseer of the 14 BMPs M.O.U that Cities, Water Agencies, Businesses, and public interest groups have signed on to. Our collaboration is an example of how these standards can be implemented.

This is a regional solution and you are the regional agency to set the standard. As Mark Twain said, I like progress, it's >

change I have a problem with. Let make the changes for this ~~century~~ to make progress on the impacts of the last century. ← THE END

We are in a drought cycle in S. C., which points out the need for making use of what clean runoff we can. "Un Do pave LA." The one issue that all people ask me about is what about that wasted water.

Swimming/fishing – kids –

Exhibit R

OVERVIEW OF LEGAL DEFICIENCIES OF PROPOSED REGIONAL BOARD ACTION

- **The proposed action is inconsistent with the Clean Water Act, the Porter Cologne Act, and the terms and conditions of the Permit, Order No. 96-054.**
- **Order No. 96-054 requires that the Regional Board follow an Administrative Review Process in reviewing proposed storm water programs submitted by the Permittees. The action proposed by the Regional Board fails to comply with the Administrative Review Process and is in violation of the Permit.**
- **The Executive Officer is prohibited from taking enforcement action against any of the Permittees, (i.e., asserting that the Permittees are in violation of the Clean Water Act), until the Executive Officer has notified the Permittees in writing that the Administrative Review Process has been exhausted.**
- **The proposed action constitutes an illegal amendment by the Executive Officer to the Permit in violation of the Clean Water Act, and Water Code Section 13360 of the Porter Cologne Act.**
- **The proposed action will result in the imposition of millions of dollars of unfunded mandates in violation of the California Constitution.**
- **The proposed action violates the Administrative Procedures Act under California law.**

ORDER NO. 96-054

ADMINISTRATIVE REVIEW PROCESS

PURPOSE

"The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the Regional Board under this order. In addition, it provides a method to resolve any difference in compliance expectations between the regional board and Permittees, prior to initiating enforcement action."

ADMINISTRATIVE REVIEW PROCESS

PROCEDURE

- **The Executive Officer is to notify the Permittees of the results of his review and approval or disapproval within 120 days of submittal.**

- **If Executive Officer determines a storm water program is insufficient to meet the provisions of the order, Executive Officer is to send a "Notice of Intent to Meet and Confer ("NIMC") with specific information in support of the determination.**

- **The meet and confer process is to conclude with either a notice of program sufficiency to the Permittee, or the submittal to and acceptance by the Executive Officer of a written "Storm Water Program Compliance Amendment ("SPCA").**

- **The Executive Officer is to approve or reject the submitted SPCA or an amended SPCA within 120 days of submittal. Rejection of an SPCA by the Executive Officer shall state the reasons for the failure to approve the SPCA.**

- **A Permittee that receives a rejection of an SPCA shall have 60 days to remedy the specified deficiency and resubmit the SPCA.**

- **If the Executive Officer has not responded within 120 days following submittal of the SPCA, the Permittee shall notify the Executive Officer of its intent to implement the SPCA as submitted and if after ten days thereafter the Executive Officer has not responded, the Permittee will implement the submitted SPCA.**

ADMINISTRATIVE REVIEW PROCESS EXHAUSTION REQUIREMENT

"THE EXECUTIVE OFFICER SHALL NOT TAKE ENFORCEMENT ACTION AGAINST A PERMITTEE UNTIL THE EXECUTIVE OFFICER HAS NOTIFIED THE PERMITTEE IN WRITING THAT THE ADMINISTRATIVE REVIEW PROCESS HAS BEEN EXHAUSTED AND THAT THE EXECUTIVE OFFICER HAS DETERMINED THAT A VIOLATION EXISTS WARRANTING ENFORCEMENT."

CONCLUSION OF LEGAL ISSUES

- **The proposed action of the Regional Board violates the Clean Water Act, the California Constitution, the Porter Cologne Act, and the terms of the Permit.**

- **The proposed action of the Regional Board is legally irrelevant, and regardless of the action taken by the Regional Board, the Executive Officer is required to comply with the Administrative Review Process under the Permit before taking any enforcement action.**

ISSUES OF CONCERN

- Definition of "Hillsides"

Richard Watson

- Definition of "Parking Lots"
- Definition of "Environmentally Sensitive Areas"
- Implementation
- Numerical Mitigation Measures
- Relationship to the General Construction Permit

AFFORDABLE HOUSING

- Only 43 % of LA Area Families Earning the Median Income can Afford the Median-Priced Home – 20 Points Below the National Average

- Numeric Standard Will Unnecessarily Increase Costs to Those Who can Least Afford it

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General Description of Analysis

- **Purpose:** To quantify potential costs associated with proposed SUSMP
- **Scope:** Develop preliminary designs and cost estimates based on draft SUSMP for typical sites
- **Analyses:**
  - 100,000-square-foot industrial/commercial
  - 7-acre multi-family attached residential
  - 500-acre residential

R0068177

PSOMAS

COMMENTS ON PROPOSED STANDARD URBAN STORM WATER MITIGATION PLANS (SUSMPs)

Los Angeles Regional Water Quality Control Board

January 26, 2000

Presented by

Steve Fleischli,
Santa Monica BayKeeper

The Program is Legally Justified

A. The Permit and the CWA Require Pollution Reduction to the

1. EPA agrees with [illegible] standard
2. So Do Many Others
3. The Record is Massive

B. SW Programs should also be designed to ensure the Protection and Enhancement of beneficial uses

C. This is a
    1. Serves to Allow Engineers
        to size BMPs properly
    2. Provides Uniformity

D. This is a Numeric Effluent Limit,
    even though such a req't would:
    1. Be Legally Justified and
    2. Guarantee Protection of Beneficial Uses

E. Opportunity to Leave a Legacy, But the Exemptions Provide Only More Excuses.

F. Even without the Exemptions, This is Not the Complete Solution to our Problems. But it is Toward Achieving Goals of the CWA.

The Proposed Design Standard is Cost-Effective

A. BMPs Can Be Very Inexpensive

B. BMPs Have Been Proven to be Highly Effective if Sized Appropriately

C. The Proposed Design Standard is One of the Most Cost-Effective Ways to Reduce Urban Runoff

D. Implementation of the Proposed Design Standard, and Even More Environmentally Protective Standards, Has Not Impeded Development

Program Scope Is Fatally Hindered by a Host of Exceptions that Render the Current Proposal Virtually Meaningless

A. Across-the-Board Exceptions Restrict the Program's Application Unduly, Rendering Certain Aspects Almost Meaningless

1. Rooftop Exemption

2. Waiver Provision

3. Self-Certification

4. Conflicts with Local Practices

Hillside Definition: Hillside means property located in an area that has any of the following characteristics, or where the planned development has any of the following characteristics:

location in an area known to have erosive soil conditions as identified in the Los Angeles County Dept. of Public Works Hydrology/Sedimentation Manual; **OR**

Grading will occur on any natural slope where the natural slope is 15% or greater; **OR**

Plans include cut or fill slopes that are 30 feet high or greater.

OVERALL PROGRAM SCOPE IS UNNECESSARILY AND COUNTER-PRODUCTIVELY LIMITED

1. "Discretionary Project" Limitation Should Be Dropped

2. Failure to Adopt Los Angeles County List

3. Nine project types are Ostensibly Covered But Restrictive Definitions Profoundly Limit the Meaningfulness of Coverage

   - "Retail Gasoline Outlet" should include all pumping stations

   - Hillside

   - "Restaurants"

     All restaurants should meet the same standards. The 5,000 foot limitation should be eliminated.

   - "Commercial Stand-Alone Parking Lots"

   - "Redevelopment"

   - Outdoor Material Storage Area BMP

CONCLUSION OF LEGAL ISSUES

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"THE CLEAN WATER INITIATIVE"

- Is Based on Qualitative Results not Quantitative Results
- Puts Emphasis on Pollution Reduction not Volumetric Measures
- Makes a Strong Commitment to Clean Water
- Tests and Studies the Effectiveness of Various Best Management Practices
- Asks for Good Science from the Board Staff
- Articulates a Process for Producing Measurable Results Based on Sound Science, Proven Techniques and Effective BMPs
- Invites All of the Stakeholders to Participate in This Process (Including the Permitees, the Regulated Community and the Environmental Community)

SUPPORTERS OF "THE CLEAN WATER INITIATIVE"

Building Industry Association of Southern California
California Building Industry Association
California Business Properties Association
California Chamber of Commerce
California Manufacturers Association
California Restaurant Association
California Apartment Association
Los Angeles Area Chamber of Commerce
Southern California Contractors Association, Inc
Los Angeles County Board of Realestate
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Cabrillo Economic Development Corp.
Ventura Affordable Homes
The Insco Dico Group
Del Webb's Sun City Palm Desert
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Pardee Construction Company
Ann Romano Associates
Shea Homes
SunCal Companies
Lennar Communities
The Newhall Land and Farming Company
John Laing Homes
Pacific Bay Homes
VTN West, Inc.
DeVere Anderson Enterprises
Land Concern, LTD.
Centex Homes
First American Title Company
Kaufman & Broad of Southern California, Inc.
Lantex
B&E Engineers
Justice & Associates
Premier Homes

ONGOING COMMITMENT TO WATER QUALITY

- Our Ongoing Implementation of the Statewide Construction Activity Permit
- Our Member Education Programs
- Our New Homebuyer Education Program

WHO IS BIA/SC?

- 1850 Member Companies
- Collectively Build Over 70% of the New Homes in our Region
- Employ Over 200,000 Individuals in the Construction Trades

Example 1

- Site Description: 100,000-square-foot Industrial/Commercial (3 acres assumed)
- Design Criteria:
  - 1st 0.75 inch (Capital Flood)
  - no roof reduction
- Facility Description:
  - One 600-foot-long, 5-foot-wide vegetated swale
- Estimated Costs:
  - Capital costs excluding land (capital/budget): $10,000
  - Unit cost: $3,300/acre
  - Long term--maintenance required: approximately $800/year
  - Land area required: 3,000 square feet at ($?/acre)

R0068196

PSOMAS

Example 2

- Site Description: 7-acre multi-family residential
- Design Criteria:
  - 1st 0.75 inch (Capital Flood)
  - no roof reduction
- Facility Description:
  - 0.3 ac-ft detention basin
- Estimated Costs:
  - Capital costs excluding land (capital/budget): $60,000
  - Unit cost: $8,600/acre
  - Long term--maintenance required: approximately $2,500/year
  - Land area required: 18,500 square feet at ($?/acre)

Example 3

- Site Description: 500-acre residential
- Design Criteria:
  - 1st 0.75 inch (Capital Flood)
  - no roof reduction
- Facility Description:
  - 8.3 acre-foot Detention/Filtration Basin
  - Passes 47 acre-feet of water
- Estimated Costs:
  - Capital costs excluding land (capital/budget): $1,120,000
  - Unit cost: $2,500/acre
  - Long term--maintenance required (mowing, cleaning, replacing): approximately $48,000/year
  - Land area required: 3 acres at ($?/acre)

AFFORDABLE HOUSING

- Only 43 % of LA Area Families Earning the Median Income can Afford the Median-Priced Home – 20 Points Below the National Average

- Numeric Standard Will Unnecessarily Increase Costs to Those Who can Least Afford it

- Numeric Standard Will Deny Housing to Low and Middle Income Californians Without Reducing Water Pollution

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- Definition of "Environmentally Sensitive Areas"
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General Description of Analysis

- **Purpose:** To quantify potential costs associated with proposed SUSMP
- **Scope:** Develop preliminary designs and cost estimates based on draft SUSMP for typical sites
- **Analyses:**
  - 100,000-square-foot industrial/commercial
  - 7-acre multi-family attached residential
  - 500-acre residential

R0068201

PSOMAS

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  - Unit cost: $8,600/acre
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  - Land area required: 18,500 square feet at ($?/acre)

R0068203

PSOMAS

Example 3

- Site Description: 500-acre residential
- Design Criteria:
  - 1st 0.75 inch (Capital Flood)
  - no roof reduction
- Facility Description:
  - 8.3 acre-foot Detention/Filtration Basin
  - Passes 47 acre-feet of water
- Estimated Costs:
  - Capital costs excluding land (capital/budget): $1,120,000
  - Unit cost: $2,500/acre
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Building Industry Association of Southern California
California Building Industry Association
California Business Properties Association
California Chamber of Commerce
California Manufacturers Association
California Restaurant Association
California Apartment Association
Los Angeles Area Chamber of Commerce
Southern California Contractors Association, Inc
Los Angeles County Board of Realestate
Apartment Association, California Southern Cities
Cabrillo Economic Development Corp.
Ventura Affordable Homes
The Insco Dico Group
Del Webb's Sun City Palm Desert
Weston Communities
Pardee Construction Company
Ann Romano Associates
Shea Homes
SunCal Companies
Lennar Communities
The Newhall Land and Farming Company
John Laing Homes
Pacific Bay Homes
VTN West, Inc.
DeVere Anderson Enterprises
Land Concern, LTD.
Centex Homes
First American Title Company
Kaufman & Broad of Southern California, Inc.
Lantex
B&E Engineers
Justice & Associates
Premier Homes

"THE CLEAN WATER INITIATIVE"

- Is Based on Qualitative Results not Quantitative Results
- Puts Emphasis on Pollution Reduction not Volumetric Measures
- Makes a Strong Commitment to Clean Water
- Tests and Studies the Effectiveness of Various Best Management Practices
- Asks for Good Science from the Board Staff
- Articulates a Process for Producing Measurable Results Based on Sound Science, Proven Techniques and Effective BMPs
- Invites All of the Stakeholders to Participate in This Process (Including the Permitees, the Regulated Community and the Environmental Community)

OVERVIEW OF LEGAL DEFICIENCIES OF PROPOSED REGIONAL BOARD ACTION

- **The proposed action is inconsistent with the Clean Water Act, the Porter Cologne Act, and the terms and conditions of the Permit, Order No. 96-054.**
- **Order No. 96-054 requires that the Regional Board follow an Administrative Review Process in reviewing proposed storm water programs submitted by the Permittees. The action proposed by the Regional Board fails to comply with the Administrative Review Process and is in violation of the Permit.**
- **The Executive Officer is prohibited from taking enforcement action against any of the Permittees, (i.e., asserting that the Permittees are in violation of the Clean Water Act), until the Executive Officer has notified the Permittees in writing that the Administrative Review Process has been exhausted.**
- **The proposed action constitutes an illegal amendment by the Executive Officer to the Permit in violation of the Clean Water Act, and Water Code Section 13360 of the Porter Cologne Act.**
- **The proposed action will result in the imposition of millions of dollars of unfunded mandates in violation of the California Constitution.**
- **The proposed action violates the Administrative Procedures Act under California law.**

ORDER NO. 96-054

ADMINISTRATIVE REVIEW PROCESS

PURPOSE

"The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the Regional Board under this order. In addition, it provides a method to resolve any difference in compliance expectations between the regional board and Permittees, prior to initiating enforcement action."

ADMINISTRATIVE REVIEW PROCESS

PROCEDURE

- The Executive Officer is to notify the Permittees of the results of his review and approval or disapproval within 120 days of submittal.

- If Executive Officer determines a storm water program is insufficient to meet the provisions of the order, Executive Officer is to send a "Notice of Intent to Meet and Confer ("NIMC") with specific information in support of the determination.

- The meet and confer process is to conclude with either a notice of program sufficiency to the Permittee, or the submittal to and acceptance by the Executive Officer of a written "Storm Water Program Compliance Amendment ("SPCA").

- The Executive Officer is to approve or reject the submitted SPCA or an amended SPCA within 120 days of submittal. Rejection of an SPCA by the Executive Officer shall state the reasons for the failure to approve the SPCA.

- A Permittee that receives a rejection of an SPCA shall have 60 days to remedy the specified deficiency and resubmit the SPCA.

- If the Executive Officer has not responded within 120 days following submittal of the SPCA, the Permittee shall notify the Executive Officer of its intent to implement the SPCA as submitted and if after ten days thereafter the Executive Officer has not responded, the Permittee will implement the submitted SPCA.

ADMINISTRATIVE REVIEW PROCESS EXHAUSTION REQUIREMENT

"THE EXECUTIVE OFFICER SHALL NOT TAKE ENFORCEMENT ACTION AGAINST A PERMITTEE UNTIL THE EXECUTIVE OFFICER HAS NOTIFIED THE PERMITTEE IN WRITING THAT THE ADMINISTRATIVE REVIEW PROCESS HAS BEEN EXHAUSTED AND THAT THE EXECUTIVE OFFICER HAS DETERMINED THAT A VIOLATION EXISTS WARRANTING ENFORCEMENT."

CONCLUSION OF LEGAL ISSUES

- **The proposed action of the Regional Board violates the Clean Water Act, the California Constitution, the Porter Cologne Act, and the terms of the Permit.**

- **The proposed action of the Regional Board is legally irrelevant, and regardless of the action taken by the Regional Board, the Executive Officer is required to comply with the Administrative Review Process under the Permit before taking any enforcement action.**

OVERALL PROGRAM SCOPE IS UNNECESSARILY AND COUNTER-PRODUCTIVELY LIMITED

1. **"Discretionary Project" Limitation Should Be Dropped**

2. **Failure to Adopt Los Angeles County List**

3. **Nine project types are Ostensibly Covered <u>But Restrictive Definitions Profoundly Limit the Meaningfulness of Coverage</u>**

   - **"Retail Gasoline Outlet" should include all pumping stations**
   - **Hillside**
   - **"Restaurants"**

     <u>All</u> restaurants should meet the same standards. The 5,000 foot limitation should be eliminated.

   - **"<u>Commercial Stand-Alone</u> Parking Lots"**
   - **"Redevelopment"**
   - **Outdoor Material Storage Area BMP**

Hillside Definition: Hillside means property located in an area that has any of the following characteristics, or where the planned development has any of the following characteristics:

location in an area known to have erosive soil conditions as identified in the Los Angeles County Dept. of Public Works Hydrology/Sedimentation Manual; **OR**

Grading will occur on any natural slope where the natural slope is **15%** or greater; **OR**

Plans include cut or fill slopes that are 30 feet high or greater.

Program Scope Is Fatally Hindered by a Host of Exceptions that Render the Current Proposal Virtually Meaningless

A. Across-the-Board Exceptions Restrict the Program's Application Unduly, Rendering Certain Aspects Almost Meaningless

1. ***Rooftop Exemption***

2. ***Waiver Provision***

3. ***Self-Certification***

4. ***Conflicts with Local Practices***

COMMENTS ON PROPOSED STANDARD URBAN STORM WATER MITIGATION PLANS (SUSMPs)

Los Angeles Regional Water Quality Control Board
January 26, 2000

Presented by:

Steve Fleischli,
Santa Monica BayKeeper

Bmps
demo house

TREEPEOPLE

Cisterns

Retention
Grading

The Program is Legally Justified

A. The Permit and the CWA Require Pollution Reduction to the MEP

1. EPA agrees with 0.75" standard
2. So Do Many Others
3. The Record is Massive

B. SW Programs should also be designed to ensure the Protection and Enhancement of beneficial uses.

The Program is Legally Justified

A. The Permit and the CWA Require Pollution Reduction to the MEP

1. EPA agrees with 0.75" standard
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3. The Record is Massive and Uncontroverted

B. SW Programs should also be designed to ensure the Protection and Enhancement of beneficial uses.

C. This is a Design Standard

1. Serves to Allow Engineers to size BMPs properly
2. Provides Uniformity

D. This is NOT a Numeric Effluent Limit, even though such a req't would:

1. Be Legally Justified and
2. Guarantee Protection of Beneficial Uses

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D. This is NOT a Numeric Effluent Limit, even though such a req't would:
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E. Opportunity to Leave a Legacy, But the Exemptions Provide Only More Excuses.

F. Even without the Exemptions, This is Not the Complete Solution to our Problems. But it is Reasonable Further Progress Toward Achieving Goals of the CWA.

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The Proposed Design Standard is Cost-Effective

A. BMPs Can Be Very Inexpensive

B. BMPs Have Been Proven to be Highly Effective if Sized Appropriately

C. The Proposed Design Standard is One of the Most Cost-Effective Ways to Reduce Urban Runoff

D. Implementation of the Proposed Design Standard, and Even More Environmentally Protective Standards, Has Not Impeded Development

STATE WATER RESOURCES CONTROL BOARD		Date: 2/3/00
From: Jorge Leon	Division/Region: OCC	Phone: 916 637-2428

TO

☐ Executive Office	☐ Division of Standards and Assessment	☐ Div. of Administration Services	☐ Pers. and Training Office
☐ Affirmative Action Office	☐	☐ Pers. and Admin. Services Branch	☐ Contracts Office
☐ Program Control	☐ Division of Clean Water Programs	☐ Data Management Office	☐ Fiscal and Program Eval. Branch
☐ Labor Relations Office	☐	☐ Systems and Management Analysis	☐ Accounting Office
☐ Office of Legislative and Public Affairs	☐ Division of Water Quality & Water Rights	☐ Business Services Office	☐ Budget Office
☐ Office of Chief Counsel	☐	☐ Reproduction and Mail Unit	☐ Program Analysis Office

ACTION

☐ Appropriate Action	☐ Signature	☐ Review and Return	☐ Information
☐ Approval	☐ Reply – Copy to Me	☐ Per Your Request	☐ File

COMMENTS

TO: XAVIER SUAMIKANNU
LARWQCB

Xavier, pls add to SUSMP
Admin Record. THX

U.S. POSTAL SERVICE

☐ EPA Region, San Francisco	☐ Water Quality Control Institute (San Marcos)

REGIONAL WATER QUALITY CONTROL BOARD

☐ 1 – Santa Rosa	☐ 5 – Sacramento	☐ 8 – Victorville
☐ 2 – Oakland	☐ 5 – Fresno	☐ 7 – Palm Desert
☐ 3 – San Luis Obispo	☐ 5 – Redding	☐ 8 – Riverside
☐ 4 – Los Angeles	☐ 6 – South Lake Tahoe	☐ 9 – San Diego
☐	☐	☐

FOR0023
R3

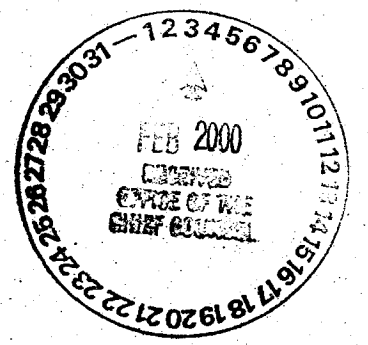
on a separate data sheet together with the concentration and replicate numbers to which they correspond. Identify this sheet with the date, test organism, test number, laboratory, and investigator's name, and safely store it away until after the larvae have been examined at the end of the test. **Note:** Loss of this randomization sheet would invalidate the test by making it impossible to correctly analyze the data afterwards. Take care to follow the numbering system exactly while filling containers with the test solutions.

Arrange the test containers by random number in the water bath or controlled temperature room.

6.0 Physical/Chemical Measurements of Test Solutions

Prior to testing, consult the container randomization sheet (Section 5.1) to compile a list of containers to be sampled for measurement. One randomly chosen replicate from each test concentration should be measured as follows: measure salinity, pH, and dissolved oxygen concentration at the beginning and end of the test; measure test solution temperature daily; and monitor water bath or environmental chamber temperature continuously. See Quality Assurance Section 5.0 for specifications and instrumentation for physical/chemical measurements.

NATURAL RESOURCES DEFENSE COUNCIL



January 27, 2000

Dear Jorge:

Per your request, attached are some of the overheads used by the environmental groups at the January 26, 2000 hearing.

Others will be sending theirs separately.

Alex Helperin

6310 San Vicente Boulevard
Suite 250
Los Angeles, CA 90048
323 934-6900
Fax 323 934-1210
www.nrdc.org

R0068228

Transmit Confirmation Report

No.	:	001
Receiver	:	88184610258
Transmitter	:	WRCB CHIEF COUNSEL OFF
Date	:	Feb 04'00 10:47
Time	:	04'39
Mode	:	Norm
Pages	:	13
Result	:	OK

Adoption of Staff's Proposal *WITHOUT EXEMPTIONS* Would Be One of the Most Important Steps Toward Clean Water Ever Taken in the 50 Year History of the RWQCB

Los Angeles Has Among the Worst Storm Water Problems in the Nation

-- EPA Says so . . .

-- Storm Water Pollution Has Increased Between 200% & 700% During the Last 20 Years

-- LA is Home to 50% of the Polluted Waters in California

THE ROLE OF NEW AND REDEVELOPMENT IN CREATING THE PROBLEM

- Storm water pollution = volume and velocity of surface runoff + concentration of pollutants in runoff

- By creating impervious surface, development has dramatic effects on increasing the quantity and quality of storm water runoff:

COMPARE...

A 1-inch rainstorm on a 1-acre natural meadow typically produces:

218 cubic feet of runoff (enough to fill a standard office to a depth of 2 feet)

The same storm on a 1-acre paved parking lot produces:

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An Effective Development Planning Program Requires:

1. *Description of Scope*

2. List of BMPs to Select

3. *A Numerical Standard to size BMPs*

Who Supports?

City of LA
EPA
Coastal Commission
Leading Experts
S.M. Mountains Conservancy
Many Cities

The Proposed Numeric Standard is Well-Supported by Both Science and Experience

- Hundreds of Municipalities Across the Country Have Stronger Standards
- Los Angeles County Implements a More Stringent Program
- Many Local Municipalities Support the Standard
- Scientific and Technical Data Support the Standard
- The Foremost Stormwater Experts In the Country Support It
- EPA Supports the Standard

Los Angeles County's Program is More Stringent

- Broader Scope
    - Over 20 Project Types Covered
    - Not Limited to Discretionary Projects
- No Exceptions

Many Local Municipalities Support the Standard

- **Some Already Implement Similar Programs:**
  - ✓-- Santa Monica
  - -- West Hollywood
  - -- Calabasas

- **Others Have Communicated Their Support:**
  - -- Los Angeles
  - -- Southgate
  - -- El Monte
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Dr. Thomas Schueler -- Washington, D.C.
(Center for Watershed Protection)

Dr. Robert Pitt -- Birmingham, Alabama (Univ. of Ala.)

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2. *Retail Gasoline Outlet*
3. *Restaurants*
4. *Hillside*

STANDARD URBAN STORM WATER MITIGATION PLAN

DEVELOPMENT PLANNING

CHANGE SHEET (Revised)

Summary

The Change Sheet lists proposed changes to the Final Tentative - Standard Urban Storm Water Mitigation Plan, (December 7, 1999). In general, the proposed changes respond to commenters' suggestions on improving clarity, format, and implementability of the Standard Urban Storm Water Mitigation Plan.

Noteworthy changes include, the addition of a definition for 'storm event' and the requirement of professional registration for certifying persons under the "Alternative Certification' option. Two new references have been added to augment implementation guidance. These are, (i) National Stormwater Best Management Practices (BMP) Database, Version 1.0, and (ii) Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices.*

In the Change Sheet, cross-reference to pages and paragraphs are for the 'Clean Version' dated December 7, 2000. New text added to a sentence is indicated by underline.

Background

1. Page 2 paragraph three, Clarify that a City has to adopt same requirements for the Citywide SUSMP

   Sentence changed to read, "The Permittees are required to adopt the requirements set herein in their own SUSMP."

2. Page 2 paragraph 3, Delete reference to Urban Storm Water Mitigation to avoid confusion

   Sentence changed to read, "Each Permittee will approve the project plan as part of the development plan approval process....

3. Page 3 paragraph 2, Clarify the environmentally sensitive area category.

   Sentence changed to read, "Location within or directly adjacent to or discharging directly to an environmentally sensitive area.

4. Page 3 paragraph 2, Make requirement applicable to stand-alone parking lots only

   Sentence changed to read, "Commercial stand-alone parking lots 5,000 square feet or more.....

Definitions

5. Order definitions alphabetically

   Definitions reordered alpha-numerically

6. Page 3, Modify definition of hillsides to add specificity.

   Definition changed to read, "property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is twenty-five percent or greater."

7. Page 3, Delete exceptions in the definition of Automotive Repair Shop

   Exceptions deleted, now reads, "Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539."

8. Page 3, Modify definition of 100,000 square foot commercial development for simplicity.

   Definition changed to read, "any commercial development that creates at least 100,000 square feet of impermeable area, including parking areas".

9. Page 4 , Add references for definition of environmentally sensitive areas

   References added for Areas of Special Biological Significance and Area of Ecological Significance.

10. Page 4, , Change definition to include a threshold trigger for requirements to apply to Redevelopment

    Definition changed to read, "Redevelopment" means, on an already developed site, the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure. Redevelopment includes.....

11. Page 5, , Change definition for Retail gasoline outlets to clarify 'primarily engaged'.

    Definition changed to read, ""Retail Gasoline Outlet" means a facility engaged in selling gasoline and lubricating oils, which derives more than fifty percent of its annual gross receipts from the sale of gasoline, lubricating oils tires, batteries, automobile parts and other automotive services.

12. New Definition, Define a storm event

    Defined storm event to mean, "a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather."

SUSMP Provisions Applicable to All Categories

13. Page 5, paragraph 3, Change sentence for clarity

    Sentence changed to read, "....shall not exceed the estimated pre-development rate for developments where it is reasonably foreseeable that the increased peak storm water discharge rate will result in increased potential for downstream erosion."

14. Page 5, paragraph 4, Delete text that makes act dependent on effort

Sentence changed to read, "Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition."

15. Page 6, paragraph 1, Change sentence for clarity

    Sentence changed to read, "...or the detectable inputs of the pollutant are at a concentrations or loads considered potentially toxic to humans and/or flora and fauna."

16. Page 6, paragraph 2, Add reference

    Added reference, "Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices*"

28. Page 9, paragraph 2, Change text to offer partial credit for roofing surfaces diversion

    Sentence changed to read, "A proportional area of roofing surface may be excluded..."

29. Page 9, paragraph 2, Change text for clarity.

    Sentence changed to read, "storm water conveyance system does not directly discharge to a natural stream or channel segment scheduled for restoration".

30. Page 9, paragraph 3, Change text to clarify exemption from numerical standard only.

    Sentence changed to read, "Restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the numerical BMP design standard requirement.

Provisions Applicable to Individual Priority Projects

31. Page 10, paragraph 2, and Page 12, paragraph 1, Change text to eliminate mandatory cover.

    Sentence change to read, "...area must be self-contained and/or covered, equipped with a clarifier,..."

32. Page 12, paragraph 3, Change text for clarity.

    Text modified to read, "....hydrocarbons that are deposited on parking lot surfaces by motor vehicles"

33. Page 12, paragraph 3, Add introductory text.

    Sentence added to read, "To minimize the offsite transport of pollutants, the following design criteria are required".

Waiver

34. Page 13, paragraph 1, Add text for clarity

    Text added to read, "....because an existing or potential underground source of drinking water..."

35. Page 13, paragraph 1, Change text to clarify that Permittee is petitioner.

    Sentence modified to read, "Any other justification for impracticability must be separately petitioned by the Permittee and approved...."

Alternative Certification

36. Page 13, paragraph 1, Change sentences to require professional registration and recommend training verification.

    Sentences added to read "...accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets the criteria." And, "The Permittee is encouraged to verify that certifying person(s) have been trained on BMP design for water quality, not more than two years prior to the signature date."

Suggested Resources

37. Page 15, Add reference BMP database and on-line Texas Non-point Source Book

    Reference added, "National Stormwater Best Management Practices (BMP) Database, Version 1.0" ; and "Texas Non-Point Source Book".

17. Page 6, paragraph 3, Add text to enable BMP combination alternative

    Added text to read, "However, it is possible that a combination of BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants".

18. Page 6, paragraph 4, Delete text that is tentative

    Text deleted to read, "Project plans must include BMPs consistent....."

19. Page 6, paragraph 4, Add text to promote use of natural drainage systems

    Add text to read, "Utilize natural drainage systems to the maximum extent practicable"

19. Page 6, paragraph 4, Add text to minimize flow to natural drainage systems

    Text added to read, "Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable"

20. Page 7, paragraph 2, Change sentence for clarity

    Sentence changed to read, "Materials with the potential to contaminate storm water must be: (1) placed in an enclosure..."

21. Page 7, paragraph 3, Add text to exclude single family residences

    Sentence added to read, " Individual single family residences are exempt from these requirements"

22. Page 8, paragraph 1, Change text for clarity

    Text changed to read, "The transfer of property to a private or public owner must have conditions..."

23. Page 8, paragraph 1, Add text to require maintenance inspection and record.

    Sentence added to read, "The condition of transfer may include a provision that the property owner conduct maintenance inspection of all treatment control BMPs at least once a year and retain proof of inspection."

24. Page 8, paragraph 3, Delete text for clarity

    Text deleted, "~~each runoff event up to and including~~", Now reads, "the 85th percentile 24-hour runoff event...."

25. Page 8, paragraph 3, Correct based on revised chart treatment volume from 85 percent to 80 percent.

    Text changed to read, "to achieve 80 percent or more volume treatment....."

26. Page 8, paragraph 3, Change text for clarity

    Sentence changed to read, "....runoff produced from a 0.75 inch storm event, prior..."

27. Page 8, paragraph 3, Change text for clarity

    Sentence changed to read, "....volume of runoff produced from a historical-record based reference 24-hour rainfall criterion...."

STANDARD URBAN STORM WATER MITIGATION PLAN

DEVELOPMENT PLANNING

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Background

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   Sentence changed to read, "Location within or directly adjacent to or discharging directly to an environmentally sensitive area.

4. Page 3 paragraph 2, Make requirement applicable to stand-alone parking lots only

   Sentence changed to read, "Commercial stand-alone parking lots 5,000 square feet or more.....

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5. Order definitions alphabetically

   Definitions reordered alpha-numerically

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   Exceptions deleted, now reads, "Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539."

7. Page 3, paragraph 3, Modify definition of 100,000 square foot commercial development for simplicity.

   Definition changed to read, "any commercial development that creates at least 100,000 square feet of impermeable area, including parking areas".

8. Page 4 paragraph, 2, Add references for environmentally sensitive areas

   References added for Areas of Special Biological Significance and Area of Ecological Significance.

9. Page 4, paragraph 8, Change definition to include a threshold trigger for requirements to apply to redevelopment

   Definition changed to read, "Redevelopment" means, on an already developed site, the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure. Redevelopment includes.....

10. Page 5, paragraph 1, Change definition to clarify 'primarily engaged'.

    Definition changed to read, ""Retail Gasoline Outlet" means a facility engaged in selling gasoline and lubricating oils, which derives more than fifty percent of its annual gross receipts from the sale of gasoline, lubricating oils tires, batteries, automobile parts and other automotive services.

11. Page 5, Define a storm event

    Defined storm event to mean, "a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather."

SUSMP Provisions Applicable to All Categories

12. Page 7, paragraph 2, Change sentence for clarity

    Sentence changed to read, "....shall not exceed the estimated pre-development rate for developments where it is reasonably foreseeable that the increased peak storm water discharge rate will result in increased potential for downstream erosion."

13. Page 7, paragraph 3, Delete text that makes act dependent on effort

    Sentence changed to read, "Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition."

14. Page 7, paragraph 4, Change sentence for clarity

    Sentence changed to read, "...or the detectable inputs of the pollutant are at a concentrations or loads considered potentially toxic to humans and/or flora and fauna."

15. Page 8, paragraph 1, Add reference

    Added reference, "Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices*"

16. Page 8, paragraph 1, Add text to enable BMP combination alternative

    Added text to read, "However, it is possible that a combination of BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants".

17. Page 8, paragraph 3, Delete text that is tentative

    Text deleted to read, "Project plans must include BMPs consistent....."

18. Page 8, paragraph 3, Add text to promote use of natural drainage systems

    Add text to read, "Utilize natural drainage systems to the maximum extent practicable"

    17. Page 8, paragraph 3, Add text to minimize fow to natural drainage systems

    Text added to read, "Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable"

18. Page 9, paragraph 2, Change sentence for clarity

    Sentence changed to read, "Materials with the potential to contaminate storm water must be: (1) placed in an enclosure..."

19. Page 9, paragraph 4, Add text to exclude single family residences

    Sentence added to read, " Individual single family residences are exempt from these requirements"

20. Page 10, paragraph 1, Change text for clarity

    Text changed to read, "The transfer of property to a private or public owner must have conditions..."

21. Page 10, paragraph 1, Add text to require maintenance inspection and record.

    Sentence added to read, "The condition of transfer may include a provision that the property owner conduct maintenance inspection of all treatment control BMPs at least once a year and retain proof of inspection."

22. Page 10, paragraph 3, Delete text for clarity

    Text deleted, "~~each runoff event up to and including~~", Now reads, "the 85th percentile 24-hour runoff event...."

23. Page 10, paragraph 3, Correct based on revised chart treatment volume from 85 percent to 80 percent.

    Text changed to read, "to achieve 80 percent or more volume treatment....."

24. Page 10, paragraph 3, Change text for clarity

    Sentence changed to read, "....runoff produced from a 0.75 inch storm event, prior..."

25. Page 11, paragraph 1, Change text for clarity

    Sentence changed to read, "....volume of runoff produced from a historical-record based reference 24-hour rainfall criterion...."

26. Page 11, paragraph 2, Change text to offer partial credit for roofing surfaces diversion

    Sentence changed to read, "A proportional area of roofing surface may be excluded..."

27. Page 11, paragraph 2, Change text for clarity.

    Sentence changed to read, "storm water conveyance system does not directly discharge to a natural stream or channel segment scheduled for restoration".

28. Page 11, paragraph 3, Change text to clarify exemption from numerical standard only.

    Sentence changed to read, "Restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the numerical BMP design standard requirement.

Provisions Applicable to Individual Priority Projects

29. Page 12, paragraph 2, and Page 14, paragraph 1, Change text to eliminate mandatory cover.

    Sentence change to read, "...area must be self-contained and/or covered, equipped with a clarifier,..."

30. Page 14, paragraph 3, Change text for clarity.

    Text modified to read, "....hydrocarbons that are deposited on parking lot surfaces by motor vehicles"

31. Page 14, paragraph 3, Add introductory text.

    Sentence added to read, "To minimize the offsite transport of pollutants, the following design criteria are required".

Waiver

32. Page 15, paragraph 1, Add text for clarity

    Text added to read, "... because an existing or potential underground source of drinking water..."

33. Page 15, paragraph 1, Change text to clarify that Permittee is petitioner.

    Sentence modified to read, "Any other justification for impracticability must be separately petitioned by the Permittee and approved...."

Alternative Certification

34. Page 16, paragraph 1, Change sentences to require professional registration and recommend training verification.

    Sentences added to read "...accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets the criteria." And, "The Permittee is encouraged to verify that certifying person(s) have been trained on BMP design for water quality, not more than two years prior to the signature date."

Suggested Resources

35. Page 18, Add BMP Database reference

    Reference added, "National Stormwater Best Management Practices (BMP) Database, Version 1.0"

STANDARD URBAN STORM WATER MITIGATION PLANS

SUMMARY OF COMMENTS RECEIVED (SINCE DECEMBER 6, 1999) AND RESPONSE - SUPPLEMENT

COMMENTER	COMMENT	RESPONSE	ACTION
General Claremont, West Covina, CRA, EAC, New Hall Land	1. Postpone issuance of SUSMP until SUSMP recirculated for further study and comment.	SUSMP was public noticed to provide a 30 day review period	No action recommended
Diamond Bar West Covina, EAC, New Hall Land.	2. Should not enlarge scope of SUSMPs to include two new categories: parking lots & environmentally sensitive areas. Defer to for consideration in next permit.	Categories are already included in Long Beach permit. RB Executive Officer has discretionary authority to designate additional sources of pollutants for management.	No action recommended
City of Long Beach: Attorney	3. Revise findings in Tentative Resolution to reflect two separate permits are affected by this resolution.	Changes to the Tentative Resolution will be considered.	Will amend resolution
Diamond Bar, EAC	4. No notice to meet has been issued for the SUSMP deficiency.	RB Executive Officer has met with parties repeatedly.	No action recommended
Heal the Bay, NRDC	5. Change "Retail Gasoline Outlet" definitions to include all facilities with gas pumps.	Definition has been changed to clarify primary activity, which is the more than 50 percent sale of automotive related products.	Amended definition
West Covina, EAC, CEA, , County of LA Dept. of Public Works, Heal the Bay, State of California Santa Monica Mountains Conservancy	6. Make definitions unambiguous (Hillside, Environmentally Sensitive Areas, Redevelopment)	Will revise definitions based on comments	Amended definitions
Heal the Bay, NRDC	7. Change the "Hillside" definition- grading with occur naturally where slope is 15% or greater & plans include cut or fill slopes 30 feet high or greater.	Definition has been changed to 25 percent natural slope.	Amended definitions
Public Works Agency County of Ventura	8. Require protection of unconfined groundwater basins	Protection of unconfined may be an appropriate consideration	No action recommended at this time.
City of Rancho Palos Verdes, EAC	9. Include numerical standard trigger for hillside SUSMP to 1 acre or more.	Hillside has been defined on 25 percent slope. No basis for acreage threshold.	Amended definitions
South Gate, EAC	8. Available guidelines to "conserve natural areas" are too vague for implementation	Disagree. Guidelines are sufficiently clear without being prescriptive.	No action recommended
County of LA Dept. of Public Works,	10. Delete the statement, " "each Permittee will approve an USMP" because it is not consistent with the Model Program.	The sentence has been changed to delete the USMP reference.	Amended sentence

COMMENTER	COMMENT	RESPONSE	ACTION
State of California Santa Monica Mountains Conservancy	11. Require that funds be available to provide for BMP Maintenance.	BMP maintenance is a necessary component of SUSMP implementation. Permittees are best able to identify source of funds.	No action recommended
California Coastal Commission	12. SUSMP requirements as is will improve water quality	Requirements are intended to minimize water quality impacts of development.	No action recommended
Technical AbTech Industries, Air Liquide, AKERS Entertainment Marketing, California Coastal Commission, CALPIRG, CDS Technologies Inc., La Canada Flintridge, Pasadena: Public Works & Transportation Department, South Gate, Cruz/Kravetz: IDEAS, JBI Process Equipment, Ballona Wetlands Foundation, Center for Marine Conservation, Center for Watershed Protection, 13 Citizen Comment Letters, Community Coalition for Change, County of LA Dept. of Public Works, Defend the Bay, Earth Communications Office, Environmental Defense Center, Friends of the LA River, Heal the Bay, Malibu Bay Company, NRDC, Public Works Agency Ventura County, Santa Monica Baykeeper, Sierra Club, South Bay Surfrider Chapter, Stainless Industrial Companies, University of Alabama, University of Georgia	13. Support the "3/4-inch" criteria because it is a Design Standard not a "Numerical Limit". The standard is reasonable for storm water runoff and makes economic sense for the greater Los Angeles area.	The design is statistically based and reasonable.	No change recommended
Ventura County Flood Control District	14. Peak Flow Rate control condition for BMP design indicates confusion between requirements for peak flow rate control versus a standard that allows the use of low flow-based water quality treatment control BMPs.	The peak flow rate condition is intended to limit down-stream erosion and over-bank flooding. Criteria for flow-sensitive BMPs will need to be developed in the future. Suggest BMP use consistent with manufacturer specs for now.	No action recommended at this time.
Ventura County Flood Control District	15. SUSMP design options are not technically equivalent- request a review of backup calculations and modifications of the percent capture to reflect equivalent standards.	Reviewed calculations and corrected percent capture to 80 percent.	Design standard for percent capture amended.
San Gabriel Valley Council of Gov'ts, South Bay Cities Council of Gov'ts	16. Defer inclusion of numeric standards until an evaluation of effectiveness treatment control BMPs for the pollutants of concern .	The numeric design standard has no bearing on effectiveness. BMP effectiveness data is available from national databases.	No action recommended.

COMMENTER	COMMENT	RESPONSE	ACTION
San Gabriel Valley Council of Govts, South Bay Cities Council of Govts	17. Defer inclusion of numeric standards into SUSMPs until an "out clause" has been established in the event a numeric standard can't be met for reasons of economy or feasibility.	The SUSMP already includes a waiver for recognized conditions when implementation of the design standard is impracticable.	No action recommended.
ASCE-Los Angeles Section, BIA, CEA, City of Long Beach: Office of City Attorney, EAC, New Hall Land, San Gabriel Valley Council of Govts, South Bay Cities Council of Govts	18. Empirical data on the efficacy of numerical design standards as a minimum are unavailable. There is also lack of data proving the numerical standards are cost effective.	Disagree. See discussion in Staff Report.	No action recommended.
SCAG	19. The use of "numeric standards" should be used as a "backup" policy, not a "front-end" policy, when identified priority pollution problems are not mitigated.	Federal regulations require that pollutants in storm water be reduced to the maximum extent practicable. A design standard is proper.	No action recommended.
West Covina, County of LA Dept. of Public Works, EAC	20. SUSMP should not apply to storm water runoff which does not flow across a source of pollutants.	SUSMP applies to the total project. Treatment mitigation credit is allowed for directly connected roof surface area.	No action recommended.
West Covina	21. Include a parking lot credit for use of vegetation on parking lot islands.	Parking lot requirements promote infiltration. Separate credit is not required for island areas.	No action recommended.
Heal the Bay, NRDC, Malibu Bay Company, USEPA, Ventura County Flood Control District	22. Remove the roofing exclusion in order not to encourage increase in impervious areas	Roofing exclusion credit is limited to situations where water quality impact is minimal.	No action recommended.
Heal the Bay, NRDC	23. Remove small restaurant exemption- no correlation between the size of a restaurant and amount of pollution it produces.	Small restaurant exemption applies only for BMP design standard criteria. All other requirements remain the same.	No action recommended.
Legal West Covina, Heal the Bay	24. State legal basis for Permittee City to take remedial action against a private party.	Legal basis will be applicable provisions in the federal Clean Water Act, the State Water Code, the MS4 permit, and local codes and ordinances	No action recommended.
Calf. SWQTF	25. Requirements intrude into local government responsibility and have more than regional significance.	Requirements are proposed consistent with federal storm water regulations. See Staff Report, Section 8: Legal and Regulatory Basis	No action recommended.
State of California Santa Monica Mountains Conservancy	26. The SUSMP Waiver section provides loopholes for developers to use.	Waiver provision provides relief if impracticability is established.	No action recommended.
USEPA	27. The requirements of the proposed SUSMP are consistent with the requirements of the CWA, applicable NPDES regulation, and EPA guidance.	Agree that requirements are consistent with state and federal law.	No action recommended.
NRDC	28. Eliminate the Self-Certification option for SUSMP review.	The third party certification option is intended to limit resource demands on municipalities. Will discourage use of the option for significant projects.	No action recommended.

Standard Urban Storm Water Mitigation Plans (SUSMPs)

Presentation to
the Regional Board
January 26, 2000

Xavier Swamikannu
California Regional Water Quality Control Board,
Los Angeles Region

Numerical Storm Water Mitigation Standard

Four different and equivalent methods to determine BMP sizing criteria

- Maximized volume capture (WEF Method)
- Percent volume treatment (CA Handbook)
- All events up to 0.75 inch 24-hr precipitation
- Historical record 85th percentile rainfall event

No Flow Sensitive Standard At This Time

WEF Design Standard

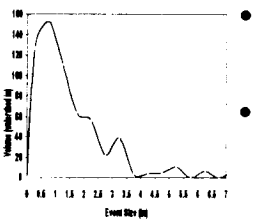
The Design Storm

$$P_o = a.C.P_A$$

P_o - Maximized water quality "treatment" volume
a - "Treatment" volume coefficient
C - Area runoff coefficient
P_A - Mean storm precipitation volume

Range in coastal CA for 85% annual runoff "treatment"
- 0.12 inch - 0.86 inch

Principle



- Largest volumes of runoff are produced by smaller storms
- Criteria promotes BMP application to smaller more frequent storms

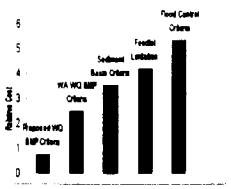
Translation

- Criterion is averaged for local communities
- Further increase in value results in fewer and fewer rainfall events being captured. ("point of diminishing returns")
- Eight-five percent of rainfall events are equal to or less than the criterion
- "First flush" pollutant concentration peaks will be treated
- Approximately eight-five percent of long term pollutant load can be reduced.

Bases

- Technically defensible
- Based on local data and nationally accepted methods
- Criteria in use by other communities range from 0.5 to 2 inches (TX, FL, WA, MD, CO)
- Similar criteria in use by Santa Monica, Calabasas, Ventura County, and unincorporated LA County

Relative Cost Comparison



- Relative cost much less than similar storm water criteria.
- Comparable criteria for wet regions, e.g., Pacific Northwest is higher.

BMP Cost

- Five Acre Commercial Development
  - Project Cost is $6.5 million
  - Detention Basin BMP (Example 1)
    - Excavation and Haul away = $12,870
    - Land Cost = $28,800
    - Maintenance (1 / year cleanout) = $33
    - Total Cost = About $42,000
  - Mitigation Percent Cost = 0.6 %

BMP Cost

- Infiltration Trench and Vegetated Swale BMPs (Example 2)
  - Trench with Gravel = $13,500
  - Land Cost = Minimal
  - Maintenance (5 yr replacement) = $1350 per yr
  - Swale = $4050
  - Land Cost / Maintenance = Within Landscaping
  - Combined Cost = About $19,000
- Mitigation Percent Cost = 0.3 %

Generalizations

- Numerical standard provides flexibility in choice of BMPs
- Mitigation cost not likely to exceed environmental mitigation reasonable cost threshold (about 5 percent)
- BMP choice must be made on BMP effectiveness
- BMP choice may consider ease of maintenance

The Los Angeles County Municipal Stormwater Permit and Standard Urban Storm Water Mitigation Plans (SUSMPs)

A comprehensive municipal stormwater permit

- **Municipal Stormwater Permits required by Clean Water Act Amendments - 1987**
  - » **Los Angeles County MS4 Permit Issued - 1990**
  - » ***Reissued - LA County 1996***
  - » **Long Beach individual permit -1999**
- **Standard Urban Stormwater Mitigation Plans (SUSMPs) required**

Standard Urban Storm Water Mitigation Plans

- SUSMP categories:
  - » 10 or more home sub-division projects
  - » 100,000 sq. ft. commercial developments
  - » gas stations
  - » restaurants
  - » automotive repair facilities
  - » single family hillside dwellings
- **Applies to new developments and substantial redevelopment**

Los Angeles Permit Elements

- Discharge Prohibitions
- Receiving Water Limitations
- Continuation of 1990 Permit Requirements
- Stormwater Management Program
  - » 5 distinct program elements

Stormwater Management Program

- Five Elements
  - » Illicit Connections and Illicit Discharges
  - » Development Planning and Construction
  - » Public Agency Activities
  - » Public Information
  - » Monitoring

Scope of the Problem...

- LA River (1997-98 season)
  - » 2,670 lbs/season of dissolved Cadmium, 56,000 lbs of copper, 103,000 lbs of lead, 336,000 lbs of zinc (total loading is much higher)
- San Gabriel River (1997-98 season)
  - » 1,120 lbs of copper, 901 lbs of lead, 8,840 lbs of zinc, 2,230 lbs of cyanide

Scope of the Problem...

- Ballona Creek (1997-98 season)
  - » 1,510 lb/season of dissolved copper, 967 lbs of lead, 7,710 lbs of zinc (total loading is much higher)
- Not including other parameters such as oil and grease, hundreds of tons of trash and debris, bacteria loadings

Our Waters are Impaired

- Rivers and harbors are listed on the federal 303 (d) list of impaired waters
- Listing requires that Total Maximum Daily Loads (TMDLs) be established
- A 13 year process for the Regional Board (pursuant to a federal consent decree)

Water Quality Impairments have Consequences

- Huntington Beach closure last summer
- Additional loadings of toxic pollutants
- Strong regulatory responses if improvements in water quality don't occur

Proposal History

- **Based on 1996 Permit Requirements**
- **August 10, 1999 Public Workshop**
  - » **Initial proposal a consensus document prepared by Co-Permittees (LA County and municipalities)**
  - » **SUSMPs Submitted for Executive Officer approval**
- **September 16, 1999 Public Hearing**
  - » **Additional time for development of record and proposal revision**
- **December 7, 1999 Formal Proposal**

December 7th SUSMP Proposal

- **Requirements applicable to all SUSMP categories include:**
  - » **Peak Stormwater Runoff Rates**
  - » **Conservation of Natural Areas**
  - » **Minimization of stormwater pollution though use of BMPs**
  - » **Protection of Slopes and Channels**
  - » **Providing storm drain identification**
  - » **Proper design of outside storage areas**
  - » **Proper design of trash storage areas**
  - » **Establishing proof of long-term BMP maintenance, and**
  - » **Design standards for treatment controls**

December 7th SUSMP Proposal

- New categories
  - » Parking Lots
  - » Environmentally Sensitive Areas
- Flexibility Features
  - » Waiver Provision
    - – risk to groundwater
    - – inadequate space
    - – poor soil conditions

December 7th SUSMP Proposal

- Alternative certification
  - » allows co-permittees to rely on certified professionals to verify project plans conform to SUSMP requirements

The SUSMP Proposal

- Think of the proposal as being two separate proposals
  - » "Basic Package"
    - – Everything but the design standard
  - » "Numerical Design Standard"

Changes to the Proposal

- Change Sheet
  - » Hillside definition
  - » Parking lots
  - » Redevelopment threshold
  - » Environmentally Sensitive Areas

Controversies

- Waiver Provision
  - » intended to provide flexibility
- Numerical Design Standards
  - » determines BMP size
  - » no performance standard for BMPs
  - » a long-term solution
  - » exempts restaurants <5,000 sq ft

Controversies

- Rooftop Runoff Exemption
  - » no current definitive information to justify including this large volume of water
  - » exemption allows for BMPs to be smaller and less costly
  - » strict applicability provides that the exemption will not be abused

Controversies

- Rooftop Runoff Exemption Applicability Criteria
  - » **applies if drainage is diverted to storm drain system**
    - – **allows cleaner runoff to not co-mingle with polluted runoff**
  - » **roofing materials are inherently polluting**
  - » **presence of pollutants through vents or pollution controls**
  - » **cannot divert runoff to a natural stream**
    - – **addresses the volume concern**

Options for Board Action

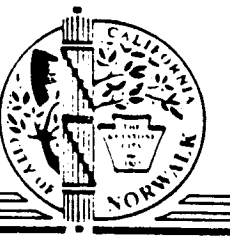
- Numerical Standard
  - » Require a large runoff number (>0.75 in)
  - » Require the 0.75 inch standard
  - » Require a smaller runoff number (<0.75 in)
  - » Reject the concept of a numerical standard

Options for Board Action

- If recommended, apply the numerical standard
  - » as soon as possible
  - » phased in over time
  - » applicable at a future date certain
  - » concurrent with the next permit (July 2001)

Options for Board Action

- If recommended, apply the numerical standard
  - » to all categories
  - » only some categories
  - » contingent upon some additional evidentiary showings



City of NORWALK

12700 NORWALK BLVD., P.O. BOX 1030, NORWALK, CA 90651-1030 • PHONE: 562/929-5700 • FACSIMILE: 562/929-5773

October 7, 1999

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality
Control Board
320 West Fourth Street, Suite 200
Los Angeles, California 90013-1105

Dear Mr. Dickerson:

Subject: Resolution No. 99-42

At its meeting of September 21, 1999, the City Council adopted Resolution No. 99-42, A Resolution of the City Council of the City of Norwalk urging the Los Angeles Regional Water Quality Control Board, to direct staff not to impose numeric limits on the treatment and/or retention of storm water runoff from new developments pursuant to the Los Angeles County Municipal NPDES Permit.

If you have any questions regarding this matter, please call Jerry Stock, Acting City Engineer, at (562) 929-5727.

Sincerely,

Gail A. Vasquez
City Clerk

11-64

R0068274

RESOLUTION NO. 99-42

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NORWALK URGING THE LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD TO DIRECT STAFF NOT TO IMPOSE NUMERIC LIMITS ON THE TREATMENT AND/OR RETENTION OF STORM WATER RUNOFF FROM NEW DEVELOPMENTS PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL NPDES PERMIT

THE CITY COUNCIL OF THE CITY OF NORWALK DOES RESOLVE AS FOLLOWS:

WHEREAS, the Executive Officer of the Los Angeles Regional Water Quality Control Board is considering the incorporation of numeric limits into the Standard Urban Storm Water Runoff Mitigation Plans, a component of the Development Planning Model Program, as required by the current National Pollutant Discharge Elimination System (NPDES);

WHEREAS, such numeric limits are intended to specify the volume of stormwater runoff that must be retained and/or treated from seven categories of new development projects: gas stations, restaurants, auto repair facilities, 10 to 99 home sub-divisions, 100 plus home sub-divisions, single-family hillside homes, and commercial developments greater than 100,000 square feet in size;

WHEREAS, achieving the goals of the proposed numeric limits would necessitate the imposition of structural controls on specified new developments, such controls include but are not limited to detention or infiltration basins, wet ponds, storm drain-connected oil/grit separators, catch basin inserts, grassy swells, and other such facilities that achieve the desired retention or treatment requirements;

WHEREAS, such structural controls are being recommended without region specific studies detailing their effectiveness, without detailed cost-benefit analysis, and without a proven link between construction of structural controls and improvement of our receiving waters;

WHEREAS, without such studies and justification, imposing such requirements on developers and property would negatively effect economic development by adding unjustified construction, operation and maintenance costs to subject projects, costs that a developer would not be required to pay in other Counties of the State;

WHEREAS, such structural controls, if not properly designed or maintained, could themselves become greater sources of pollution than the original problem they are intended to mitigate;

WHEREAS, retention and/or treatment of stormwater based on numeric limits are not specifically mandated in the current municipal NPDES permit and may constitute an unfunded state mandate as currently proposed;

NOW, THEREFORE, be it further determined and resolved by the City Council of the City of Norwalk as follows:

SECTION 1. The City Council advise the Los Angeles Regional Water Quality Control Board of its opposition to the incorporation of numeric limits into the Standard Urban Stormwater Runoff Mitigation Plans without first obtaining regional specific data as to their effectiveness, detailed cost-benefit analysis, and provide evidence of a direct link between construction of structural controls and improvement of our receiving waters.

SECTION 2. The City Council recommend the Regional Board approve the Standard Urban Storm Water Mitigation Plan as original submitted by the Los Angeles County on behalf of all permittees that did not contain the numeric limit language.

SECTION 3. Direct staff to present this Resolution to the Los Angeles Regional Water Quality Control Board.

SECTION 4. The City Clerk shall certify to the adoption of this resolution and the same shall be effective on the date of adoption.

PASSED, APPROVED AND ADOPTED THIS 21st DAY OF September 1999.

/s/
MICHAEL MENDEZ
MAYOR

ATTEST:

I, **Bonnie Hernandez-Strait**, Deputy City Clerk of the City of Norwalk, California **DO HEREBY CERTIFY** that the foregoing Resolution, being **Resolution No. 99-42** has been duly signed by the Mayor and attested by the Deputy City Clerk, all at a regular meeting of the Norwalk City Council, held September 21, 1999 and that the same was approved and adopted by the following vote to wit:

AYES: **COUNCILMEMBERS LUERA, STEFENHAGEN, VICE MAYOR KELLEY AND MAYOR MENDEZ**
NOES: **NONE**
ABSENT: **COUNCILMEMBER BERMÚDEZ**

/s/
BONNIE HERNANDEZ-STRAIT
DEPUTY CITY CLERK

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OUR FILE NO.:
00008-0875; 01047-0011
00111-0539; 00408-0061
03478-0001; 00219-0117
02012-0181

November 9, 1999

VIA FACSIMILE TO: (213) 576-6600
and (213) 576-6640

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality
Control Board-Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013-1105

Re: Standard Urban Storm Water Mitigation Plans

Dear Mr. Dickerson:

Please accept my apologies for the delay in submitting this set of informal comments on the proposed Draft Standard Urban Storm Water Mitigation Plans ("SUSMPs"). These comments are submitted on behalf of the Cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita and Torrance.

Here are some of the items in the SUSMPs which, in my view, raise serious legal issues:

1. In the "**BACKGROUND**" section of each SUSMP, in the second paragraph, the sole legal basis given is the 1987 amendments to the Clean Water Act. If a City were to attempt to defend its reliance on the Storm Water Permit, (and it may, if a developer says "you can't require me do to that...") the City should have all possible legal authority at its disposal. The SUSMPs' reliance on only one source, the '87 CWA amendments, is not, in my view, a good legal move. It would put a city in the position of betting the outcome of the lawsuit on one, but only one, source of authority. The corrective action: I'd cite the federal and California Constitutions, Porter-Cologne, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and the Health & Safety codes, too.

2. In the "**BACKGROUND**" section of each SUSMP, in the third paragraph, the third sentence is directive in nature: "This SUSMP outlines ***the necessary*** Best Management Practices (BMPs) which ***must*** be incorporated into design plans for [name of SUSMP] projects." Please note that the sentence does not say "some of which" or "Cities may select the appropriate measures from among..." This language, unless modified, it could be argued, leaves a **City with no discretion at all:** a City would have to require that **all measures in a SUSMP** must be incorporated into all design plans for that type of development. Yes, that may not be what was intended. But it could be argued to be the plain meaning of what is in the SUSMPs, and that is how a judge might construe it. The fix: Make it clear that the SUSMPs contain BMPs which, as **appropriate**, are among those which a City may require of a developer. Add a variance procedure, to deal with the inevitable situation when none of the BMPs will work.

3. In Section 3 ("PROVIDE STORM DRAIN SYSTEM STENCILING AND SIGNAGE") (a requirement in every SUSMP), in the second bullet point: no hint is given that anything less than placement of signs along ***every*** channel and ***every*** creek, both upstream and downstream, ***from the mountains all the way to the sea***, is what is required. Am I making this up? No. (Remember, in 2, above, the language is directive: "...***the necessary*** Best Management Practices (BMPs) which ***must*** be incorporated...") Just how a developer is to gain access to a stream bank owned by a third party, to place those signs, is also not explained. The "takings issues" (of private riverfront property for the public use of erecting the signs, without just compensation) and First Amendment problems (forcing, somehow, property owners of property adjacent to streams to be unwilling hosts of forced speech, i.e., the anti-dumping signs) raise possibly insurmountable Constitutional issues. The correction: Make it clear that the sign requirement is among those which may be appropriate, but that it is limited to those streams and storm drains adjacent to the project in question.

4. The design requirements of the SUSMPs should be reviewed by Building Officials and Fire Departments for consistency with UBC, UFC, etc..

5. As to "BMP MAINTENANCE" requirements, the requirement to have the developer "sign a statement declaring responsibility for all structural BMP maintenance until the time the property is transferred" is a nice concept, but enforcement would be difficult or impossible. If the "statement" is not a contract, it could be argued that the City has no standing to enforce the "statement." As to maintenance after the transfer of property, the notion that the City, through the use of the "statement," could require the seller to impose conditions on a buyer, which

are not part of any CUP, contract or ordinance could be viewed as an unconstitutional restraint on alienation, and could subject the City to a "takings" claim under the federal and state constitutions. Enforcing this "condition" against the buyer, or worse yet, the third or fourth buyer down the chain of title, without benefit of a CUP, CEQA mitigation requirement or ordinance, could be difficult at best. Suggestion: Recall that these SUSMPs are to apply only to discretionary projects, triggering, one assumes, CEQA. If so, make these conditions CEQA mitigation requirements. And make them part of any CUP, if a CUP is required. In addition, and of great concern, is that the SUSMPs do not provide for any sort of funding mechanism for the new roles thrust upon the Cities in the area of enforcement of SUSMP maintenance enforcement.

In summary, some problems may be encountered with the present methodology. Some of the language is, I think, overbroad. (The wrong saddle on the right horse.) There are other ways to accomplish the goals. I hope these initial comments are helpful. I have also taken the liberty of preparing a revised sample SUSMP It is enclosed

The Cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita and Torrance wish to make clear that the submission of these comments on their behalf should not be construed as a waiver of further comments, or at to the right to raise any further objections to the Draft SUSMPs.

Very truly yours,

RUFUS C. YOUNG, JR.
of BURKE, WILLIAMS & SORENSEN, LLP

RCY

35923

RESTAURANT

STANDARD URBAN STORM WATER MITIGATION PLAN

DEFINITION

A restaurant is a facility that sells prepared foods and drinks for consumption. The term "restaurant" includes, but is not limited to ~~including~~ stationary lunch counters and refreshment stands ~~selling~~ where prepared foods and drinks are sold for immediate consumption. (All facilities within SIC code 5812 are included in the term "Restaurant.")

BACKGROUND

The municipal storm water National Pollutant Discharge Elimination System (NPDES) permit (Permit) (NPDES No. CAS614001) issued to Los Angeles County and 85 cities (Permittees) by the Los Angeles Regional Water Quality Control Board (Regional Board) on July 15, 1996, ~~required~~ requires the development and implementation of a program addressing ~~stormwater~~storm water pollution issues in development planning for private projects.

The requirement to implement a program addressing development planning is based on, among other things, ~~the primary objectives of~~ Section 402(p) of the Clean Water Act, the Coastal Zone Act Reauthorizations Amendments of 1990 ("CZARA"), the California Water Code, the Comprehensive ~~Enviromental~~Environmental Response, Compensation and ~~Libility~~Liability Act ("CERCLA"), 42 U.S.C. §§ 9601, et seq., and the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901, et seq. The 1987 amendments to the Clean Water Act ~~that~~ established a framework for regulating ~~stormwater~~storm water discharges from municipal, industrial, and construction activities under the NPDES. The primary objectives of the Municipal Storm Water requirements are to:

- Effectively prohibit non-storm water discharges, and
- Reduce the discharge of pollutants from ~~stormwater~~storm water conveyance systems to the Maximum Extent Practicable.

This Standard Urban ~~Stormwater~~Storm water Mitigation Plan (SUSMP) was developed as part of the program to addressing Development ~~Planning for~~ by the private sector. The Permittees are to~~will~~ use ~~this~~ SUSMPs as guides for development into ~~develop~~ their ~~own~~ respective ~~city~~ jurisdiction-wide SUSMPs. The SUSMPs apply only to Discretionary projects (as defined by CEQA), that fall into one of the seven categories: (10-99 Home Subdivision, 100+ Home Subdivision, Single-Family Hillside Residence, 100,000 Square Foot Commercial Development, Automotive Repair Shop, Retail Gasoline Outlet, and Restaurant). Permitees are to require project proponents~~will need~~ to implement, to the extent practicable, ~~the appropriate~~ appropriate SUSMP requirements into ~~their~~ project plans. This SUSMP outlines ~~the necessary~~ Best

Management Practices (BMPs) which must be considered for possible ~~incorporated~~ incorporation, to the extent practicable, into design plans for Restaurant projects. Should any SUSMP provision conflict ~~be discovered~~ with ~~the new guidelines and~~ any pre-existing regulation or ordinance, such as, for example, a Building Code requirement, the pre-existing regulation ~~will~~ shall control. ~~prevail.~~

For development projects where the cost of new improvements exceeds a ~~pre-determined~~ threshold determined by the Permitee, the new and the existing improvements shall comply with this SUSMP. When the cost of new improvements is less than the ~~pre-determined~~ threshold determined by the Permitee, only the new improvements need to comply with this SUSMP. The pre-determined threshold shall be consistent with the local jurisdiction's policy for application of other building codes to new improvements.

REQUIREMENTS

1. PEAK STORM WATER RUNOFF DISCHARGE RATES

Peak storm water runoff discharge rates shall not exceed estimated pre-development levels for developments where an increased peak storm water discharge rate ~~may~~ foreseeable will cause ~~result in~~ ~~an~~ increased ~~potential for~~ downstream erosion.

2. PROTECT SLOPES AND CHANNELS

If applicable, ~~the~~ project plans must include those BMPs which are practicable to implement and which are consistent with ~~local~~ the Permitee's codes and ordinances, to decrease the potential of slopes and/or channels from eroding and impacting ~~stormwater~~ storm water runoff:

- Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
- Stabilize permanent channel crossings.
- Vegetate slopes with native or drought tolerant vegetation.
- With approval of all agencies with jurisdiction, e.g., the Army Corps of Engineers and the California Department of Fish & Game, ~~Install~~ install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels

that enter unlined channels in accordance with applicable specifications to minimize erosion.

3. PROPERLY DESIGN EQUIPMENT/ACCESSORY WASH AREAS

Equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to ~~the~~ a ~~stormwater~~storm water conveyance system. To alleviate this problem, include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must meet the following requirements, consistent with building codes:

- This area must be self-contained, equipped with a grease trap, ~~and~~ properly connected to a sanitary sewer or retention tank.
- If this wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer or retention tank.

4. PROVIDE STORM DRAIN SYSTEM STENCILING AND SIGNAGE

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the ~~stormwater~~storm water conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message.

- All new storm drain inlets and catch basins constructed as part of the project not already ~~steneilled~~stenciled, must be stenciled with prohibitive language (such as: "NO DUMPING - DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.

- Signs and prohibitive language and/or graphical icons discouraging illegal dumping must be posted along the portion of channels and creeks, if any, which are adjacent to the project, if it is ~~preacticable~~practicable to obtain legal approval from the property owner.

- Legibility of stencils and signs must be maintained.

5. PROPERLY DESIGN OUTDOOR MATERIAL STORAGE AREAS

Improper storage of materials outdoors ~~can~~ could allow ~~toxic compounds, oil and grease, heavy metals, nutrients, and suspended solids~~ pollutants to enter the ~~stormwater~~storm water conveyance system. Where proposed project plans or activities ~~may result in~~ include outdoor areas for storage or uses ~~of materials~~ that may contribute pollutants to the ~~stormwater~~storm water conveyance system, the following structural BMPs are required:

- Areas where materials are to be stored must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.

- The storage area must be paved and sufficiently impervious to contain leaks and spills.

- Where feasible, the storage area should have a roof or awning to minimize collection of storm water within the secondary containment area.

6. PROPERLY DESIGN TRASH STORAGE AREAS

Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas on projects subject to this SUSMP must meet the following requirements:

- ~~Trash container areas must have drainage~~Drainage from ~~adjoining~~ roofs and pavement shall be diverted around trash container areas~~the area(s)~~.
- Trash container areas must be screened or walled to prevent unintended off-site transport of trash.

7. PROVIDE PROOF OF ONGOING BMP MAINTENANCE

Improper maintenance is one of the most common reasons for water quality controls to not function as designed or to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP, and what equipment is required to perform the maintenance properly. As part of project review, if a project applicant has included (or will be required to include) structural BMPs in project plans, Permittees ~~staff~~ will require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to structural ~~dseign~~design, legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits.

~~For all properties, this verification will consist of having the developer sign a statement declaring responsibility for all structural BMP maintenance until the time the property is transferred. This transfer of property must have conditions requiring the recipient to assume responsibility for maintenance of any structural BMPs to be included in the sales or lease agreement for that property, and will be the owner's responsibility.~~

If structural BMPs are located within a public area proposed for transfer of title to a public agency, they will be the responsibility of the developer until they are accepted for transfer by the County or other appropriate public agency. ~~The structural BMP proposed for transfer will need prior approval from the County or other appropriate public agency and will be considered on a case by case basis.~~

TABLE 1: SUGGESTED RESOURCES

SUGGESTED RESOURCES	HOW TO GET A COPY
Start at the Source (1997) by Bay Area ~~Stormwater~~Storm water Management Agencies Association Detailed discussion of permeable pavements and alternative driveway designs presented.	Bay Area ~~Stormwater~~Storm water Management Agencies Association 2101 Webster Street Suite 500 Oakland, CA 510-286-1255
Design of ~~Stormwater~~Storm water Filtering Systems (1996) by Richard A. Claytor and Thomas R. Schuler Presents detailed engineering guidance on ten different ~~stormwater~~storm water filtering systems.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Better Site Design: A Handbook for Changing Development Rules in Your Community (1998) Presents guidance for different model development alternatives.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323

Design Manual for Use of Bioretention in ~~Stormwater~~Storm water Management (1993) Presents guidance for designing bioretention facilities.	Prince George's County Watershed Protection Branch 9400 Peppercorn Place, Suite 600 Landover, MD 20785
Operation, Maintenance and Management of ~~Stormwater~~Storm water Management (1997) Provides a thorough look at ~~stormwater~~storm water practices including, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	Watershed Management Institute, Inc. 410 White Oak Drive Crawfordville, FL 32327 850-926-5310
California Storm Water Best Management Practices Handbooks (1993) for Construction Activity, Municipal, and Industrial/Commercial Presents a description of a large variety of structural and good housekeeping BMPs.	Los Angeles County Department of Public Works Cashiers Office 900 S. Fremont Avenue Alhambra, CA 91803 626-458-6959

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OUR FILE NO.:
00006-0876; 01047-0011
00111-0539; 00408-0061
03476-0001; 00218-0117
02012-0181

November 29, 1999

VIA FACSIMILE TO: (213) 576-6600
and (213) 576-6640

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality
Control Board-Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013-1105

Re: Standard Urban Storm Water Mitigation Plans; Request for Delay in Issuance in Light of Phase I Storm Water Efficiency Reports Required by Recent Legislation

Dear Mr. Dickerson:

This letter requests that you delay issuance of the proposed Standard Urban Storm Water Mitigation Plans ("SUSMPs"). As you may already be aware, § 431 of PL 106-74, which the President signed on October 20, requires the Administrator of the U.S. EPA to make two reports to Congress. Within 120 days after PL 106-74's enactment, EPA must report on its "Phase I" storm water regulations to the Senate Committee on Environment and Public Works and to the House Committee on Transportation and Infrastructure. EPA must also report to these committees before publishing its "Phase II" storm water regulations. The agency must publish both reports in the Federal Register for public comment.

The report on the "Phase I" storm water regulations must ***explain in detail*** what improvement, if any, they have caused in national water quality. This report must describe specific measures which have or have not been successful.

The "Phase II" storm water report must contain four elements. First, it must analyze the likely effect of the regulations on urban, suburban, and rural local governments. In particular, EPA must estimate the costs of compliance with six "minimum control measures" in these storm water regulations; and of reducing the construction threshold from five acres to one. Second, EPA must explain why it reduced this threshold, stating what qualitative information it used to determine it. The agency must also explain, "in light of recent court decisions," why it was less arbitrary to choose one acre as its measure, instead of five. (This apparently is a reference to

American Trucking Ass'ns v. United States Environmental Protection Agency, 175 F.3d 1027 (D.C. Cir., 1999).[1] Third, EPA must demonstrate that storm water runoff is generally a problem in cities with populations between 50,000 100,000. In particular, the Administrator must explain why the population of a place, and not its water quality, determines whether it is regulated. Fourth, the report must contain information to support EPA's determination that it should administer the "Phase Two" storm water regulations as part of the NPDES.

Much of what the Congress is requiring of the Administrator quite clearly calls the SUSMPs now under your consideration into question. On behalf of the cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita and Torrance, I ask you to report to the Regional Board that the Congress has passed legislation requiring the Administrator of the U.S. EPA to prepare "efficiency reports" on the Phase I storm water regulations and on aspects of the Phase II storm water regulations which have provisions parallel to the SUSMPs now under consideration. I further request that you delay, or seek the Board's approval to delay, issuance of the SUSMPs until the EPA Administrator's report is published and can be evaluated. For your convenience, a copy of § 431 of Public Law 106-74 is enclosed.

Very truly yours,

RUFUS C. YOUNG, JR.
of BURKE, WILLIAMS & SORENSEN, LLP

RCY

cc: City Managers/Administrators, Public Works Directors, Planning Directors and City Attorneys of the Cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita and Torrance

[1] In the *American Trucking* case, the U.S. Court of Appeals for the District of Columbia Circuit held that the EPA's issuance of certain regulations under the Clean Air Act was based on an interpretation which constituted an unconstitutional delegation of the legislative authority of Congress. The court also held that EPA's selection of PM_{10} rather than some other size of soot as the threshold for regulation, was arbitrary and capricious).

Sec. 431. Promulgation of Stormwater Regulations.

(a) Stormwater Regulations.--The Administrator of the Environmental Protection Agency shall not promulgate the Phase II stormwater regulations until the Administrator submits to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report containing-- (1) an in-depth impact analysis on the effect the final regulations will have on urban, suburban, and rural local governments subject to the regulations, including an estimate of-- (A) the costs of complying with the six minimum control measures described in the regulations; and (B) the costs resulting from the lowering of the construction threshold from 5 acres to 1 acre; (2) an explanation of the rationale of the Administrator for lowering the construction site threshold from 5 acres to 1 acre, including-- (A) an explanation, in light of recent court decisions, of why a 1-acre measure is any less arbitrarily determined than a 5-acre measure; and (B) all qualitative information used in determining an acre threshold for a construction site; (3) documentation demonstrating that stormwater runoff is generally a problem in communities with populations of 50,000 to 100,000 (including an explanation of why the coverage of the regulation is based on a census-determined population instead of a water quality threshold); and (4) information that supports the position of the Administrator that the Phase II stormwater program should be administered as part of the National Pollutant Discharge Elimination System under section 402 of the Federal Water Pollution Control Act (33 U.S.C. 1342).

(b) Phase I Regulations.--No later than 120 days after the enactment of this Act, the Environmental Protection Agency shall submit to the Environment and Public Works Committee of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report containing a detailed explanation of the impact, if any, that the Phase I program has had in improving water quality in the United States (including [[Page 113 STAT. 1097]] a description of specific measures that have been successful and those that have been unsuccessful).

(c) Federal Register.--The reports described in subsections (a) and (b) shall be published in the Federal Register for public comment.

December 21, 1999

Mr. Dennis Dickerson
Executive Director
California Regional Water
Quality Control Board – Los Angeles
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Proposed Standard Urban Storm Water Mitigation Plans (SUSMP's)

Dear Mr. Dickerson:

I am writing to address my understanding of the controversial ¾-inch figure you are proposing to include in the Los Angeles County SUSMP's. Several people have called this figure a "numerical limit". If this figure were a "numerical limit" I would join the battle against it.

A "numerical limit" is an enforcement target, which establishes the maximum quantity of a pollutant that may be present in storm runoff to be in compliance with a regulatory permit. The ¾-inch figure does not impose that burden on permittee's. If samples of storm water runoff are taken from a drainage system in Los Angeles County the testing agency cannot determine if any pollutants were caused by the ¾-inch of runoff from sites upstream. The storm runoff cannot be tested in that way.

I believe that the figure is in fact a "design standard" to be used by designers and cities alike to establish the amount of runoff that must be "treated" by priority projects, as defined in the Los Angeles County NPDES permit. The use of a design standard will allow all applicants to obtain uniform and fair treatment in every City that they approach. Currently, several cities are known to be strong proponents of Clean Water and enforce stringent rules on new development. Most cities comply with the permit requirements, but do not have well established design standards to reference. Thus, differing levels of compliance are obtained on the same issue. This unequal enforcement is not a problem as long as the minimum level of enforcement complies with relevant standards.

11-81

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A "design standard" is a tool to be used by designers and cities alike. As a design tool engineer and other design professionals can use their professional judgement to assure that the "design standard" is applied in a fair manner. The design professional identifying a problem with the standard as it would apply to his project can present facts to the City for consideration. If the City is convinced of the logic of an argument it can grant approval for an alternative design.

This flexibility is the key difference between a "numerical limit" and a "design standard". Professional judgement cannot be applied to a "numerical limit". I would encourage the Board to recognize ¾-inch rainfall as a design standard to be used to design facilities.

I will not be able to attend the Boards hearing on January 26, 2000, but I feel strongly that the reaction to the ¾-inch figure as a "numerical limit" is wrong.

Sincerely

CITY OF LA CAÑADA FLINTRIDGE

Elroy L. Kiepke
City Engineer

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100

HARRY W. STONE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

December 28, 1999

IN REPLY PLEASE REFER TO FILE EP-3

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

STANDARD URBAN STORMWATER MITIGATION PLANS

The Los Angeles County Department of Public Works appreciates the challenge that the California Regional Water Quality Control Board, Los Angeles Region, has in trying to address the numerous and varied comments submitted on the Standard Urban Stormwater Mitigation Plans (SUSMPs). However, we have a serious concern that some of the recent changes either conflict with the already approved Model Program or are a major departure from the Development Planning Program that was negotiated and envisioned for the current National Pollutant Discharge Elimination System (NPDES) permit. The following are our comments that we would like you to consider before the January hearing.

SUSMP Categories

The two additional categories, parking lots and projects discharging into an "environmentally sensitive" area, are project characteristics that are already identified as priority projects in the Development Planning Program. The priority project categories identified in Part B of the checklist includes project locations adjoining, bisected by, or directly discharging to a designated environmentally sensitive area, riparian corridor or wetland and parking lots with greater than 200 parking spaces for any office, commercial or industrial use.

Also, the proposed SUSMP indicates that "each Permittee will approve an Urban Storm Water Mitigation Plan as part of the development process and prior to issuing building and grading permits for the projects covered by the SUSMP requirements." This is not consistent with the Model Program. The Model Program clearly states that the Urban Storm Water Mitigation Plans will be required for specific projects when SUSMPs are not appropriate and/or not adequate for the specific project in review. "For a Planning Priority Project, the respective SUSMP or the site-specific Urban Storm Water Mitigation Plan will be incorporated into the project design prior to the issuance of any grading or building permits." The statement in the SUSMP should be revised to be consistent with the wording in the Model Program.

Definitions

Hillside: The definition of hillside would include all development. Only the extremely rare case of a dead flat lot would not be defined as "hillside." We recommend changing the definition to read "property located in an area with known erosive soil conditions, where the development contemplates regulated grading on any natural slope that is 25 percent or greater." This is the minimum grade used by most jurisdictions to define "hillside."

Environmentally Sensitive Area: Your proposed definition of "Environmentally Sensitive Area" would be very difficult to implement and enforce. We recommend that these areas be defined as those adjoining, bisecting, or directly discharging to a Significant Ecological Area, identified by Los Angeles County or other environmentally sensitive areas identified by the local jurisdiction. This definition would provide clarity and be more consistent with that given in the Model Program. It would also be enforceable and have a reasonable basis.

Redevelopment: Your proposed definition of redevelopment would require extremely minor projects to have the entire site come into compliance with stormwater regulations. This would place an unreasonable financial burden on small businesses, as well as the municipalities. It is common practice for regulations to contain thresholds to determine when new requirements are to be imposed on existing improvements. We recommend defining redevelopment as "the addition, to an already developed site of 50 percent or more impervious area or improvements to 50 percent or more of the existing improvements on the site."

Section 3 of the General Requirements

You deleted a line that recognized the possibility that other Best Management Practices (BMPs) not mentioned in the listed documents may meet the goal of the program. We recommend that this line remain in the SUSMP. We should not close the doors to new ideas. The real solutions are ahead of us, not behind.

Sections 6 and 7 of the General Requirements

Section 6 covers the proper design of outdoor material storage areas and Section 7 covers the proper design of trash storage areas. Both of these sections are written as requirements that apply to all SUSMP categories. We recommend that individual, single-family residential developments be exempted from these requirements.

Section 9 of the General Requirements

The phrases "each runoff event" and "each and every storm event" are creating confusion for those trying to design BMPs for that purpose. When one considers that storms may occur over several consecutive days, this statement would lead to a BMP that is over designed for water quality purposes, especially when you take ground saturation into consideration. If the standard is to remain in the SUSMP, that wording should be clarified to state that the BMP should capture runoff events smaller than or equal to the given standard.

Roofing Surface Exclusion

Part D does not allow excluding the area of the roofing surface from the total area for calculation of rainfall or runoff volume to be treated if the stormwater conveyance system directly or indirectly discharges to a natural stream or unlined channel or channel segment scheduled for restoration. An exclusion for roofing surfaces is a good idea. However, the terms "indirectly discharge" and "unlined channel" in Part D of this section could be interpreted to prevent almost all projects from meeting the exclusion criteria. The wording of Part D should be revised to read, "the storm water conveyance system does not directly discharge to a natural stream or a channel segment scheduled for restoration to a natural stream."

Parking Lots

This section is not clear as to whether or not the listed BMPs are required or recommended. We would assume that the BMPs are recommended because it may not be possible to implement each of these BMPs at all parking areas. Wording to that effect should be added to the SUSMP.

Waiver

This section should define "an underground source of drinking water" and whether or not that includes potential sources.

Alternative Certification for Storm Water Treatment Mitigation

We agree with your approach to include this section in the SUSMP, but we feel that the certification should be required to be signed by a Civil Engineer or Architect registered in the State of California. This would provide assurance that the selection and design of the BMPs was conducted with technical expertise and provide an opportunity for recourse for negligent designs.

TABLE 2

This table should be consistent with the list of BMPs approved by the Regional Board for the Development Planning Program.

If you have any questions, please call me at (626) 458-5948, Monday through Thursday, 7:00 a.m. to 5:30 p.m.

Very truly yours,

HARRY W. STONE
Director of Public Works

Terri M. Grant
Supervising Civil Engineer III
Environmental Programs Division

JP:sv

P:\EPPUB\WATER\UNIT1\Pereira\LETTERS\SUSMP hearing letter.wpd

cc: All Permittees
City of Long Beach
CRWQCB (David Nahai)

RANCHO PALOS VERDES

January 4, 2000

Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

Dear Mr. Dickerson:

Proposed Standard Urban Stormwater Plans (SUSMP)

As a coastal community, the City of Rancho Palos Verdes appreciates the Regional Board's ongoing effort to improve the quality of stormwater runoff. In the City's continuing effort to do its part, the Planning Department has received training in and developed an extensive interim SUSMP program. This program, which closely parallels your proposed program, went into effect in early 1999. Upon the anticipated approval of your program, we will make the few changes needed to standardize our program.

As with any regulatory program, a small segment of the public will always look for exceptions to or ways of challenging requirements. As a city with a very large proportion of hillside areas compared to other cities, we expect many questions regarding the definition of "Hillside". The proposed definition:

> *"Property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope and where grading contemplates cut or fill slopes"*

is somewhat open to interpretation and is likely to necessitate a lengthy review for projects on an individual basis. This could be a considerable undertaking for our City's small staff. In the interest of avoiding lengthy evaluations, we ask that consideration be given to the inclusion of a numerical criteria for triggering the hillside SUSMP process for projects of 1 acre or less. This will make implementation smoother and avoid challenges to the SUSMP requirements by contractors and developers. Projects over 1 acre are large enough that a case by case evaluation can be made.

R0068298

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30940 Hawthorne Boulevard / Rancho Palos Verdes, CA 90275-5391 / (310) 377-0360 / FAX (310) 377-9868

With the deadline for comments less than two weeks away, the preparation and submittal of a detailed proposal for your review is not feasible. However, we will prepare recommendations for your staff's review upon your acknowledgment that a numerical criteria may be acceptable. In the interim, we will continue to implement the SUSMP program with the enthusiasm of a city concerned with creating the best possible environment for our citizens.

Sincerely,

Dean Allison, P.E.
Director of Public Works

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100

HARRY W. STONE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

January 11, 2000

IN REPLY PLEASE
REFER TO FILE: EP-3

Mr. Dennis A. Dickerson, Executive Officer
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

2000 JAN 13 P 1:36

Dear Mr. Dickerson:

MUNICIPAL STORMWATER PERMIT NO. CAS614001 - ORDER NO. 96-054
STANDARD URBAN STORM WATER MITIGATION PLANS (SUSMPs)

In response to your request at our meeting on December 30, 1999, we are providing the following information regarding our early experiences with the implementation of the 0.75-inch rainfall standard (standard) contained in the County of Los Angeles Development Planning Implementation Manual. To date, our experience is limited to the preliminary approval of projects. However, we have already identified several issues and concerns that need our attention at this early stage to ensure successful implementation of this new program.

In order to develop the standard, we reviewed and evaluated the new development stormwater pollution prevention programs of several other municipalities in California and throughout the country. Because we were negotiating our program under a Settlement Agreement with the Natural Resources Defense Council, we also considered information provided by them in this process. Lastly, we referenced the California Best Management Practices (BMPs) Handbook and the Urban Runoff Quality Management Manual (WEF Manual of Practice No. 23 and ASCE Manual and Report on Engineering Practice No. 87)

The Manual suggests that capturing and treating runoff from "smaller" storms will result in capture and treatment of a large percentage of the runoff volume from the urban landscape. A water quality BMP capable of capturing these smaller storms would also capture and treat the "first flush" portion of the larger, infrequently occurring runoff events. The Manual indicates that the 80th percentile runoff event is considered by municipalities in the semiarid region of the United States to be cost effective for stormwater quality management and is viewed as the design event that achieves the Maximum Extent Practicable definition under the Clean Water Act.

We found much variation in the standards adopted by municipalities for new development and the desired goals of their programs. For example, the standard was described in various terms such as, rainfall, runoff, or one to five-year frequency storms. Some programs focused on restoring the population of a particular endangered species while others sought to prevent major erosion problems. Municipalities adopted standards both lower and higher than the 80th percentile.

In order to establish an appropriate standard for treatment in Los Angeles County, we evaluated 119 years of rainfall data from our downtown Los Angeles area, Rain Gage No. 716. Using this data, we were able to create a rainfall probability graph. This rainfall probability graph showed that 85 percent of our storm events are less than or equal to 0.75-inches. Therefore, based on our research, we determined 0.75-inches of rainfall to be a reasonable standard for the mitigation of stormwater runoff.

0.75-Inch Volume and Flow Rate Calculations

Our most notable obstacle, thus far, has been the correct or proper calculation of runoff volume at a specific site. There are various methods to determine the appropriate volume and flow rate for structural Best Management Practices (BMPs), but no two methods give identical results. It has been a challenge to determine the most appropriate Countywide method. This challenge arises from trying to determine design volumes and flow rates when the only hydrology data analysis available is for a 10, 25, and 50-year peak flow design storm. Without design volumes and flow rates for the standard, we have limited confidence in the design of the stormwater BMPs. Therefore, we are challenged to refocus our hydrology expertise to change our previous design analysis from large peak-flow storm events to smaller more frequent events.

Knowledge of BMPs

Many of the proposed structural BMPs have been inadequate for their respective project. Some of the proposed BMPs are not properly situated and others would not adequately treat the stormwater runoff. Though we have been commenting on the proposals and discussing them with the proponents, we are unsure if these inadequate proposals are due to a lack of economically viable solutions or a lack of knowledge on the development community's part.

Infiltration BMPs

Fortunately, a number of the projects are located in areas of the County where infiltration rates are higher and proposed infiltration BMPs should be able to meet the standard.

However, we do not have verification of these high infiltration rates, and we are requiring a soils test for those projects proposing infiltration BMPs. We believe these more porous soils are unique to undeveloped County unincorporated areas and may not be representative of much of Los Angeles County.

Two home subdivision projects are proposing the infiltration of stormwater on individual residential lots. Though the anticipated soil infiltration rate is reported to be approximately three-inches per hour and well able to meet the standard, it is possible that individual homeowners in the future could modify their property to render the proposed BMPs ineffective. On another project the developer proposed to use designed infiltration basins, as well as the porous natural unlined channel, to mitigate the runoff from streets, driveways, and other impervious surfaces. We do not view the channel as meeting the criteria of an infiltration BMP. A third project, a 100+ home subdivision and golf course, is proposing to infiltrate a majority of its runoff throughout a golf course, but the ability of the golf course to infiltrate the runoff is yet to be determined.

BMP Maintenance Task Force

For all projects, we have not determined how maintenance of the proposed BMPs will be provided, though one project plan stated that the BMPs will be maintained by a home owner's association. Now that we know more about the type of BMPs developers are likely to propose, we are concerned about the ability of private property owners to provide continued and proper maintenance either individually or through a homeowner's association. Without proper maintenance, we believe many of the BMPs could fail to function properly and become public nuisances.

Consequently, the County has created a Task Force comprised of a few permittee cities, County staff, and residential tract developers. This Task Force will research and identify structural BMPs that the County can maintain to target the appropriate pollutants of concern, provide consistency and meet the standard. The Task Force will also consider methods of funding continual maintenance, such as the establishment of a "Storm Water Quality Maintenance District."

In summary, our brief experience has demonstrated that many issues surrounding the 0.75-inch rainfall standard need to be resolved before the program is fully effective and easily implemented. We are committed to find workable solutions in a timely manner and will be prepared to share the knowledge gained from our experiences with the other Permittees should they implement similar programs.

If you have any questions, please contact Terri Grant at (626) 458-4014, Monday through Thursday, 7:00 a.m. to 5:00 p.m.

Very truly yours,

HARRY W. STONE
Director of Public Works

Donald L. Wolfe
Assistant Director

JP:kk
P:\...\WATER\ADMIN\LETTERS\SUSMP EXPERIENCES.WPD

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OUR FILE NO.:
00006-0875; 01047-0011
00111-0539; 00408-0051
03476-0001; 00219-0117
02012-0181

January 11, 2000

VIA FACSIMILE TO: (213) 576-6600
and (213) 576-6640

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality
Control Board-Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013-1105

Re: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

For the record, please make the SUSMP comment letter submitted by this firm for the Cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita and Torrance, dated January 5, 2000, in its entirety, part of the administrative record in this matter, as comments filed by ***each*** of the foregoing cities. In addition, when you respond to comments, please indicate that the comments in that letter were the comments of those cities, and each of them, and not those of my law firm, which simply represents those cities.

Very truly yours,

RUFUS C. YOUNG, JR.
of BURKE, WILLIAMS & SORENSEN, LLP

RCY

Ref#: 39198

11-94

cc: City Managers/Administrators, Public Works Directors, Planning Directors and City Attorneys of the Cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita and Torrance

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OUR FILE NOS.:
00008.0575, 01047.0011, 00111.0539, 00408
0051: 03476.0001, 00219.0117, 02012.0151

January 5, 2000

VIA FACSIMILE TO: (213) 576-6600
and (213) 576-6640

Mr. Dennis Dickerson
Executive Director
California Regional Water Quality Control Board-
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013-1105

Re: Standard Urban Storm Water Mitigation Plan; Comments and Request for Recirculation

Dear Mr. Dickerson:

This letter offers comments on the proposed Standard Urban Storm Water Mitigation Plan ("SUSMP") as revised and dated December 7, 1999. This letter is submitted on behalf of the Cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita and Torrance. We congratulate you and your staff on the considerable improvements in the revised SUSMP, but believe that a great deal more remains to be done. In view of the number and complexity of our comments and those of others, and the costs of implementation of the SUSMP, we urge you to defer adoption of the SUSMP until it can be recirculated for comment following incorporation of suggested revisions. With that said, the following comments are offered for your consideration.

General Comments

1. Action on the two new categories added in the December 7, 1999, revision of the SUSMP, i.e., "Location adjacent to or discharging to an Environmentally Sensitive Area" and "Parking Lot for 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff" should be deferred to permit considered and thoughtful analysis. As I trust you understand, the revised SUSMP did not reach the hands of a number of staff persons in a number of cities until the December holidays were upon us. Thus time has been limited for the sort of analysis which a document of this importance merits.

2. General Comment: The SUSMP should not, as a matter of law, apply to storm water runoff which flows directly from the roofs of structures into the storm water system, without flowing across a source of pollutants, such as a parking lot, because no pollutants are implicated in such runoff. It is for this reason that the US EPA has exempted such runoff. See, e.g., the exemption of office buildings and associated parking lots separate from industrial activities from the US EPA's definition of *Storm water discharge associated with industrial activity*, found in 40 C.F.R. § 122.26(b)(14).

3. General Comment: The definitions should appear in alphabetical order.

4. General Comment: Where a defined term is drawn from another source, the specific source, such as a particular section of the CEQA Guidelines, should be cited. This would permit those who will implement, and judges who may be called upon to construe, the SUSMP to appreciate the context and the intended meaning.

5. General Comment: The SUSMP should be consistent in the use of the term "storm water" (two words), as used by US EPA, and not "stormwater."

Comments on Specific SUSMP Requirements

6. The new parking lot category should include a credit (against the threshold size of 5,000 square feet) for use of vegetation and planted parking lot islands. As the SUSMP is drafted, there would be a negative incentive for installing a vegetated parking lot if the island (oasis?) would cause the parking lot to exceed 5,000 square feet.

7. Requirement 1 uses the terms "rates" and "levels" interchangeably, but these are not interchangeable terms. Moreover, "foreseeable" is one thing, "reasonable foreseeability" is yet another. **Please revise the requirement to state "Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development *rate* for developments where it is *reasonably* foreseeable that the increased peak storm water discharge rate *will* result in increased downstream erosion.**

8. In Requirement 2, "CONSERVE NATURAL AREAS" on page 5 of 17, in the first bullet, "Every effort shall be made to concentrate or cluster development..." should be changed to "When feasible, development should be concentrated or clustered..." Reason: the term "Every effort..." is absolute and it could give rise to arguments that it means maximum effort, regardless of cost or aesthetics, and permits no flexibility. An attempt to impose such an absolute requirement might invite claims that such a restriction on land use constitutes a taking of private property for public use. Recall that what is at issue here is the imposition of governmental requirements, for public use, on private property, i.e., a "taking.".

9. In Requirement 6, on page 7 of 17, in the interest of clarity, the first bullet should be revised to read "Materials which would contribute pollutants to the storm water system shall be placed...."

10. In Requirement 8, beginning on page 7 of 17, no legal authority is cited in the SUSMP, nor are we aware of any legal mechanism for a local government Permittee to enforce the requirement that "This transfer of property must have conditions requiring the recipient to assume responsibility for maintenance of any treatment control BMPs to be included in the sales or lease agreement for that property and will be the owner's responsibility." Moreover, the just-quoted sentence is ambiguous. To which transfer does the term "This transfer" refer? The "all properties" transfer in the first part of the preceding sentence? Or does "This transfer" refer to the transfer to the public entity? What if the sales or lease agreement *does not* include those BMP maintenance terms? Please explain, and the SUSMP should make clear just what authority the Board contemplates would serve as a legal basis for a Permittee City to take remedial action against a private party. Against a public entity which is a state agency? What standing, in what forum, would a Permittee City have?

11. In E.1, on page 12 of 17, in the interest of clarity, please revise the last part of the first sentence to read "...that are deposited on parking lots by motor vehicles." Please also revise the first bullet to read: "Minimize, to the extent consistent with other laws (e.g., those requiring handicapped parking) the impervious coverage of parking lots, while allowing credit for the installation of vegetation strips and parking lot islands planted with trees and other vegetation."

12. The definition of "Redevelopment" should be revised to expressly exempt *de minimis* increases.[1] For example, adding a flat, vertical sign to the side of a building, which sign increases the square footage by 24 square inches should not trigger the applicability of the Redevelopment SUSMP. Consider revising the SUSMP to expressly state, as we believe that, as a matter of law it must, that it would apply only in cases in which the redevelopment adds more than a given *de minimis* percent of impervious surface.

Comments on Definitions

In many respects, the definitions are the heart of the SUSMP, as it is the definitions which will establish just what must be done and the instances in which it must be done. For that reason, the definitions must be as free from ambiguity as possible. With that in mind, the following comments are offered.

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[1] Please be aware that the Supreme Court of the United States stated in *Wisconsin Department of Revenue v. William Wrigley, Jr., Co.*, 505 U.S. 214, 231, (1992), "de minimis . . . is part of the established background of legal principles against which all enactments are adopted, and . . . which all enactments are deemed to accept."

13. The definition of "**100,000 Square Foot Commercial Development**" is less than clear, because the current wording seems to say neither lot size nor building footprint is the right way to measure the 100,000 square feet. If "total impermeable area" is to be the measure, the definition should say so directly. **Consider revising the definition to state "100,000 Square Foot Commercial Development" means any commercial development which makes at least 100,000 square feet of land, including land covered by structures, impermeable to infiltration where storm water flows may come into contact with pollutants before flowing into a storm drain, or without first flowing across a per*meable* land area (*e.g.* a lawn).**

14. The inclusion of the undefined term "primarily engaged" in the definition of "Retail Gasoline Outlet" is somewhat vague. Consider revising the definition to read "**Retail Gasoline Outlet" means any retail business which derives *more than 50% of its average annual gross receipts* from the combined sales of gasoline, lubricating oils, tires, batteries, other automobile parts, and automotive services.**

15. As drafted, the definition of "**Parking Lot**" would include unpaved overflow parking areas, which don't create significant, if any, runoff. It would also include areas used even occasionally for parking. It would also seem to include parking buildings with roofs, the runoff from which is, or should be, generally exempt, as no pollutants are implicated. We suggest that the definition be revised to state: "**Parking Lot" means *any area of land made impermeable to infiltration* the primary purpose of which is the temporary parking or storage of motor vehicles used personally, in business, or in commerce.**

16. The definition of "Best Management Practice (BMP)" imposes too heavy a burden of proof of effectiveness of BMPs, the effectiveness of which is open to debate. As drafted, the definition requires that BMPs, "...when implemented prevent, control, remove or reduce pollution." Worthy objectives to be sure. Considering how hard it is to measure non-point source water pollution and to determine the causes of the pollution, it is unfair, and probably a denial of due process, to require cities to adopt BMPs which they must be prepared to prove, in defending a suit under the Clean Water Act, were effective. It should be enough that a city has a reasonable belief that its BMPs are as likely as any others to reduce this pollution. The definition of "Source Control BMP" recognizes this point by requiring only that practices "***aim to***" prevent stormwater pollution by reducing the "***potential***" for it. It is recommended that the definition of **"Best Management Practice (BMP)" be revised to state that it means the use of methods, programs, processes, technologies, engineered systems, or siting criteria which *are reasonably believed and intended to* prevent, control, remove, or reduce pollution.**

17. The definition of "**Directly Connected Impervious Area**" should be revised, for the reasons stated in comment 2, above. If the storm water runoff flows directly into the storm water system without first coming into contact with sources of pollutants, such as petroleum drippings from incontinent motor vehicles sometimes found on parking lots, the storm water flow should be

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exempt. Consider revising the definition to state "**Directly Connected Impermeable** Area" means *land* covered by *impermeable* pavement, *or* other imper*meable* surfaces where storm water flows may come into contact with pollutants before flowing into a storm drain, or without first flowing across a per*meable* land area (*e.g.* a lawn).

18. The definition of "New Development" should be revised. Consider revising the definition to read "New Development" means the process of subdividing land and then disturbing it substantially, either by making it impermeable to infiltration, by building structures where storm water flows may come into contact with pollutants before flowing into a storm drain, without first flowing across a per*meable* land area (*e.g.* a lawn).

19. The definition of "Redevelopment" is flawed, as it would seem to apply to remodeling and maintenance activities which have no impact on storm water runoff. Consider revising the definition to state "Redevelopment" means an enlargement of the area of imper*meable horizontal* surfaces, on an already developed site, such as by building new structures or substantially enlarging existing ones, *which is neither de minimis nor the result of routine maintenance,* where storm water does not drain directly into a storm drain but where the storm water flow comes into contact with pollutants and then flows into a storm drain, without first flowing across a per*meable* land area (*e.g.* a lawn).

The cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita and Torrance commend your considerable efforts. More remains, and we ask you to give thoughtful consideration to the foregoing comments.

Very truly yours,

RUFUS C. YOUNG, JR.
of BURKE, WILLIAMS & SORENSEN, LLP

RCY

cc: City Managers/Administrators, Public Works Directors, Planning Directors and City Attorneys of the Cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita and Torrance

R0068310

11-100

Public Services Department
Engineering Division

January 11, 2000

Mr. Dennis Dickerson, Executor Director
California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013-1105

RE: STANDARD UBAN STORM WATER MITIGATION PLAN

Dear Mr. Dickerson:

We have reviewed the proposed Standard Urban Storm Water Mitigation Plan as revised and dated December 7, 1999 and have comments on the plan. Rather than provide you with a separate compilation of comments, we refer you to the attached letter, which was sent to you on January 5, 2000 from Rufus C. Young, Jr. of Burke, Williams & Sorensen, LLP. Our comments generally conform to those contained in that letter.

If you have any questions on this matter, please contact me at (626) 814-8422.

Sincerely,

Jeffrey W. Collier
Public Services Director

JWC:TMM:ct:Doc2000-503

11-101

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CITY OF CLAREMONT

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2000 JAN 13 P 1:52

January 11, 2000

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality
Control Board--Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

Request for Delay in Issuance of SUSMP

We have reviewed Mr. Rufus Young's letter of January 5, 2000 (copy enclosed) sent on behalf of the cities of Alhambra, Compton, El Segundo, Hawthorne, Industry, Lomita, Santa Clarita, and Torrance regarding the proposed Standard Urban Storm Water Mitigation Plan (SUSMP), and asking that the adoption of the SUSMP be deferred.

We have also reviewed the December 22, 1999 letter from Desi Alvarez, Chairman of the Executive Advisory Committee of the Los Angeles County Permittees (copy enclosed) which requests that a revised SUSMP be distributed to the Permittees for comments.

The City of Claremont shares the concerns expressed, and we also urge you to postpone issuance of the SUSMP until the SUSMP can be recirculated for comment following review and incorporation of the suggested revisions.

Sincerely,

Karen M. Rosenthal
Mayor

Enclosures

c: Nicolas T. Conway, Executive Director, San Gabriel Valley Council of Governments
Rufus C. Young, Jr., Burke, Williams & Sorensen, LLP
Desi Alvarez, Chairman, Executive Advisory Committee
Craig Bradshaw, City Engineer[F]

City of Diamond Bar

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January 11, 2000

Dennis Dickerson, Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Re: Opposition to Proposed Adoption of Numerical Mitigation Measures for the Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

Pursuant to your correspondence of December 7, 1999, the City of Diamond Bar (City) would like to express its ***opposition*** to the proposed adoption of numerical design standards as the minimum standards for post-construction BMPs to be required under the Standard Urban Storm Water Mitigation Plan (SUSMP). Rather than simply reiterate our previously stated positions, we have identified other concerns with the process of how the numeric standards have been considered and proposed, and how SUSMP comments from the public were addressed in the accompanying "Summary of Comments Received and Response."

First, we do approve of specific changes made to the SUSMP, which indicate that the Regional Board has been in part responsive to concerns of the permittee cities. Among the positive changes since the initial draft, include 1) eliminating numeric standards as an across the board requirement for subject new developments which would seem to indicate, for instance, that treating and retaining runoff from rooftops has been eliminated, 2) additional format changes such as condensing SUSMPs into one section, rather than redundant sections addressing each development type separately, and 3) provision of a waiver process (albeit even one that may unfairly penalize some projects) that recognizes the need for an "out clause" in the event that installing controls are infeasible.

Nonetheless, the changes do not, in any way, lessen our objections to the imposition of the numeric standards, especially proposed so late in the existing permit without adequate scientific study, economic analysis, and public comment. We understand the desire of the Regional Board to respond to intense lobbyist

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pressure and negative media publicity regarding beach pollution. However, to institute a stringent policy and requirements without adequate local scientific study is not justified.

This represents the second part of our objection to the proposed inclusion of numeric standards into the SUSMPs. A cursory review of the "Summary of Comments Received and Response" shows that virtually all comments provided by the cities were summarily rejected without adequate reason, while opposition arguments were often incorporated. One instance of this is the enlargement of the scope of SUSMPs from the existing seven development types to include two new categories, parking lots and environmentally sensitive areas. Both of these types were raised as developments for regulation by the environmental lobby; and while the Board indicated at the time, according to the record, that it wouldn't enlarge the scope at this time, it apparently had decided to do so. This would clearly seem to warrant the re-opening of the permit. We wonder if the Board has purposely done so with the intent of forcing re-permitting issues well in advance of the readiness of the permittees to address.

Another concern of the process is the timing of this document and the resolution. In September, the Regional Board indicated that the January meeting would be a workshop. By proposing adoption of the resolution and the incorporated numeric standards, the Board seems to be reneging on its promise to properly consider the cities' concerns. We understand that the date for adoption has been pushed back to January 26, 2000. However, we still have some concerns that by proposing adoption in January, the Board is effectively precluding any reasoned response by the regulated communities. Most, if not all permittees' offices are closed during the holidays, making it extremely difficult to meet, to plan, and to organize for the meeting. We simply do not understand why the Board wants to pressure the regulated community with a short deadline and a forced decision on such an important issue?

The City is extremely upset about the process as well as the attempt to revise the existing permit without following specified procedures that have been approved by the Board. Section G.1, Administrative Review, appears to stipulate the need for the Board to issue a Notice to Meet and Confer (NTMC) in the event that a storm water program is insufficient to meet permit requirements. Imposition of numeric standards this late in the permit would argue, as the environmental lobby has so succinctly put it that the existing permit is inadequate and needs to be upgraded. Since no NIMC has been issued, we believe that inadequate grounds exist for the Board to impose both numeric standards and additional development types.

Finally, we request that the Board formally consider our comments, and that the Executive Director consider making a request at the January 26th meeting to postpone any vote on the SUSMP until an adequate local study is performed concerning economic and technical

feasibility. Should you have any questions regarding Diamond Bar's position, please contact Mr. David G. Liu, Deputy Director of Public Works, 909/396-5671, or Mr. J. Michael Huls, Integrated Environmental Services Coordinator, 626/969-7816.

Sincerely,

Deborah H O'Connor

Deborah H. O'Connor
Mayor

DHO:nbw

c: Regional Water Quality Control Board Members
Diamond Bar City Council
Terrence L. Belanger, City Manager
David G. Liu, Deputy Director of Public Works
J. Michael Huls, Integrated Environmental Services Coordinator

City of South Gate

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FROM THE OFFICE OF
JAMES A. BIERY, P.E.
DIRECTOR OF PUBLIC WORKS
CITY ENGINEER

January 12, 2000

Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

Proposed Standard Urban Stormwater Plans (SUSMP)

Dear Mr. Dickerson:

The City of South Gate has been requiring SUSMP Best Management Practices for "Planning Priority Projects" since early last year. South Gate's review process and requirement have been essentially identical to most of those contained with your proposed standards (see attached booklet-"Improving Stormwater Quality by Design"). As part of the City's program, developers have been allowed the choice of capturing the first 0.75 inch or rain or installing inserts in catch basins and area drains. Your clarification that mitigation includes either infiltration or treatment confirms that the City's NPDES program is proceeding on the correct path. Already having implemented this program, South Gate supports the Board's efforts to standardize and improve the SUSMP process.

As with any program of this magnitude, unanticipated problems may arise in the future and we trust that the Board's Executive Officer will continue to have the flexibility to work with municipalities to solve problems unique to individual cities. Examples of potential future difficulties include:

> The requirement to "Conserve Natural Areas." What constitutes adequate compliance will depend on whether your perspective is from the environmental or the building community. The available standards in references are too vague for effective implementation. Specific standards with clear, strong definitions are needed to aid in the implementation of this BMP. Without sufficient standards, this will be difficult to enforce on a consistent basis.
>
> From our experience, your section on Waivers which requires Board approval for individual projects with unique characteristics requesting exemptions may result in an overwhelming workload for Board staff.

11-106

This should be rewritten so that the Executive Officer can also authorize BMP modifications for an individual project or class of projects at the City level.

Currently the South Gate is requiring BMPs only for the specific area being modified at redevelopment projects unless the project valuation is over the pre-existing Public Works threshold of $30,000 in which case additional BMPs may be required for the entire site. This is consistent with the previous iteration of the SUSMP guidelines allowing cities to establish threshold criteria. There is no clear threshold mechanism in the proposed SUSMPs. We do not believe it is the Board's intent or even feasible to require a 10 acre site to undergo a full BMP retrofit if only a few square feet are being modified. A specific reasonable threshold should be established to trigger BMP retrofits (either a 50% valuation change or exceedance of an existing value-based threshold).

The City appreciates how difficult task of developing a workable program can be and will continue to work with the Board to overcome difficulties as we work together to reduce pollution in stormwater runoff..

Sincerely,

James A. Biery
Director of Public Works/City Engineer

CITY OF EL MONTE
PUBLIC WORKS ENGINEERING DEPARTMENT
11333 VALLEY BOULEVARD • EL MONTE, CA 91731-3293
(626) 580-2056 • FAX: (626) 580-2293
www.elmonte.org

January 12, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality
Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013-1105

SUBJECT: STANDARD URBAN STORMWATER MITIGATION PLAN (SUSMP)

Dear Mr. Dickerson:

The City of El Monte has been implementing it's SUSMP program for some time now and appreciates the challenges that the Regional Board has encountered during their development of a single, comprehensive program for all of the cities of the Los Angeles Region. The City is currently and has been for some time, requiring treatment controls for major projects prior to permit issuance. The City is continuously updating and reviewing its policies to ensure the community's quality of life as well as the protection of its natural resources. The City supports the Board in its effort to develop a practical, efficient and feasible process. We believe the overall goal of SUSMP requirements for new development and redevelopment must be to effectively reduce pollution in stormwater and urban runoff.

While El Monte supports the Board and its staff in establishing realistic baseline SUSMP standards, it is important that the Board also allow the use of alternative mitigation methods so long at the goal remains the achievement of cleaner stormwater runoff. This approach would effectively meet the goals of the SUSMP program in an effective and reasonable manner. The City's SUSMP program continues to be a very

dynamic and progressive procedure that will only improve with time and experience.

The City of El Monte believes that it is a partner with the Regional Board in the protection of the Region's environment and looks forward to the development of SUSMP standards which meet the mutual goals of our two agencies. Should you have any questions related to this matter, or if you desire any information related to the City's stormwater/urban runoff program, please feel free to contact me at (626) 580-2056.

Sincerely,

Kev Tcharkhoutian, P.E.
City Engineer

Arroyo Verdugo Cities

Burbank - Glendale - La Canada Flintridge

January 13, 2000

Mr. Dennis Dickerson
Executive Officer
Los Angeles Regional Water Quality
Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Dear ~~Mr. Dickerson~~, Dennis

A Chairman of the Arroyo Verdugo Steering Committee, I wish to share my written opposition to the proposed numeric storm water retention/treatment requirements presented by the California Regional Water Quality Control Board, Los Angeles Region. I understand the revised SUSMP addresses some of the recently expressed concerns, but I believe the changes have made the SUSMP more stringent encouraging the cost of development.

The Arroyo Verdugo Steering Committee has met several times to discuss this issue and has worked to state their opposition in the attached draft resolution. The action to adopt the resolution was placed on our January agenda, but due to lack of quorum the Committee was unable to make the vote official. The Committee is looking to meet again prior to your January 26 Regional Board meeting, and if the resolution is adopted, an Arroyo Verdugo Cities staff member will present the document at your meeting.

Please accept my gratitude for taking the time to consider these comments. It is my intent to help develop effective standards without compromising water quality.

Sincerely,

Bill Wiggins
Chairman, Arroyo Verdugo Cities
Vice-Mayor, City of Burbank

Dennis - Hope to see you soon - it's been a long time since you were at Automation plastic.
B-

C: Arroyo Verdugo Steering Committee

R0068320

II-110

1327 Foothill Boulevard, La Canada Flintridge, CA 91011 PH: (818) 790-8880 FAX: (818) 790-7536

DRAFT

RESOLUTION NO. ____

A RESOLUTION OF THE ARROYO VERDUGO CITIES COUNCIL OF GOVERNMENTS ADVISING THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION, OF ITS INTENTION TO PETITION THE STATE WATER RESOURCES CONTROL BOARD FOR RELIEF FROM UNREASONABLE RUNOFF POLLUTION CONTROLS FOR NEW DEVELOPMENTS

Whereas, the Arroyo Verdugo Cities Council of Governments (hereinafter "Arroyo Verdugo COG"), is a sub-region of the Southern California Association of Governments, consisting of the cities of Burbank, Glendale and La Canada Flintridge;

Whereas, on September 16, 1999, the California Regional Water Quality Control Board, Los Angeles Region (hereinafter "regional board") convened a public hearing to discuss requiring cities in Los Angeles County to impose stringent numeric storm water retention/treatment requirements (hereinafter "numeric requirements") on certain categories of new developments, through so-called Standard Urban Storm Water Management Plans (hereinafter "SUSMPs") – a requirement of the development planning program component of the NPDES permit;

Whereas, such numeric limits were intended to retain or treat about 80-85% of runoff from the subject new developments, which include 10-99 home sub-divisions, 100-plus home sub-divisions, and 100,000 square foot commercial developments;

Whereas during aforementioned public hearing, 50 cities expressed opposition to the proposed numeric storm water retention/treatment requirements because of the following:

i. they were inflexible to the extent cities that cities would have been required to meet the numeric standard, even if it were difficult or possible to do so because of economy, practicality, or the new risk of creating another environmental problem;

ii. they were largely based on a settlement agreement between County of Los Angeles and the Natural Resources Defense Council;

iii. they were targeted at reducing oil, grease, and unspecified metals without specifying the purpose of such a stringent requirement, such as protecting a beneficial use of particular a receiving water (e.g., ground-water recharge areas of the Los Angeles and San Gabriel Rivers);

iv. they would have been the most stringent new development runoff pollution control requirement in the State; and

v. they are not authorized either under the NPDES permit or the development planning program, which calls for SUSMPs.

Whereas on September 16, 1999, the Executive Officer of the regional board recommended to continue discussion of this issue to another time, now set for January 26, 2000;

Whereas, on December 7, 1999, the Executive Officer issued a revised SUSMP and proposed its adoption through a tentative RESOLUTION APPROVING THE RECORD FOR STANDARD URBAN STORM WATER MITIGATION PLAN FOR MUNICIPAL STORM WATER AND URBAN RUNOFF MANAGEMENT PROGRAMS IN LOS ANGELES COUNTY;

Whereas, although the revised SUSMP addresses several of the concerns expressed in the Arroyo Verdugo Cities COG resolution, it made the SUSMP more stringent by requiring a numeric-based design standard for retaining or treating runoff from ANY PARKING LOT WITH 25 OR MORE SPACES OR GREATER THAN 5000 SQUARE FEET – instead of requiring a numeric standard just for housing sub-divisions and 100,000 square feet commercial developments as initially called proposed;

Whereas, if approved, the revised SUSMP would increase the cost of development to a higher level than was initially considered by the regional board, notwithstanding the absence of any scientific evidence demonstrating that the more stringent requirements would result in a tangible improvement of water quality for any receiving water;

NOW, THEREFORE, the Arroyo Verdugo Cities COG does hereby resolve as follows:

Section 1. Advise regional board members of its opposition to the regional board's proposed tentative resolution;

Section 2. Recommend that the regional board approve the Standard Urban Storm Water Mitigation Plan, which does not include broad numeric limits, as proposed by the Executive Advisory Committee on August 11, 1999;

Section 3. Notify the regional board that if it or its Executive Officer adopts any requirement calling for a numeric standard to treat or retain storm water runoff from any development project, or controlling runoff from a surface area of any new development, without the consent of the Arroyo Verdugo Cities COG, that this COG shall, within 30 days of the action, prepare a petition with the State Water Resources Control Board enabling its members to challenge such action.

PUBLIC WORKS AND TRANSPORTATION DEPARTMENT

January 13, 2000

Mr. Dennis Dickerson, Executive Director
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Dear Mr. Dickerson:

SUSMPs and Numerical Limits

The City of Pasadena would like to acknowledge the challenge that the Board has encountered in developing requirements for the cities in Los Angeles County in regards to the Planning and Development procedures. As a regulatory agency, the City itself has been involved with various policy-making issues, which are often controversial or difficult to implement because of various social and economic reasons.

The City engages in many events, which create a more transient situation in the City. As the result of these activities, the City has no option other than implementing a very active maintenance program as well as continuously updating and reviewing its policies to insure both the quality of its urbanization and the restoration of its natural resources. This makes the City conscious of the environmental and urban runoff issues.

The City supports the Board in reference to the Standard Urban Stormwater Mitigation Plans or SUSMPs with the understanding that details such as design requirements may have to be worked out in the future. The numerical limit guidelines must be practical, efficient, and implementable. SUSMPs and their requirements may work in some areas or projects and not in all in others. The SUSMPs' requirements will have to be flexible, yet efficient, with the notion that "one size may not fit all".

The City hopes that the Board's staff recognizes that problems may occur in the future, which may act as obstacles towards implementing the subject requirements. The goal of imposing such requirements on development/redevelopment will be to reduce or mitigate potential pollution runoff from urbanized areas. This will be a very dynamic and progressive procedure that will only improve with time and practice.

11-113

100 North Garfield Avenue · P.O. Box 7115 · Pasadena, CA 91109-7215
(626) 744-4191

City of Pasadena will work in a cooperative spirit with everyone involved. We hope this letter serves as an appreciation of all your efforts. Please feel free to contact Mr. Jim Valentine of this office at (626) 744-4265 regarding our storm water/urban runoff program.

Sincerely,

DANIEL A. RIX
City Engineer

Cc: Cynthia J. Kurtz, City Manager
Jack Lidyard, Acting Director of Public Works and Transportation
Darrell Lewis, Director of Planning and Permitting
Sheila Kennedy, John L. Hunter and Associates

JEV:kf

11-114

R0068324

CITY OF LONG BEACH

DEPARTMENT OF PUBLIC WORKS

333 WEST OCEAN BOULEVARD • LONG BEACH, CA 90802 • (562) 570-6383 • FAX (562) 570-6012

January 13, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

RE: Request for Clarification of items in your letter dated December 7, 1999 and in the Tentative Resolution document

Dear Mr. Dickerson,

Two critical areas of ambiguity have arisen in connection with your letter of December 7, 1999 and the Tentative Resolution document as it pertains to the City of Long Beach. This letter reflects the clarifications, provided under your direction, by Dr. Xavier Swamikannu to Rose Collins, Clean Water Program Manager, for the City of Long Beach in a telephone conference on December 10,1999, and seeks confirmation of these clarifications. This letter is not intended to constitute the City's comments pursuant to your invitation for public comment on the Tentative Resolution.

The first area of ambiguity concerns the statement contained in the Tentative Resolution, page 2 of 17, which states:"This SUSMP applies to projects that are Priority Projects (Discretionary Projects) as defined by the NPDES permit." Our understanding is that, as to Long Beach, the only project categories to which the Standard Urban Mitigation Plan (SUSMP) will apply are:

a. 10-99 home subdivisions
b. 100 or more home subdivisions
c. 100,000 or more square foot commercial developments, and
d. environmentally sensitive areas.

11-115

ENGINEERING BUREAU
333 West Ocean Boulevard, 9th Floor • Long Beach, CA 90802
(562) 570-6383 • FAX (562) 570-6012

Consistent with the terms of the Long Beach permit, the additional project categories listed in the Tentative Resolution do not apply to the City of Long Beach. This understanding has been confirmed in an internet e-mail on December 13,1999, by Dr.Swamikannu.

Second, on the first page of your December 7th letter, you state:

> If adopted by the Regional Board, the Tentative Resolution would approve the City of Long Beach Standard Urban Stormwater Mitigation Plan (SUSMP) while encouraging the Executive Officer to approve the Los Angeles Standard Urban Mitigation Plan.

During negotiations, all parties agreed that the City's SUSMP would not take effect prior to the effective date of the SUSMPs for the Countywide permit. This issue arose at the hearing of the City's permit as well, where it was again agreed that the City should not be placed at an economic disadvantage by having its SUSMP effective prior to that which affected the majority of the County. Dr. Swamikannu also confirmed, in a telephone conversation on December 10,1999, that the City of Long Beach SUSMP will become effective concurrently with the SUSMPs for the Countywide permit.

Please confirm that you agree with the clarifications herein by signing where indicated below and returning a copy to this office. Your courtesy and cooperation are appreciated.

Sincerely,

Edward T. Putz

EDWARD T. PUTZ
CITY ENGINEER

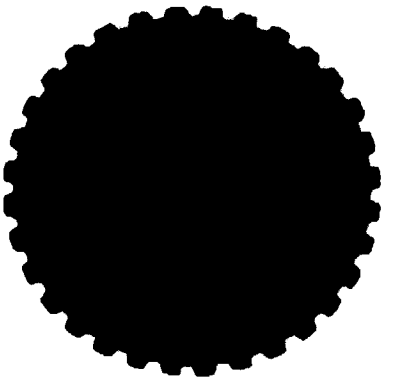
I confirm the clarifications contained in this letter.

Dated: _____

_____
Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region

ETP:rc

11-116



CITY HALL
4305 SANTA FE AVENUE, VERNON, CALIFORNIA 90058
TELEPHONE (323) 583-8811

January 14, 2000

VIA FACSIMILE AND
U.S. MAIL

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality
Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Dear Mr. Dickerson:

The City of Vernon has reviewed the Final Tentative Draft of the Standard Urban Storm Water Mitigation Plan (SUSMP) dated December 17, 1999. As you are aware the City of Vernon is one of eighty-five co-permittees involved in the Municipal Stormwater and Urban Runoff Permit issued under Board No. 96-054(NPDES No. CAS614001). The following are the City's comments to the SUSMP.

The Regional Water Quality Control Board is seeking to approve the SUSMP and incorporate the 0.75" numerical mitigation measure at its next meeting. The plan as drafted will require that millions of dollars be spent in order to implement the strategies outlined in the Mitigation Plan. The City of Vernon is concerned that sound technical studies have not been conducted prior to implementing Best Management Practices (BMPs). The BMPs have not been proven to effectively prevent further impairment of the beneficial uses of the receiving waters. Thus, the approval would be based upon inadequate evidence in the record.

The City of Vernon believes that a receiving water study should be performed to more effectively understand urban stormwater and anthropogenic impacts to the receiving water. The study would identify appropriate monitoring designs to assess stormwater discharges, receiving water impacts, and effectiveness of BMPs. Further, the study would identify which pollutants significantly impair the beneficial uses of the receiving waters. Until such studies are conducted it would be premature to implement BMPs that are targeted to remove pollutants without knowledge of their effect to the receiving waters. The City believes that millions of dollars should not be spent on BMPs that remove pollutants that may not impair the beneficial uses of the receiving waters. Finally, the study must include a baseline against which to measure the effectiveness of stormwater pollution mitigation programs.

The City of Vernon believes it is poor public policy to implement strategies without first determining that the requirements will have the intended results. The SUSMP outlines several BMPs to minimize the introduction of pollutants of concern to the storm water conveyance system. A recently released document from the Southern California Coastal Water Research Project reiterates this fact by stating in part "..Best Management Practices (BMPs) have been and still are, being applied without regard to whether the change in stormwater quality will have any meaningful impact on beneficial use protection. Stormwater managers need to know which BMPs are effective at reducing loads and concentrations for individual constituents. Next, managers need to assess what the most efficient use of BMPs within their watersheds will be whereby the greatest improvement in stormwater quality is achieved at the most reasonable cost. Finally, there will need to be an evaluation if these expenditures on BMPs and improvement in stormwater quality will promote beneficial use protection.."

Until a thorough study is completed on the effectiveness of the BMPs, implementation of them could cost developers millions of dollars on controls that do not protect the beneficial uses of the receiving waters.

Additionally Section 3 of the SUSMP requires that a development must be designed so as to minimize, to maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts generated from site runoff. The Board has defined pollutants of concern. However a determination has not been made as to what concentrations of pollutants produce a significant impact to beneficial uses, or what the

maximum extent practical means. Without a comprehensive study to define these items the permittee has no guideline to determine if the proposed BMP is adequate or cost effective.

The Clean Water Act and the Porter Cologn Water Quality Act are designed to protect the beneficial uses of the receiving water. Nevertheless, the imposition of mandatory treatment, regardless of pollutant loadings, is inconsistent with these acts. Vernon also believes that these Acts require that a cost benefit analysis be conducted prior to imposing mandatory requirements.

It appears that the SUSMP was revised to incorporate mainly comments from the environmental community. On the other hand, the comments of public agencies, such as the City of Vernon, were, for the most part, disregarded.

The SUSMP has been amended to include two additional categories into the discretionary projects. The SUSMP now includes parking lots of 5,000 square feet or more. The addition of small parking lots virtually requires the SUSMP to be applied to all development projects which require discretionary approval. The cost for the implementation of BMPs for such small parcels may make such parcels non-developable. The requirement of legal agreements or covenants will also bring the streamlined permit process that most cities strive for to a standstill.

The City of Vernon, like most cities in Los Angeles County, is virtually built out. Most new developments that are constructed within Vernon are infill projects or redevelopment of existing sites. The infrastructure is virtually complete. The hydrology and hydraulic calculations that were performed for the design of the storm drain pipeline systems were based on a certain time of concentration. Any changes to this time of concentration could potentially cause flooding. Additionally, certain BMPs require direct connections into the storm drain pipeline system. The vast majority of sites do not have storm drain pipes within their street frontage. These pipeline systems, in most cases, cannot be extended, making these BMPs impractical. In such cases, if a numerical mitigation measure of 0.75" is incorporated into the SUSMP, there may not be enough space available to implement BMPs that will meet SUSMP criteria.

The SUSMP also contains a section on alternative certification for storm water treatment mitigation. In order to sign a certification that the plan meets criteria established in the SUSMP, the professional signing the plan must attend training

Mr. Dennis Dickerson
January 14, 2000
Page 4

on the design of BMPs. The training must be approved by the Regional Board Executive Officer. The City agrees that training is appropriate. However, we are concerned that it may take many years before appropriate curriculum is developed and the required number of professionals are trained in order to meet the construction industry demand. This will only serve to slow development within our community and could have a potentially detrimental effect on the regional economy.

Finally, the City disagrees with the methodology used to determine the amount of rainfall to be treated. No scientific study has been produced that accurately depicts the pollutant runoff from a site. How was it determined that the 85th percentile of a runoff event contains a concentration of a pollutant of concern that will significantly impact the environment and not the 86th percentile? Until such a comprehensive study is conducted the design of BMPs are flawed and not supported by substantial evidence in the record. Again, BMPs as proposed by the Board may not produce the appropriate cost benefit ratio to warrant such a requirement.

The City of Vernon has previously submitted comments on the proposed SUSMP. Many of those comments are still applicable. In order to avoid repetition, and in order to assure that Vernon does not unintentionally waive any issue previously raised, all comments previously raised by Vernon are hereby incorporated by reference.

The City of Vernon appreciates the opportunity to comment on the SUSWMP. We are committed to working with your staff to reduce pollutants in storm water. However, we must emphasize that sound scientific studies should be completed prior to implementing the SUSMP.

Very truly yours,

Samuel Kevin Wilson, P.E.
Director of Community Services & Water

SKW:mc
Enclosure

OFFICE OF THE CITY ATTORNEY
Long Beach, California

ROBERT E. SHANNON
City Attorney

HEATHER A. MAHOOD
Assistant City Attorney

PRINCIPAL DEPUTIES
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Richard L. Landes
Michael J. Mais
Daniel S. Murphy

DEPUTIES
William A. Rudder
Ricardo A. Alcaro
Ann D. Bennett
Everett L. Glenn
Donna F. Gwin
Robert T. Higbid
Dominic T. Holzhaus
Richard P. Lopez
Lisa Penny Meinstein
Belinda R. Mayes
James N. McCabe
Susan C. Oakley
J. Charles Parkin
Michael M. Peters
Carol A. Slate

January 14, 2000

Dennis A. Dickerson
Executive Officer
California Regional Water Quality
Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

VIA FAX

Re: **Standard Urban Stormwater Mitigation Plans (SUSMPs) for the City of Long Beach**

Dear Mr. Dickerson:

Please provide copies of this letter to the members of the Board and include it in the administrative record of the hearing on the above subject.

The City of Long Beach thanks the Regional Board and its staff for its efforts on behalf of stormwater runoff pollution mitigation. As part of its own continuing efforts in this regard, the City of Long Beach requests that the following comments be considered and addressed in the adoption of SUSMPs for the City of Long Beach as part of its separate permit. The primary issues, which will be elaborated upon in the body of this letter, are:

1. The findings contained in the Tentative Resolution should be revised to remove confusing references to "the permit" when two permits, Regional Board Order No. 96-054 (the "Countywide Permit") and Regional Board Order No. 99-060 (the "City of Long Beach Permit")are affected.

2. Pursuant to prior agreement, the implementation dates for those SUSMPs applicable to the City of Long Beach must be concurrent with those for the cities subject to the Countywide permit to avoid putting the City at an economic disadvantage.

3. The inclusion of numerical design standards as minimum design criteria should be deferred until such time as empirical data on the efficacy of such standards, obtained in this region or another region with a similar climate, is available.

R0068331

11-121

The Findings

The findings in the Tentative Resolution should be revised to reflect that two separate permits are affected by this resolution. These two permits were reached through two very different processes, and contain different procedures for modification and implementation. Finding 21 should be revised to reflect this. Similarly, Finding 13 should separately identify "Priority Projects" for each permit. Finding 5 should be revised to include references to the City of Long Beach, its receiving waters, its monitoring program, and its permit.

Implementation of SUSMP Requirements for the City of Long Beach

During negotiations for the settlement of the litigation between the City of Long Beach and the Regional Board, it was agreed that SUSMP requirements for the City would not take effect prior to the effective date for SUSMPs under the Countywide Permit. This issue arose during the hearing which resulted on the City of Long Beach's proposed permit, at which time it was agreed that the City should not be placed at an economic disadvantage by having its SUSMP effective prior to the requirements affecting the majority of the County. Members of the Regional Board staff have confirmed this sequence of events, which should be reflected in the Board's resolution. The Tentative Resolution is silent as to the implementation schedule for the SUSMP for the City of Long Beach.

The Countywide Permit anticipated that SUSMPs would be implemented 90 days following the next fiscal year following their adoption but no later than July 1999. While the City acknowledges that this date has past, a similar schedule of implementation is needed to avoid anticipated "taking" or related challenges from affected parties who have already initiated the planning review process with the City, development requirements should be scheduled to be implemented no sooner than 90 days following the start of the next fiscal year, but no sooner than the implementation date adopted under the Countywide Permit.

Numerical Design Standards

The adoption of numerical design standards as minimum design criteria is not supported by relevant empirical data or by any cost-benefit analysis. For these reasons, it fails to comport with either State or Federal law. Inclusion of numerical design standards as a voluntary standard or as part of an incentive program would assist in the collection of data relevant to this region and provide cities with a legal basis on which to defend the requirement.

Comments Submitted by the Executive Advisory Committee

As you are aware, the City of Long Beach has been an active participant in the development of the SUSMPs through the Executive Advisory Committee. To the extent that they apply to the four priority project categories contained in the City of Long Beach Permit, we join in the concerns expressed by the Executive Advisory Committee and its counsel.

We appreciate the opportunity to submit these comments as part of the administrative record for the January 26th hearing and hope you will give them thoughtful consideration. The City of Long Beach reserves the right to submit further comments at the hearing. Thank you for your efforts.

Very truly yours,

ROBERT E. SHANNON, City Attorney

By
LISA PESKAY MALMSTEN
Deputy City Attorney

LPM:et

11-123

BALDWIN
P · A · R · K

January 12, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality
Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013-1105

SUBJECT: STANDARD URBAN STORMWATER MITIGATION PLAN (SUSMP)

Dear Mr. Dickerson:

The City of Baldwin Park appreciates the challenges that the Regional Board has encountered during the development of the Planning and Development guidelines for the cities of the Los Angeles Region. The City is also continuously faced with many policy-making issues which are often controversial or difficult to implement due to various social or economic reasons. Through this process, the City is continuously updating and reviewing its policies to ensure the community's quality of life as well as the protection of its natural resources. It is from this point of reference that we believe the overall goal of imposing SUSMP requirements on new development and redevelopment must be practical, efficient and feasible to effectively mitigate pollution in stormwater and urban runoff.

As an environmentally-concerned community, we wish to support the Board and its staff in establishing basic and realistic SUSMP standards, which also allow the use of alternative mitigation methods that achieve the same result, if found to be necessary or appropriate due to site specific limitations. Such an approach, we believe, would effectively meet the goals of the SUSMP program in an effective and reasonable manner. The City is continuing to implement its current SUSMP requirements and will progressively assess their outcomes. This will continue to be a very dynamic and progressive procedure that will only improve with time and experience.

R0068334

CITY OF BALDWIN PARK · 14403 EAST PACIFIC AVENUE · BALDWIN PARK · CA · 91706 · (626)960-4011 · FAX(626)962-2625

11-193-A-1

The City of Baldwin Park believes that it is a partner with the Regional Board in the protection of the Region's environment and looks forward to the development of SUSMP standards which meet the mutual goals of our two agencies. Should you have any questions related to this matter, or if you desire any information related to the City's stormwater/urban runoff program, please feel free to contact me.

Sincerely,

Wendy Lemm-Harris
Public Works Supervisor, Environmental Services Division

CITY OF LONG BEACH

DEPARTMENT OF PUBLIC WORKS

333 WEST OCEAN BOULEVARD • LONG BEACH CA 90802 • (562) 570-6383 • FAX (562) 570-6012

2000 JAN 14 P 4:14

January 13, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

RE: Request for Clarification of items in your letter dated December 7, 1999 and in the Tentative Resolution document

Dear Mr. Dickerson,

Two critical areas of ambiguity have arisen in connection with your letter of December 7, 1999 and the Tentative Resolution document as it pertains to the City of Long Beach. This letter reflects the clarifications, provided under your direction, by Dr. Xavier Swamikannu to Rose Collins, Clean Water Program Manager, for the City of Long Beach in a telephone conference on December 10,1999, and seeks confirmation of these clarifications. This letter is not intended to constitute the City's comments pursuant to your invitation for public comment on the Tentative Resolution.

The first area of ambiguity concerns the statement contained in the Tentative Resolution, page 2 of 17, which states:"This SUSMP applies to projects that are Priority Projects (Discretionary Projects) as defined by the NPDES permit." Our understanding is that, as to Long Beach, the only project categories to which the Standard Urban Mitigation Plan (SUSMP) will apply are:

a. 10-99 home subdivisions
b. 100 or more home subdivisions
c. 100,000 or more square foot commercial developments, and
d. environmentally sensitive areas.

ENGINEERING BUREAU
333 West Ocean Boulevard, 9th Floor • Long Beach, CA 90802
(562) 570-6383 • FAX (562) 570-6012

R0068336

11-123-A-3

Consistent with the terms of the Long Beach permit, the additional project categories listed in the Tentative Resolution do not apply to the City of Long Beach. This understanding has been confirmed in an internet e-mail on December 13,1999, by Dr.Swamikannu.

Second, on the first page of your December 7th letter, you state:

> If adopted by the Regional Board, the Tentative Resolution would approve the City of Long Beach Standard Urban Stormwater Mitigation Plan (SUSMP) while encouraging the Executive Officer to approve the Los Angeles Standard Urban Mitigation Plan.

During negotiations, all parties agreed that the City's SUSMP would not take effect prior to the effective date of the SUSMPs for the Countywide permit. This issue arose at the hearing of the City's permit as well, where it was again agreed that the City should not be placed at an economic disadvantage by having its SUSMP effective prior to that which affected the majority of the County. Dr. Swamikannu also confirmed, in a telephone conversation on December 10,1999, that the City of Long Beach SUSMP will become effective concurrently with the SUSMPs for the Countywide permit.

Please confirm that you agree with the clarifications herein by signing where indicated below and returning a copy to this office. Your courtesy and cooperation are appreciated.

Sincerely,

Edward T. Putz

EDWARD T. PUTZ
CITY ENGINEER

I confirm the clarifications contained in this letter.

Dated: _____

_____
Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region

ETP:rc

11-123-A-4

City Council
of the
City of Los Angeles
City Hall
90012

200 N. MAIN STREET
ROOM 515, CITY HALL EAST
LOS ANGELES, CA 90012
(213) 485-3357
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DISTRICT OFFICE
7166 W. MANCHESTER AVE
LOS ANGELES, CA 90045
(310) 568-8772
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RUTH GALANTER
COUNCILMEMBER, SIXTH DISTRICT
PRESIDENT PRO TEMPORE

January 25, 2000

Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 w. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Dickerson:

I am writing to urge the board's approval of the proposed revisions to the Standard Urban Stormwater Mitigation Plan (SUSMP) submitted to you by Los Angeles County for your consideration. As you know, today I won unanimous approval of the Los Angeles City Council for a motion endorsing of a policy with an 85%/0.75 inch provision as the minimal acceptable standard for development planning.

I laud the work you and your staff have done to help make the goals of the Clean Water Act a reality. While the City of Los Angeles has concerns about certain aspects of the Board's proposal, I trust that the Board can resolve those concerns with City representatives and quickly implement a policy that reduces the insidious effects of stormwater runoff.

While I am proud that my colleagues joined me in calling for approval of your proposal, my feelings are even stronger than the City's consensus statement. I echo the call of several environmental groups and urge you to remove from the proposal the so-called "roofing exclusion."

Section 9 of the current proposal would allow developers to divert runoff from rooftops directly to stormdrains and to take credit for that volume of runoff as it if were being treated. I find this provision disturbing and feel it would allow treatment of less runoff and would actively encourage developers to increase the amount of impervious surface. I strongly urge you to reconsider the inclusion of this provision.

It is of urgent concern that swift and decisive action be taken to protect the environment and safeguard public health. With that modification, approval of your proposal will accomplish that.

Thank you for your time and consideration.

Sincerely,

RUTH GALANTER
President Pro Tempore
Councilmember, Sixth District

RG:mb

1-123-A-5

cc: Mark Gold, Executive Director, Heal the Bay
Alex Helperin, Attorney, National Resources Defense Council
Steve Fleischli, Executive Director, Santa Monica Baykeeper

R0068338

44A

SUBSTITUTE MOTION

On a daily basis, massive amounts of pesticides, metal residue, oily waste and solid garbage flow into the ocean, polluting our coastal waters. Human viruses and bacteria sicken surfers, swimmers and young children at play in the Santa Monica Bay. The source of this pollution is urban runoff from our lawns, parking lots and streets. In fact, urban runoff is the leading cause of water pollution in our region.

Los Angeles County has the worst urban runoff problem in the nation. While significant efforts have been made in recent years to address the problem, too little progress has been made. The condition of Santa Monica Bay, the Long Beach Harbor, and the Los Angeles River is a disgrace.

We can change that.

On January 26, 2000, the California Regional Water Quality Control Board (RWQCB), Los Angeles Region, is expected to discuss a proposed Standard Urban Stormwater Mitigation Plan (SUSMP). The new standards are far-reaching and promise to increase significantly efforts to reduce the insidious effects of urban runoff.

Under the proposed new standards, cities would have to ensure that new developments capture either 85 percent of the runoff from a storm in a 24-hour period or the first three-fourths of an inch of rain. The standard would apply to new commercial projects of more than 100,000 square feet and all new gas stations, auto repair garages, restaurants and subdivisions of 10 or more houses.

Developers and city planners would have a range of options for compliance. They could leave grassy swales and other open space so runoff could seep into the ground instead of flowing into stormdrains. Developers could also seek other options, such as building detention ponds, using permeable pavement or installing filters in curbside drains. Experts contend that the proposed limits could be achieved with relatively simple and inexpensive design changes.

The proposed new standards make sense. Retaining stormwater on site, allowing it to percolate into the land, not only protects the ocean from pollution, but it also replenishes the groundwater supply, a major source of our drinking water.

During previous meetings of the RWQCB, the office of the Chief Legislative Analyst raised questions about details of the board's proposal. These comments were perceived by many as an official objection by the City of Los Angeles to a sound policy to protect the environment and public health and safety. An editorial in the Los Angeles Times (Oct. 6, 1999) excoriated the City for its position.

Granted, given the enormous size and varied terrain of the City of Los Angeles there are several questions and concerns the city should raise about the proposal. Those are: whether Best Management Practices (BMPs) are effective for parking lots, auto repair garages, restaurants, residences and gas stations; whether the RWQCB will pursue public education programs to reduce emissions from motor vehicles to streets and parking lots; whether the RWQCB will provide a variance process for unusual situations and circumstances, such as areas with high ground water or high liquefaction potential; whether the RWQCB will collect regional ambient water quality data to confirm the effectiveness of the 85th percentile-0.75 inch provision and refine their rules accordingly; and whether the RWQCB will allow for a flexible process for establishing runoff requirements through the planning process for unusual situations.

11-123-A-6

However, these concerns should not be interpreted as an objection to or opposition of the proposed 85 percent retention/treatment standard. Nor should those concerns be considered reason to unnecessarily delay or obstruct implementation of the board proposal. They should be seen, rather, as a request for additional information, data and analyses on the proposed standard and control measures to be implemented to achieve the standard. The City should assist the Board in obtaining the information necessary to support and implement a retention/treatment standard. The City should encourage the RWQCB to consider and address the City's concerns during its deliberations, but move quickly toward implementation of a policy that protects the environment and public health.

I THEREFORE MOVE that City Council adopt as City policy a position that endorses, in concept, the proposed Standard Urban Stormwater Mitigation Plan currently before the Regional Water Quality Control Board, including the 85th percent/0.75-inch proposal as the minimal acceptable standard for development planning.

I FURTHER MOVE that the Council encourage Regional Water Quality Control Board to address the City's aforementioned concerns, and develop and implement as quickly as possible a policies that are flexible enough to consider the different circumstances and abilities of cities of varying sizes, terrains and resources, are supported by scientific data, and are subjected to meaningful public review and comment.

I FURTHER MOVE that the Chief Legislative Analyst report back on the status of the board's deliberations to the City Council's Committee on Environmental Quality and Waste Management.

Presented by _____
RUTH GALANTER
Councilmember, Sixth District

Seconded by _____

Tuesday, January 25, 2000

11-123-A-7

R0068340

CITY OF WEST HOLLYWOOD

CITY HALL
300 SANTA MONICA BLVD.
WEST HOLLYWOOD, CA
90069-4314
TEL: (323) 848-6460
FAX: (323) 848-6562

January 25, 2000

Dennis Dickerson, Executive Director
Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Dickerson:

I am proud to share with you the news that the City Council of the City of West Hollywood recently passed a resolution I authored that supports design standards that reduce runoff from new and redevelopment sites and city property in the City of West Hollywood.

The City of West Hollywood has always been at the forefront of protecting the environment. The adopted standards require water quality treatment or infiltration onsite of 100% of the runoff generated by the first three-quarters of an inch of rain to prevent polluted runoff from traveling to the ocean. These standards were developed with help and support from Heal the Bay, an environmental organization dedicated to making Southern California's coastal waters safe for people and marine life.

I encourage all Southern California cities to adopt these environmentally sound standards. Our City has taken the lead in the battle to reduce urban runoff. It is now time for the incorporated portions of Los Angeles County to adopt these standards so that all cities in the county will conform to the standards that significantly reduce urban runoff.

If you have any questions please feel free to contact my deputy Scott Svonkin at (323) 848-6315.

Sincerely,

Paul Koretz
Councilmember

11-153-A-8

Email: ccouncil@ci.west-hollywood.ca.us
http://www.ci.west-hollywood.ca.us

Dear Mr. Dickerson: This is submitted on behalf of the Cities of Alhambra, Compton, El Segundo, Lomita, Hawthorne, Torrance, Industry and Santa Clarita. Those Cities appreciate what appears on initial review of the January 18, 2000, Staff Report and Record of Decision to be continued improvements and refinements. However, please note the language "what appears on initial review...." This language was used to make the point that time has permitted only a most preliminary review. There has been insufficient time for Cities, to say nothing of those who will be affected by the SUSMP, to make any kind of detailed analysis, much less to prepare comments for the Board's consideration and your staff's evaluation. Of course there has been no opportunity to evaluate the "Change Sheet" and the impact of "clarifications" in that document which, to my knowledge, is not yet available for public review. It is for these reasons, as a matter of procedural due process, that I am constrained to now ask you and the Board to delay this item until March, 2000, at the earliest. Recitals of the notice provided for earlier versions of the SUSMP are interesting, but they are no substitute for adequate notice of the latest changes. We must make the point that the adequacy of notice is not determined by averaging the notice given to all prior versions of the SUSMP, it depends on how much notice was provided as to the version which is to be adopted, with all modifications, including those in the January 18, 2000, Staff Report and Record of Decision and the yet-to-be promulgated Change Sheet. Please print this email and include it, in its entirety (and not just as a summary), in the administrative record of this matter as comments by the Cities of Alhambra, Compton, El Segundo, Lomita, Hawthorne, Torrance, Industry and Santa Clarita, and each of them. In addition, the Cities of Alhambra, Compton, El Segundo, Lomita, Hawthorne, Torrance, Industry and Santa Clarita, and each of them, reserve the right to address the Board at the Meeting and Hearing on January 26, 2000, or any adjourned or continued meeting and hearing.

****

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11-153-A-9

Executive Advisory Committee
Stormwater Program - Los Angeles County

December 22, 1999

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

STANDARD URBAN STORMWATER MITIGATION PLANS

On behalf of the Los Angeles County Permittees, the Executive Advisory Committee (EAC) has reviewed the proposed Standard Urban Stormwater Mitigation Plan (SUSMP) prepared by the California Regional Water Quality Control Board (Regional Board) to be incorporated in the Los Angeles County Municipal Stormwater and Urban Runoff National Pollutant Discharge Elimination System (NPDES) permit (The Permit). In accordance with the conditions of the Permit, the Permittees submitted model SUSMPs for your review and approval. In the event our submittal does not meet with your approval, the Permit requires that you ask for a resubmittal. Your unilateral rewriting of the SUSMPs is very surprising. We disagree that you have the legal authority under the Permit to unilaterally require the implementation of an alternative SUSMP.

Given that there are substantial differences between the Model SUSMP submitted by the Permittees and what the Regional Board desires, we appreciate your efforts to draft an alternative SUSMP. In reviewing your proposal, we believe that many of your suggestions are acceptable and could be incorporated in a SUSMP that the Permittees would be willing to resubmit for Board approval. To assist in developing a SUSMP that is acceptable to all parties, we are offering comments to your proposed SUSMP. Our suggested changes are consistent with the Regional Board's desires and serve to clarify and facilitate implementation of the SUSMP consistent with the Permit requirements. The following is a discussion of our suggested changes:

SUSMP Categories

We agree with your approach to combine the two (10-99 and 100+ home) subdivision categories, but we do not agree with adding the two additional categories of environmentally sensitive areas and parking lots to the SUSMPs. These two categories are project characteristics and not project types. The seven priority project types are specifically mentioned in the NPDES Permit as requiring SUSMPs and were, therefore, included in the Development Planning Model Program (Model Program) in Part A of the Model Planning Priority/Exempt Checklist (Checklist).

Part B of the Checklist identifies characteristics that also determine a priority project. Part B includes, but is not limited to, project locations adjoining, bisected by, or directly discharging to a designated environmentally sensitive area, riparian corridor or wetland and parking lots with greater than 200 parking spaces for any office, commercial or industrial use. Since these two categories are already required in the Model Program to incorporate appropriate BMPs, we recommend the removal of the two additional categories from the SUSMP. Also, adding these categories would encompass a lot more project types for which the originally prepared SUSMPs were not intended to address and may not be appropriate.

Definitions

Hillside: We agree that the previous definition of hillside did not provide a consistent understanding throughout the County, but the current definition of hillside would render almost all development as being on a hillside which was not the intent of the program. We recommend changing the definition to read "property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25 percent or greater."

Environmentally Sensitive Area: The definition of "Environmentally Sensitive Area" is overly broad, to the point that stormwater discharges from virtually any development in Los Angeles County could be construed as discharging to an environmentally sensitive area. This is inconsistent with the intent to provide special protection for areas of special biological significance. Alternatively, we propose that for the purpose of identifying priority projects, "Environmentally Sensitive Areas" be defined as those that "adjoin, bisect, or directly discharge to the Significant Ecological Areas identified by Los Angeles County and any other areas of environmental significance as defined by the municipalities."

Redevelopment: Your proposed definition of redevelopment would require extremely minor projects, such as a hillside residence adding a room, to have the entire site come into compliance with stormwater regulations. This would not only place a financial burden on private citizens, but would require additional resources from the Permittees to implement this requirement. All other Federal and local regulations, such as the American Disabilities Act, contain thresholds before requiring full compliance. We recommend defining redevelopment as "the addition, to an already developed site, of 50 percent or more impervious area or improvements to 50 percent or more of the existing improvements on the site." We also recommend excluding hillside single family residences from this definition.

Sections 6 and 7 of the General Requirements

Section 6 covers the proper design of outdoor material storage areas and Section 7 covers the proper design of trash storage areas. Both of these sections are written as requirements that apply to all SUSMP categories. We recommend that individual single-family residences be exempt from this requirement.

Section 9 of the General Requirements

Section 9 covers design standards for Treatment Control BMPs. We contend that there are too many questions that need to be answered before a legally, economically, and technically feasible standard can be imposed on every Permittee's development planning programs. These questions involve the following: 1) how to implement the standard without having hydrologic data corresponding to the types of storms that are being

targeted, 2) what are the pollutants of concern for different types of development, and which BMPs are effective for these pollutants of concern, 3) if regional BMPs would be more effective than site specific BMPs, and 4) can we effectively influence routine maintenance of these BMPs. In order to develop answers to these questions, we support a voluntary standard in the SUSMPs. Los Angeles County and the Cities of Santa Monica and Calabasas are already implementing similar standards. We should assess these programs over the next two years and use the information to develop requirements for the next Municipal NPDES Permit. These requirements will then include technically defensible, economically feasible alternatives to provide water quality improvements that address pollutants of concern from new development and redevelopment in Los Angeles County.

Roofing Surface Exclusion

Part D disallows excluding the area of the roofing surface from the total area for calculation of rainfall or runoff volume to be treated if the storm water conveyance system directly or indirectly discharges to a natural stream or unlined channel or channel segment scheduled for restoration. We agree with your approach to include an exclusion for roofing surfaces. However, the terms "indirectly discharge" and "unlined channel" in Part D of this section could be interpreted to prevent almost all projects from meeting the exclusion criteria. We suggest changing the wording of Part D to read, "the storm water conveyance system does not directly discharge to a natural stream or channel segment scheduled for restoration."

Alternative Certification for Storm Water Treatment Mitigation

We agree with your approach to include this section in the SUSMP, but we feel that the certification should be required to be signed by a Civil Engineer or Architect registered in the State of California. This would provide assurance that the selection and design of the BMPs was conducted with technical expertise (State law precludes an Architect or Engineer from working outside their area of expertise). This would also provide recourse for negligent designs. Your wording would seem to allow an individual whose only "expertise" was taking a recognized class or seminar to design BMPs. This would, in many cases, violate State registration requirements and conversely, usurp the State Registration Board's authority over the practice of Architecture and Engineering.

We trust that you will find these suggestions satisfactory. If you believe that additional discussions are warranted, please let us know. We are prepared to meet and discuss these further. We look forward to working with you in developing a SUSMP the Permittees can resubmit to the Regional Board which will meet with the Board's approval.

Very truiy yours,

Desi Alvarez
Chairman
Executive Advisory Committee

GH:kk

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cc: All Permittees
City of Long Beach
CRWQCB (David Nahai)

RUTAN & TUCKER LLP

ATTORNEYS AT LAW

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December 22, 1999

Via Facsimile and U.S. Mail

Mr. Dennis A. Dickerson
Executive Officer
California Regional
Water Quality Control Board
320 W 4th Street, Suite 200
Los Angeles, CA 90013

Re: **Objections to Proposed Regional Board Action regarding Standard Urban Storm Water Mitigation Plans (SUSMPs) - Order No. 96-054**

Dear Mr. Dickerson:

This letter is being forwarded to you on behalf of the Executive Advisory Committee of the Storm Water Program for Los Angeles County, Los Angeles County Municipal NPDES Permit (No. CAS614001), Waste Discharge Requirements, Order No. 96-054, ("Permit/WDRs" or "Order") and the Permittees thereunder, in connection with the upcoming hearing before the Regional Board scheduled for January 26, 2000. Please have these comments entered into the Administrative Record for this item before the Regional Board.

The proposed action recommended to be taken by the Regional Board on January 26, 2000, cannot legally be taken as: (1) the Regional Board's proposed action ignores the "Administrative Review Process" mandated by the Permit/WDRs; (2) the Regional Board cannot ***legally*** require that numerical mitigation measures be incorporated into the existing Permit/WDRs without formally amending the Permit/WDRs; (3) pursuant to the Permit/WDRs and state law, only cost effective storm water pollution control measures can be recommended; (4) the proposed mandated SUSMP Program would result in the imposition of unfunded mandates in violation of the California Constitution; and (5) the imposition of the mandated SUSMP by the Regional Board would result in a violation of the Administrative Procedures Act under California law. For these reasons and others, as further explained below, the Regional Board has no legal authority to take the action that is recommended for the January 26, 2000 hearing.

A. **BACKGROUND.**

On July 27, 1999, the Los Angeles County Department of Public Works submitted to you, on behalf of the Permittees under the subject Permit/WDRs, a Standard Urban Storm Water Mitigation Plan ("SUSMP") for your review and approval as the Executive Officer of the Regional Board. The SUSMP was then resubmitted on August 12, 1999, by the County, in order to clarify portions of the text. Pursuant to your recommendation, on September 16, 1999, the Regional Board considered making a recommendation back to you, that you approve the SUSMPs, with certain ***mandated*** modifications The Regional Board, however, took no formal action at that time, and determined to continue the matter for approximately 90 days with a new hearing to be renoticed. That hearing has now been noticed for January 26, 2000.

The County's proposed SUSMP was submitted to you as the Executive Officer, in accordance with the Permit/WDRs for your review and approval. Pursuant to Section 2.III.A of the Order, the Principal Permittee, in consultation with the other Permittees, was to develop the SUSMP and guidelines for their preparation, for use during planning and permitting of all development projects requiring "discretionary approval." Under the terms of the Order, the SUSMP is to incorporate the appropriate elements of the recommended list of BMPs, a list which has already been submitted to the Regional Board and approved by Resolution No. 99-03, dated April 22, 1999.

Under Resolution No. 99-03, the Regional Board specifically found that the approved BMPs ***"when implemented at development projects, in combination, will reduce pollutants in storm water discharges to the 'maximum extent practicable'."*** Thus, the Board has already determined that the proposed and approved BMPs when implemented, meet the Permittees requirements under the Clean Water Act. (Section 33 USC § 1342(p)(3)(B).)

The Permit/WDRs requires each Permittee to "develop a program on planning control measures" ("Planning Program") for priority projects (discretionary projects which may have a potential significant effect on storm water quality) ***"consistent with the programs developed under Part 2.III.A.1.b & c"*** (i.e., the approved list of BMPs and the SUSMP). The Planning Program is to be implemented within six months after commencement of the next fiscal year following approval of the Model SUSMP by the Executive Officer, provided that such approval was issued not later than 90 days prior to commencement of the Permittee's fiscal year. Where the approval is given within 90 days of the commencement of the fiscal year, the program is to be implemented in the second fiscal year following approval, but in no event is implementation to be initiated later than July 30, 1999.[1]

[1] Unfortunately, because of delays in the review process of a number of model programs by Regional Board staff, the July 30, 1999 deadline has not been complied with. Nevertheless, the

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B. THE REGIONAL BOARD'S PROPOSED ACTION IGNORES THE "ADMINISTRATIVE REVIEW PROCESS" MANDATED BY ORDER 96-054.

The Permit/WDRs contains various provisions outlining the Administrative Review Process required to be followed by the Regional Board and the Executive Officer in reviewing storm water programs to be developed under the Order. Unfortunately, the process that is being proposed for the SUSMP, i.e., a referral to the Regional Board, and thereafter a recommendation and/or an approval of a storm water program with ***mandated*** changes, is ***not*** a procedure that is contained anywhere in the Order. To the contrary, Section 2.I.G. of the Permit/WDRs identifies the Administrative Review Procedure that must be followed "for review and acceptance of reports and documents submitted to the Regional Board under this Order." It further provides for a method ***"to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement action."*** (Order No. 96-054, §2.I.G.)

Section 2.I.G.2 provides that if the Executive Officer determines the Permittees' Storm Water Program is insufficient to meet the requirements of the Order, the Executive Officer is to send a "Notice of Intent to Meet and Confer" ("NIMC") to the Permittees, with specific information to support the determination. The NIMC is to include a time frame by which the Permittee must meet with the Regional Board staff in order for the Permittee to demonstrate that ***its program*** is sufficient to meet the requirement of the Order, and if not, to seek clarification of the steps to be taken to comply with the provisions of the Order. Please recognize that under the plain language of the Order, it is the ***Permittees' program*** that must be sufficient to comply with the Order, ***not the Regional Board's program***, or anyone else's.

Under Subsection 2.I.G.2, the NIMC is to conclude with either a Notice of Program Sufficiency to the Permittee, or the submittal of an acceptance by the Executive Officer of a written "Storm Water Program Compliance Agreement" ("SPCA") which is to include implementation deadlines.

You, as the Executive Officer, are empowered to terminate the meet and confer process after a reasonable period of time, due to a lack of progress on issues, and you may further order submittal of the SPCA by a specified date. You must then either approve or reject the submitted SPCA within 120 days of its submittal. If you reject the SPCA, you are required by the

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Permit/WDRs presumes a minimum of six (6) months lead time after commencement of the next fiscal year, before implementation of the approved SUSMP, given the need to incorporate the SUSMP into the various Permittees planning processes, including allowing the Permittees sufficient time to develop storm water management guidelines for use in preparing and reviewing CEQA documentation. Thus, any approval of the SUSMP, and acceptance of the same by the Permittees, should not require implementation until six (6) months after commencement of the following fiscal year.

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Permit/WDRs to state the reasons for your failure to approve the SPCA. If an SPCA has been rejected, the Permittees have 60 days in which to remedy the specified deficiency and resubmit the SPCA. If the SPCA has been approved, the Permittees are to comply with the terms of the SPCA.

Finally, as the Executive Officer, you are not to take any enforcement action against the Permittees until the Permittees have been notified in writing that the ***"Administrative Review Process has been exhausted, and that the Executive Officer has determined that a violation exists warranting enforcement."*** (Order No. 96-054, §2.I.G.2.d).

Please recognize that under the Administrative Review Process, it is the ***"Permittees' program"*** that is to be reviewed, and the standard of review is ***not*** whether the Regional Board recommended program is sufficient, but rather whether the ***"Permittees' program"*** is sufficient. Thus, the Regional Board's focus then and now should not and cannot be on whether ***its*** proposed program which contains numerical mitigation measures is consistent with the Clean Water Act. Rather, the focus, by law, must be on whether the SUSMP submitted by the Permittees is sufficient.

As discussed above, the SUSMP was resubmitted to your office for review and approval on August 12, 1999. Under the Administrative Review Process, the Executive Officer is to notify the Permittees of "the results of the review and approval or disapproval within 120 days." (Order No. 96-054, 2.I.G.1.a) If you determine that the submitted SUSMP is unacceptable, you must issue a Notice of Disapproval and thereafter comply with the NLMC procedures set forth above to resolve the alleged deficiencies.

Please recognize that there is no procedure under the Permit/WDRs for the Executive Officer or the Regional Board to unilaterally modify the proposed storm water program. Nor is there any procedure for the Regional Board to recommend to the Executive Officer that the Executive Officer approve someone else's program, in place of and instead of the Permittees' program. Rather, the existing Permit/WDRs provides a very specific procedure to be followed in the event you cannot approve the program submitted.

At this time, the Executive Advisory Committee requests that you follow the Administrative Review Procedures set forth under the Order issued by the Board. The procedure plainly applies to any deficiency alleged with respect to the Permittees' SUSMP and must be complied with.

In the event the Regional Board chooses to ignore the Administrative Review Procedure ***required*** by the Permit/WDRs, and the submitted SUSMP is not simply approved or disapproved by your office, such action will be interpreted by the Permittees as being a disapproval of the Permittees' SUSMP program. At that point, in accordance with the Order, we presume your

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office will then proceed and issue a Notice of Intent to Meet and Confer with the Permittees and that you will simultaneously provide the required specific information called for under the Permit/WDRs to support such a determination, i.e., you will identify how the ***Permittees' program*** is deficient.

Once the NLMC is submitted and the members of the Executive Advisory Committee have had an opportunity to review the "specific information in support" of your determination, it will then comply with the procedures set forth under Order No. 96-054 "to resolve any differences in compliance expectations between the Regional Board and Permittees . . . ." (Order No. 96-054, 2.I.G.) It is the Permittees' expectation that your office and the Regional Board will follow the requirements of the Order in attempting to resolve any differences in compliance expectations. (Id.)

C. NUMERICAL MITIGATION MEASURES, EVEN IF JUSTIFIED, CANNOT BE MANDATED UNDER THE PRESENT ORDER.

In response to comments requesting the authority for imposing numerical mitigation measures on the Permittees, Regional Board staff cited the federal regulations, specifically Part 40 CFR Section 122.26(b)(2)(iv)(A)(2) as its justification for imposing such mitigation measures ***at this time***. A review of Section 122.26(b), shows in very clear terms that this Section concerns proposed programs to be considered by the Director, ***"when developing permit conditions"*** to reduce pollutants and discharges to the maximum extent practicable. See 40 CFR 122.26(d)(2). This Section, entitled "Proposed Management Program," reads in pertinent part as follows:

> "A Proposed Management Program covers the duration of the Permit . . . . Proposed Programs will be considered by the Director ***when developing permit conditions*** to reduce pollutants and discharges to the maximum extent practicable. (40 CFR 122.26(b)(2)) (vi.)

Thus, the authority specifically relied upon by Regional Board staff as the basis for its legal authority to impose numerical mitigation measures, in and of itself, shows that numerical mitigation measures can only be imposed ***"when developing permit conditions."*** Because the proposed numerical mitigation measures are not "permit conditions," but rather would only be conditions imposed on the approval of a program, under the Permit/WDRs, they can only appropriately be reviewed and imposed by the Regional Board pursuant to the issuance or reissuance of an MS4 NPDES Permit.

Further evidence of this fact is supported by the case so heavily relied upon by Regional Board staff in its response to comments, i.e., Defenders of Wildlife, et al. v. Browner, 1999 Daily Journal, DAR 12369 (Case No. 98-71080, filed September 15, 1999). In Defenders of Wildlife

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v. Browner, the imposition of ***numerical*** limitations was being considered in the context of the appropriateness of the issuance of "***final*** NPDES Permits" to the Cities of Tempe, Tucson, Mesa and Phoenix, Arizona and Pima County. The "discretion" of the EPA Administrator in that action concerned the issuance of numerical limitations only in the course of the issuance of the ***final*** Permit/WDRs

In short, there is absolutely no support in state or federal law for the Regional Board or the Executive Officer to ***mandate*** a program on the Permittees at this juncture without it first being included in the NPDES Permit/WDRs issued in July of 1996. Thus, any attempt to do so by the Regional Board is subject to legal challenge. Since the requirements in question are nowhere to be found in the Permit/WDRs, ***they cannot be mandated*** on the Permittees under the Order, and just as the Permittees are forced to comply with the requirements of the Permit/WDRs as issued by this Regional Board in July of 1996, so to must the Regional Board.

Further, as discussed above, the Regional Board, through Resolution No. 99-03, has already found that the approved BMPs when implemented "will reduce pollutants in storm water to the maximum extent practicable," i.e., ***the Regional Board has already found that the previous approved list of BMPs complies with the Clean Water Act.*** Any attempt to impose additional conditions under the Order, would be inconsistent with the Clean Water Act and the regulations thereunder, and would be directly contrary to findings already made by your Board.

D. ONLY "COST-EFFECTIVE" STORM WATER POLLUTION CONTROL MEASURES SHOULD BE RECOMMENDED.

In addition, Section 2.III.A.4. of the Permit/WDRs, provides that the Principal Permittee in consultation with the Permittees, is to develop a model program to inform developers seeking "discretionary approvals" (such as the approvals needed where Urban Storm Water Mitigation Plans are to be incorporated in the development process), of, among other things: (1) "Development and construction of storm water management;" (2) "Maximization of pervious areas and storm water infiltration (where geology and topography permit);" and (3) ***"cost effective storm water pollution control measures."*** The informational program to be developed must also include specific guidance on selecting BMPs to reduce pollutants in storm water discharges from urbanized areas, and to include appropriate BMPs, educational materials, and handbooks and guidelines as described in the Permit/WDRs. This informational program was developed and incorporated into the Development Planning Model Program submitted to you in January of 1998, and as discussed above, the Development BMPs were ***approved*** by the Board under Resolution No. 99-03.

The Development Planning Model Program incorporates the requisite BMPs, but neither the approved BMPs, nor the Development Planning Model Program, requires numerical mitigation measures. Furthermore, numerical mitigation measures are not mentioned anywhere

in the Permit/WDRs. Accordingly, the approved model program, which is required to include information to developers on ***"cost effective storm water pollution control measures"*** does not include any information on numerical mitigation measures. The Permit/WDRs requirement for Developers to be informed of ***"cost effective storm water pollution control meusures"*** is evidence of the Permit's/WDRs' requirement that any "storm water pollution control measures" to be implemented must be "cost effective" before being imposed on Developers.

In the present case with respect to the proposed numerical mitigation measures, as evidenced from responses to comments issued by Regional Board staff, the Regional Board has performed very little analysis on the ***cost effectiveness*** of the proposed numerical mitigation measures. Without such an analysis, the recommended numerical mitigation measures should not even be considered, let alone recommended.

The required cost/benefit analysis is, moreover, mandated by state law. Specifically, California Water Code Section 13225 allows the Regional Board to require as necessary "any state or local agency to investigate and report on any technical factors involved in water quality control or to obtain and submit analyses of water; ***provided that the burden, including costs, of such reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained therefrom.***" (Cal. Water Code § 13225(c).)

Given that the Permit/WDRs is not only a permit issued pursuant to the Clean Water Act, but also pursuant to the Porter-Cologne Act, (as evidenced by its caption "Waste Discharge Requirements)" state law and the Order itself mandate a costs benefit analysis before requiring such a costly program

E. THE PROPOSED MANDATED PROGRAM WOULD RESULT IN THE IMPOSITION OF AN UNFUNDED MANDATE IN VIOLATION OF THE CALIFORNIA CONSTITUTION.

In response to comments, Regional Board staff has contended that the imposition of a numerical mitigation measures is not an unfunded mandate because it involves the implementation of a federal permit. Yet, in the Ninth Circuit's decision of Defenders of Wildlife v. Browner, again a case heavily relied upon by Regional Board staff in its comments, the Ninth Circuit found that the imposition of numerical limits in the course of the issuance of a final NPDES Permit/WDRs was a "discretionary" decision of the Administrator. Similarly, Regional Board staff claims that it has the "discretion" to impose numerical mitigation measures.

Under the California Constitution, specifically Article XIII B, Section 6, a state agency is prohibited from shifting the financial responsibility of carrying out governmental functions to local entities, unless it also includes a provision reimbursing local governments for the cost of such programs. Here, with respect to the proposed mandated program by the Regional Board,

the Regional Board has provided no funding mechanism to local governments to implement the proposed program.

The prohibition on unfunded mandates applies even where federal law is involved, unless the state "has no true choice" in the manner of implementing the federal program. (See Hayes v. Commission on State Mandates (1992) 11 Cal.App.4th 1564, 1593). In fact, in Hayes, the Court made it clear that the *state* had to fund its requirements/mandates when the manner of implementing the federal program was left to the "discretion" of the state. (Id. at 1593.)

In the present case, Regional Board staff has claimed the Board has the "discretion" to impose numerical mitigation measures and thus, because it is not mandated to do so, the imposition of such a program on local agencies is an unfunded mandate in violation of the California Constitution.

F. THE IMPOSITION OF THE REGIONAL BOARD'S SUSMP PROGRAM ON THE PERMITTEES IS A VIOLATION OF THE ADMINISTRATIVE PROCEDURES ACT.

The California Administrative Procedures Act, Government Code Sections 11340 et. seq. ("APA") was enacted to establish basic minimum procedural requirements for the adoption, amendment or repeal of administrative regulations promulgated by the state's many administrative agencies. (Grier v. Kizer (1990) 219 Cal.App.3rd 422, 431; also see, Gov. Code § 11346.) Although California law does not require administrative agencies to comply with the APA when simply issuing or amending permits, including the issuance of waste discharge requirements, where the permit or amendment in question rises to a level of an ***order***, a regulation or a ***standard of general application***, the APA clearly applies. (Gov. Code §11342(g).)

In the instant case, the proposed action by the Regional Board, if carried out by the Executive Officer and forced on the Permittees under the present Permit/WDRs, constitutes an ***order and a standard of general application*** that is being imposed on all Permittees, i.e., all eighty-five (85) cities in the County and the County itself, to require the imposition of numerical mitigation measurers on significant development and redevelopment in the County. As such, if it determines to move forward with the imposition of such a mandated standard of general application, the Regional Board is required to comply with the APA.

In State Water Resources Control Bd. v. Office of Admin. Law (1993) 12 Cal.App.4th 697, the court analyzed various amendments to a Water Quality Control Plan and found that such amendments constituted "regulations" required to be adopted in compliance with the APA. The court found that where a regulation "looks like a regulation, reads like a regulation, and acts like a regulation, it will be treated as a regulation whether or not the agency in question so labeled it."

RUTAN & TUCKER, LLP
ATTORNEYS AT LAW

(Id. at 702.) The court went on to find that in light of this strong legislative mandate, regulatory agency directives, such as amendments to the Water Quality Control Plan, must be deemed to be regulations. (Id.)

In the instant case, a mandated SUSMP, where the Permit/WDRs in question does not allow for the compulsion of such a program or the compulsion of ***any*** program, is plainly a "regulation" for purposes of the APA. Since the requirements of the APA have not been complied with, any such mandated program would have no legal force or effect.

G. CONCLUSION.

In sum, the Executive Advisory Committee respectfully requests that the Regional Board recognize that it has already issued an NPDES Permit/WDRs which allows the Permittees to discharge both storm water and non-storm water into their MS4 systems. Moreover, the existing Permit/WDRs does not require or condition its terms on the imposition of numerical mitigation measures. Nor does the existing Order allow the Executive Officer to unilaterally impose new conditions on the Permittees. Such action, if taken, would be taken in violation of the existing Order.

At this time, the only action the Executive Officer is permitted to take in accordance with the terms of the Order, is to review the Permittees' proposed SUSMP, provide an explanation as to why that program is insufficient, and to thereafter comply with the Administrative Review Process under the Order. Any action taken by the Executive Officer to approve a program not submitted by the Permittees, will have no legal force or effect. We respectfully request that you comply with the terms of the Order issued by your own Regional Board in reviewing and approving the SUSMP submitted by the Permittees.

Thank you for your attention to this matter and your consideration of these issues.

Sincerely,

Richard Montevideo

cc: Mr. Desi Alvarez, Chairman, Executive Advisory Committee

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#2713 v1: 12/22/99

ATE OF CALIFORNIA—THE RESOURCES AGENCY

GRAY DAVIS, Governor

...NTA MONICA MOUNTAINS CONSERVANCY
STREISAND CENTER FOR CONSERVANCY STUDIES
5750 RAMIREZ CANYON ROAD
MALIBU, CALIFORNIA 90265
PHONE (310) 589-3200
FAX (310) 589-3207

December 16, 1999

Dennis Dickerson
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Dear Mr. Dickerson:

The Santa Monica Mountains Conservancy (Conservancy) is the principal state agency charged with planning and conservation within the Santa Monica Mountains Zone pursuant to Division 23 of the Public Resources Code. The Conservancy has reviewed the *Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County* (SUSMP) proposed by the Los Angeles Regional Water Quality Control Board (LARWQCB) and has the following comments.

The LARWQCB is to be congratulated for taking this major step forward in protecting water quality within the Los Angeles region. We applaud the LARWQCB for their proactive approach to the issues of storm water runoff. In implementing this plan, LARWQCB should adopt the strongest water quality protection available.

The Conservancy is concerned about water quality issues since much Conservancy open space is adjacent to or bisected by streams that contain stormwater runoff. The Conservancy is also a stakeholder in the planning process for management plans for six of the watersheds under the LARWQCB's jurisdiction. The additional runoff resulting from new developments can be catastrophic, increasing water velocity, erosion, sediment load, and pollutants, and decreasing water quality. These changes can be disastrous for resources dependent on these streams.

The Conservancy has several specific technical comments relating to the details of the plan.

11-138

- The Conservancy is pleased that the LARWQCB has extended protection to environmentally sensitive areas by requiring SUSMPs for "locations adjacent to or discharging" into these areas. However, we would ask that the definition for "Environmentally Sensitive Area" be expanded to include open space areas owned or operated by federal, state, or local agencies. Open space land is under tremendous pressure for development. Any open space, and the resources it protects, is environmentally sensitive.

- The section, Conflicts with Local Practices, seems to nullify the SUSMP requirements. Your Response to Comments state several times that "Federal laws and regulations require that controls on new development and redevelopment be enforceable." The final sentence in the Conflicts with Local Practices section states, "The Permittee may continue the local practices and modify the SUSMPs contained herein to be consistent with the code, except where those practices would defeat or circumvent the intent of the SUSMP requirements." This language seems vague and not enforceable. Resource agencies normally require whatever standards are more protective or more stringent, and enforceable.

- The document makes a good argument for the proper maintenance of treatment control Best Management Practices (BMP) in Section 8, Provide Proof of Ongoing BMP Maintenance. We agree that the developer must accept responsibility for the maintenance until the time the property is transferred to public entities. However, a mandatory source of funds for ongoing monitoring and maintenance of treatment control BMPs transferred to public entities should be specifically stated. The loss of permeable surfaces and its associated water quality values to development is permanent. It is necessary to maintain the required treatment control BMPs in perpetuity in order to compensate for the permanent effects of development. It follows then that the developer or any successor must be responsible for the permanent maintenance of the structural BMP in a manner, which fully mitigates the development impacts to water resources (surface and groundwater). As such, permanent maintenance of the structural BMP should be required as a condition of the granting of any permits, which might be required for project construction. To assure the ongoing cost of management and maintenance of BMPs in perpetuity, a non-eroding endowment fund must be established so the public agency assuming maintenance responsibility can pay for all the necessary activities to maintain and monitor the structural BMP site. No taxpayer except the developer and any

successors should shoulder these costs. These maintenance costs are simply the price of doing business.

- Section 9 excluded the area of roofing as part of the calculation for total area rainfall or runoff volume. This exclusion requires explanation. Roofs are impervious surfaces that divert water into stormwater drains and reduce percolation to groundwater reservoirs. Due to the air quality in Los Angeles County, the pH of roof stormwater can be quite low, especially first flushes. In addition, the volume of water shed from roofs accounts for a high percentage of the impervious surface area associated with development. This calculation minus the roof area guarantees undersized treatment control BMPs and inadequate control of first flushes through treatment structures. Inadequately designed treatment structures leads to complaints about the program itself. These failures and resultant complaints could be avoided with adequately sized structures designed from the initial calculation that incorporates all impervious surfaces.

- Within Section 11, Waiver, the SUSMP provides authority for local jurisdictions to incorporate 'impracticability waivers' for specific properties. Three recognized situations are listed. These waivers provide large loopholes for any developer to use.
  - (i) *Extreme limitations of space for treatment on a redevelopment project.* The number of BMP offered in Table 2 as well as BMPs from the bibliographic references offered from California and other states suggests a wide range of routine ideas that can be incorporated into any redevelopment plan regardless of the space limitations.
  - (ii) *Unfavorable or unstable soil conditions at site to attempt filtration.* If the site has unfavorable or unstable soil conditions, the area probably should not be developed. In recent years, we have seen a number of development homes literally torn apart by unstable soil conditions (e.g. Laguna Beach and Calabasas). Unstable soil conditions should not even be considered. If the area cannot handle infiltration, it cannot handle development.
  - (iii) *Risk of groundwater contamination because underground source of drinking water is less than ten feet from the soil surface.* This condition sounds reasonable as the basis for a waiver except that again there is such a wide array of options available for BMPs, the argument is invalid. In addition, the LARWQCB in its Response to Comments states that "pretreatment of storm water will reduce such risks. The soil acts as a natural filter and self regenerates." Your own statements argue against this waiver condition.

The Waiver Section also states that any "other justification for impracticality must be approved by the LARWQCB Board's Executive Officer before it becomes recognized and effective." The stringency of these justifications should be discussed otherwise the arguments could be as flawed as those stated above.

We appreciate the opportunity to submit these comments for consideration. Please direct any questions and documents to Kathleen Bullard, Director of the Los Angeles River Center and Gardens, at (323) 221-8900 extension 101, or Ellen Mackey, Staff Ecologist, at (818) 504-2196.

Sincerely,

Elizabeth A. Cheadle

ELIZABETH A. CHEADLE
Chairperson

cc: Zev Yaroslavsky, Supervisor, County of Los Angeles
Hon. Brad Sherman, U S House of Representatives (Susan Little)
Jovita Pajarillo, U S EPA, Region 9
Dave Castanon, U S Army Corps of Engineers
Alex Helperin, Project Attorney, NRDC Los Angeles
Lisa Boyle, Heal the Bay
Steve Fleischli, Santa Monica BayKeeper
Melanie Winter, Friends of the Los Angeles River
Barbara Wampole, Friends of the Santa Clara River
Morgan Wehtje, California Department of Fish and Game

San Gabriel Valley Council of Governments

3871 East Colorado Blvd., Suite 101, Pasadena, California 91107-3970 Phone: (626) 564-9702 FAX: (626) 564-1116 E-Mail SGV@sgvcog.org

December 16, 1999

H. David Hahai
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th, Suite 200
Los Angeles, CA 90013

Subject: COG Resolution Opposing Numeric Standards on New Developments

Dear Mr. Hahai:

The San Gabriel Valley Council of Governments (SGVCOG), a joint powers agency representing the 1.9 million Los Angeles County residents living in our 30 cities and unincorporated communities, is opposed to the proposed numeric standards for new development in our cities. To meet these numeric standards for storm water treatment/retention, developers will be required to install costly structural controls thereby increasing the costs of construction in the Valley. In addition, our cities will have to expand their already resource constrained enforcement programs.

As set forth in the attached resolution, we strongly oppose this expansion of your regulatory efforts and ask that you engage in a constructive dialog with our organization in seeking resolution to this issue.

Sincerely,

Nicholas T. Conway
Executive Director

Encl.: Resolution

11-142

R0068361

RESOLUTION NO. 99-07

A RESOLUTION OF THE SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS URGING THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION TO DEFER DISCUSSION OF NUMERIC STANDARDS FOR TREATING OR RETAINING STORM WATER RUNOFF FROM NEW DEVELOPMENTS PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL NPDES PERMIT

Whereas, the San Gabriel Valley Council of Governments (hereinafter "San Gabriel Valley COG") is a joint powers agency representing more than 1.9 million Los Angeles County residents living in 30 cities and unincorporated communities;

Whereas, the California Regional Water Quality Control Board, Los Angeles Region (hereinafter "regional board"), is further considering the incorporation of numeric standards into the Standard Urban Storm Water Runoff Mitigation Plan (hereinafter SUSMP), a component of the model development planning program and a requirement of the Los Angeles County Municipal NPDES permit (hereinafter, "municipal NPDES permit");

Whereas, such numeric standards are intended to retain and/or treat storm water runoff volume (approximately 20,000 gallons per acre) from 3 categories of new development projects: 10-99 home sub-divisions, 100-plus home sub-divisions; and 100,000 square foot commercial developments;

Whereas, meeting the proposed numeric standards would necessitate the use of specific structural controls, including but not limited to extended detention basins, wet ponds, infiltration basins/ponds (which reduce the amount of developable space), storm drain-connected oil/grit separators, catch basin inserts, grassy swales, and other devices;

Whereas, the numeric standards are intended to treat/retain runoff from hard surfaces, including roof-tops, albeit there is no compelling data available indicating that pollutants from such surfaces are toxic or have an impairing affect on a beneficial use of a receiving water;

Whereas, such structural controls would require post-construction operation and maintenance, for which cities would be responsible;

Whereas, such controls, if not properly designed or maintained, could become sources of pollution rather than pollution mitigants;

Whereas, the numeric standards proposed by the regional board are not mandated in the municipal NPDES permit, nor are they required of other municipal NPDES permits in the State of California;

Whereas, neither the regional board nor any other interested party has demonstrated that storm water retention/treatment numeric standards would result in the improvement or protection of a beneficial use of a receiving water (ground water recharge, shellfish harvesting, wetland habitat protection, etc.);

Whereas, imposing such unproven and questionable numeric standards on cities constitutes an unfunded state mandate, one that has not been evaluated in cost-effective terms, as required by state law;

11-143

R0068362

Whereas, the Executive Advisory Committee hereinafter ("EAC") is a body representing cities from the Ballona Creek, Los Angeles River, San Gabriel River, Dominguez Channel, Malibu Creek, and Santa Clara Rivers;

Whereas, on August 11, 1999, the EAC elected to remove any reference to numeric standards from the SUSMP and recommended the adoption of non-numeric SUSMPs;

Whereas, if the numeric standard is adopted, developers and cities would have a difficult time implementing because of the:

1. lack of experience with the structural controls required to meet the numeric standard; and

2. absence of adequate guidelines (e.g., a guidance document containing information regarding the cost, pollutant effectiveness, and pollutant applicability of structural controls that would be needed to meet the numeric standard; and the constraints limiting their use such as soil conditions and siting considerations);

Whereas, during a regional board public hearing held on September 16, 1999, approximately 50 cities expressed opposition to the proposed numeric standards, resulting in the continuation of the matter to another public hearing scheduled for January 6, 2000.

NOW, THEREFORE, the San Gabriel Valley COG does hereby resolve as follows:

Section 1. Call upon the regional board to defer inclusion of numeric standards into SUSMPs until such time the following has been established:

i. an identification of the type of and quantity of pollutants generated from each of the subject new developments;

ii. the type and quantity of pollutants identified pose a threat to a beneficial use of those receiving waters into which San Gabriel Valley cities discharge;

iii. an evaluation of those structural controls required to meet numeric standards in terms of (a) appropriateness to each of the pollutants of concern and (b) pollutant removal capacity; and

iv. an "out clause" in the event a numeric standard cannot be met for reasons of economy or feasibility.

Section 2. Recommend that the regional board approve the SUSMP, as proposed by the Executive Advisory Committee on August 11, 1999, which does not include numeric standards.

Section 3. Advise the regional board that if it adopts the numeric standards without meeting the conditions specified under Section 1, the San Gabriel Valley COG shall prepare a petition for submittal to the State Water Resources Control Board appealing the regional board's action.

11-144

PASSED, APPROVED, AND ADOPTED this 16 day of December 1999.

SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS

By _____
Harry Baldwin, President

Attest:

_____
Nicholas Conway, Secretary

11-145

South Bay Cities
COUNCIL OF GOVERNMENTS

5033 Rockvalley Road
Rancho Palos Verdes, CA 90275

December 20, 1999

Mr. Dennis A. Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson,

Attached please find a resolution urging the California Regional Water Quality Control Board, Los Angeles Region, to defer discussion of numeric standards for treating or retaining storm water runoff from new developments pursuant to the Los Angeles County Municipal NPDES Permit. This resolution was adopted by the South Bay Cities Council of Governments Steering Committee at their meeting of December 7, 1999.

Thank you for your consideration of our position.

Sincerely,

Bob Pinzler

Bob Pinzler, Chair, SBCCOG
Councilman, Redondo Beach

11-146

R0068365

RESOLUTION NO. 99-3

A RESOLUTION OF THE SOUTH BAY COUNCIL OF GOVERNMENTS URGING THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION, TO DEFER DISCUSSION OF NUMERIC STANDARDS FOR TREATING OR RETAINING STORM WATER RUNOFF FROM NEW DEVELOPMENTS PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL NPDES PERMIT

WHEREAS, the South Bay Council of Governments (hereinafter "South Bay COG"), is a sub-region of the Southern California Association of Governments, consisting of 16 member cities;

WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region (hereinafter "regional board"), is further considering the incorporation of numeric standards into the Standard Urban Storm Water Runoff Mitigation Plan (hereinafter SUSMP), a component of the model development planning program and a requirement of the Los Angeles County Municipal NPDES permit (hereinafter, "municipal NPDES permit");

WHEREAS, such numeric standards are intended to retain and/or treat storm water runoff volume (approximately 20,000 gallons per acre) from 3 categories of new development projects: 10-99 home sub-divisions, 100-plus home sub-divisions; and 100,000 square foot commercial developments;

WHEREAS, meeting the proposed numeric standards would necessitate the use of specific structural controls, including but not limited to extended detention basins, wet ponds, infiltration basins/ponds (which reduce the amount of developable space), storm drain connected oil/grit separators, catch basin inserts, grassy swales, and other devices;

WHEREAS, the numeric standards are intended to treat/retain runoff from hard surfaces, including roof-tops, albeit there is no compelling data available indicating that pollutants from such surfaces are toxic or have an impairing effect on a beneficial use of a receiving water;

WHEREAS, such structural controls would require post-construction operation and maintenance, for which cities would be responsible;

WHEREAS, such controls, if not properly designed or maintained, could become sources of pollution rather than pollution mitigants;

WHEREAS, the numeric standards proposed by the regional board are not mandated in the municipal NPDES permit and are not required of other municipal NPDES permits in the State of California;

WHEREAS, neither the regional board nor any other interested party has demonstrated that storm water retention/treatment numeric standards would result in the improvement of protection of a beneficial use of a receiving water (ground water recharge, shellfish harvesting, wetland habitat protection, etc.):

WHEREAS, imposing such unproven and questionable numeric standards on cities constitutes an unfounded state mandate, one that has not been evaluated in cost-effective terms, as required by state law;

WHEREAS, the Executive Advisory Committee hereinafter ("EAC") is a body representing cities from the Ballona Creek, Los Angeles River, San Gabriel River, Dominguez Channel, Malibu Creek, and Santa Clara Rivers;

WHEREAS, on August 11, 1999, the EAC elected to remove any reference to numeric standards from the SUSMP and recommended the adoption of non-numeric SUSMPs;

WHEREAS, if the numeric standard is adopted, developers and cities would have a difficult time implementing because of the:

1. lack of experience with the structural controls required to meet the numeric standard; and

2. absence of adequate guidelines (e.g., a guidance document containing information regarding the cost, pollutant effectiveness, and pollutant applicability of structural controls that would be needed to meet the numeric standard; and the constraints limiting their use such as soil conditions and siting considerations);

WHEREAS, during a regional board public hearing held on September 16, 1999, approximately 50 cities expressed opposition to the proposed numeric standards, resulting in the continuation of the matter to another public hearing scheduled for January 6, 2000.

NOW, THEREFORE, the South Bay Cities COG does hereby resolve as follows:

Section 1.

Call upon the regional board to defer inclusion of numeric standards into SUSMPs until such time the following has been established:

i. an identification of the type and quantity of pollutants generated from each of the subject new developments;

ii. the type and quantity of pollutants identified pose a threat to a beneficial use of those receiving waters into which South Bay cities discharge;

iii. an evaluation of those structural controls required to meet numeric standards in terms of (a) appropriateness to each of the pollutants of concern and (b) pollutant removal capacity; and

iv. an "out clause" in the event a numeric standard cannot be met for reasons of economy or feasibility.

Section 2.

Recommend that the regional board approve the SUSMP, as proposed by the Executive Advisory Committee on August 11, 1999, which does not include numeric standards.

Section 3.

Advise the regional board that if it adopts the numeric standards without meeting the conditions specified under Section 1, the South Bay Cities COG shall prepare a petition to the State Water Resources Control Board appealing the regional board's action.

SUSMP Policy Approved by the Regional Council

of the Southern California Association of Governments

(January 6, 2000)

The Southern California Association of Governments recommends that:

- *the Los Angeles Regional Water Quality Control Board not adopt SUSMP numeric standards until such time as the Board can validate the feasible, technical and scientific bases for numeric standards.*
- *the Board monitor pilot programs similar to those underway in Los Angeles County.*
- *the Board work closely with cities such as Calabasas, Santa Clarita and Santa Monica to assess the effectiveness of local initiatives aimed at managing runoff water flows and quality.*
- *the Board develop a Memorandum of Understanding with SCAG in which SCAG would incorporate a Best Management Practices for Preventing Storm Water Runoff Pollution in the Los Angeles Basin project in its Environmental Programs and Livable Communities work elements.*
- *the Board ask SCAG to manage a legal authorities initiative in which all of the 85 cities in the Los Angeles Basin would work to develop model language which would then be available for municipal implementation throughout the Basin.*
- *the Board invite SCAG to contribute its Section 208 authorities to a collaboration with other key organizations/stakeholders in scoping out plans for a watershed management initiative program in each watershed of the Basin.*
- *the Board evaluate the operating results of watershed (regional) mitigation programs prior to its consideration of any general retrofit mandates on existing land uses.*
- *the Board and SCAG cooperate with other stakeholders in putting best efforts into raising the new financial resources needed for planning and implementing these water quality commitments.*
- *the Board's staff be encouraged to meet with those SCAG sub-regional councils affected by the SUSMP program prior to any Board action on these matters.*

The Regional Council calls for the participation of the various sub-regional councils, POTWs and other necessary entities in the development of watershed initiatives needed for reducing and managing storm water runoff pollution in the region.

STATE OF CALIFORNIA— THE RESOURCES AGENCY GRAY DAVIS, GOVERNOR

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400

January 10, 2000

California Regional Water Quality Control Board
Los Angeles Region
Mr. Dennis Dickerson, Executive Officer
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Proposed Standard Urban Stormwater Mitigation Plan

Dear Mr. Dickerson: Dennis ~

The California Coastal Commission staff has reviewed the proposed Standard Urban Stormwater Mitigation Plan (the Plan) for Los Angeles County and Cities in Los Angeles County, dated December 7, 1999. The Standard Urban Stormwater Plan includes many detailed, innovative policies that will, if the Plan is approved, improve the quality of California's coastal waters. Thus, we urge the Regional Board's adoption of the Plan.

We recognize that polluted runoff is the number one cause of pollution in coastal waters. We believe the implementation of the proposed Plan will improve water quality. The Plan will be effective because it defines stormwater requirements for nine project categories, specifies numerical design standards for post-construction treatment control best management practices (BMPs), and provides developers and land use professionals with specific information regarding feasible on-the-ground improvements. The approach that your staff recommends requires incorporation of BMPs into the design phase of development and redevelopment. This approach will improve the quality of runoff from each project. In time, this may lessen the need for after-the-fact treatment measures. We believe that this program can serve as a model statewide.

Therefore we urge the Regional Board to approve the proposed Plan, and adopt the accompanying numerical mitigation standards, as the minimum design criteria for review of post-construction BMPs in the Los Angeles Region for construction projects subject to coverage under the state stormwater general permit for construction activity.

Thank you for the opportunity to express our support.

Sincerely,

Jaime C. Kooser

Jaime C. Kooser, Ph.D.
Deputy Director,
Energy, Ocean Resources, and Water Quality

11-151

R0068370

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

In Reply
Refer to: WTR-5

JAN 13 2000

Dennis Dickerson
Executive Officer
California Regional Water Quality Control
Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Dickerson:

The purpose of this letter is to urge the Los Angeles Regional Board to adopt the proposed Standard Urban Storm Water Mitigation Plan (SUSMP) dated December 7, 1999 which was developed for post-construction storm water pollution control for specified new developments in Los Angeles County and Cities within the County. The SUSMP was developed pursuant to the requirements of NPDES permit No. CAS614001 for storm water discharges from the municipal separate storm sewer system (MS4) serving the County and its Cities.

We have reviewed the requirements of the proposed SUSMP and we believe they are consistent with the requirements of the CWA, applicable NPDES regulations, and EPA guidance on this matter. We understand that concerns have been expressed in particular regarding item #9 in the SUSMP which requires treatment (for the specified developments) for the runoff from the first 0.75" of rain. However, contrary to some of the comments received by the Regional Board, we believe this proposed requirement is fully within the authority of the Regional Board. NPDES regulations at 40 CFR 122.26(d)(2)(iv)(A)(2) specifically require that MS4 permittees include requirements in their storm water management programs for post-construction control measures to reduce storm water pollution from new developments after construction has been completed. EPA's guidance manual for Part 2 MS4 permit applications (EPA 833-B-92-002) indicates that "design criteria and performance standards" may be used to comply with this requirement. We believe that the Regional Board's proposal is fully consistent with this guidance.

The Regional Board's proposal would not be the first time that such numeric criteria have been used for new developments in California. The Regional Board's criteria already went into effect about 6 months ago in unincorporated areas of Los Angeles County via the recent NRDC settlement agreement. We understand from Regional Board staff that no evidence has surfaced thus far that the criteria are proving to be an excessive burden on developers. In addition, similar requirements are already in place in other parts of the country including the State of Florida (since 1982), and the Puget Sound area in Washington (since 1992); similar criteria have also been

proposed for the State of Maryland, and are already in effect in Prince George's County in Maryland. We understand that Regional Board staff have contacted these other States and again found that compliance with the standards is being widely achieved without an excessive burden on developers. As another example, the City of Phoenix requires retention facilities for the 100-year, 2-hour storm for new developments. The 100-year, 2-hour storm in the City of Phoenix is about 2.5" and substantially exceeds the storm which would need to be treated under the Regional Board's proposal. Nevertheless, compliance with the City of Phoenix requirement has also been achieved without an undue burden on the developers.

By specifying numeric criteria for post-construction storm water controls (as opposed to relying to a considerable degree on developers to include appropriate controls on their own), we believe that the proposal will better ensure that effective storm water pollution controls are included in the design of new developments. Thus, the proposal should lead to improved control of storm water pollution which the proposal cites as a significant factor currently contributing to the impairment of numerous rivers and streams in the Los Angeles area.

We are also concerned, however, that the Regional Board's proposal would exclude roofed surface areas in certain circumstances in the calculation of rainfall runoff. We believe that this provision could prove overly broad and may hinder implementation. As such, we would recommend that it be removed.

Thank you for the opportunity to review and comment on the proposed SUSMP. If you have any questions regarding this matter, please refer your staff to Eugene Bromley of the CWA Standards and Permits Office at (415) 744-1906.

Sincerely,

Alexis Strauss
Director, Water Division

cc: Xavier Swamikannu, Los Angeles Regional Board

'THERN CALIFORNIA

ASSOCIATION of GOVERNMENTS

Main Office

818 West Seventh Street

12th Floor

Los Angeles, California

90017-3435

t (213) 236-1800

f (213) 236-1825

www.scag.ca.gov

December 14, 1999

Mr. Dennis Dickerson, Executive Director
California Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Proposed Standard Urban Storm Water Mitigation Plan

Dear Dennis:

I am writing to express a great deal of concern among our member cities with the announced schedule for consideration of your newly proposed SUSMP on January 6, 2000. January 6 is the regularly scheduled meeting day when all of our Policy Committees and our Governing Board convene throughout that day. This means that many of our officials cannot participate in your meeting.

Because of the significance of the proposed SUSMP policy we request that you reschedule this matter for the Board's consideration and decision for a later meeting in January or February.

Many of our locally-elected officials are very interested in addressing the Board and offering suggestions at a later meeting. We also believe that the Board would be better served by providing ample time to interested members of the public in which they may consider your proposal and its new directions without the distractions or travel of the holidays.

Thank you for your interest and consideration.

Sincerely,

Mark Pisano
Executive Director

11-153-A-1

R0068373

PUBLIC WORKS AGENCY
county of ventura

Director
Arthur E. Goulet

Deputy Directors of Public Works
Wm. B. Britt
Transportation
John C. Crowley
Water Resources & Engineering
Kay Martin
Solid Waste Management
Jeff Pratt
Flood Control
Paul W. Ruffin
Central Services

January 14, 2000

Debbie J. Smith, Assistant Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: **PROPOSED STANDARD STORM WATER MITIGATION PLAN**

Dear Ms. Smith:

This letter comments on the groundwater aspects of the subject plan that will be before your board on January 26, 2000.

Ventura County Water Resources fully supports your plan and suggests additional protection for unconfined basins where groundwater has a very high potential of being contaminated. The suggestions noted are presently being implemented in Ventura County through CEQA conditions. Specifically, the following additions are suggested:

Page 9 Item 2., page 10 Item C1, page 11 Item D1, D2, D3.
Add a requirement to protect unconfined groundwater basins. **"Projects located over unconfined groundwater basins shall incorporate an impervious liner beneath the concrete. The liner shall be constructed with 80 mil. HDPE, all seams shall be lapped and sealed and sides shall be turned upwards to prevent lateral movement of contaminants except towards a collection sump which shall be designed to collect contaminants for proper treatment and/or disposal."**

The reason we are interested in this extra protection for concrete areas is that our experience has shown that areas beneath concrete slabs of refueling and industrial areas are invariably highly contaminated due to permeability induced by edges, cracks or expansion joints. LARWQCB records of contamination beneath old refueling station slabs and industrial shop floors will confirm our experience.

R0068374

Page 13, Item 12.
Add: **"Infiltration BMPs shall not be used to mitigate pollutants of concern when the project is located over an unconfined groundwater basin regardless of the separation to the water table."**

11-153-A-2

As you know, Ventura County has both confined and unconfined basins representing millions of acre-feet of groundwater. The aquifers in these basins are recharged through unconfined areas such as the Oxnard Forebay Basin, the Fillmore Basin, the Piru Basin and parts of other basins.

Page 4. Definitions
Add definition of sanitary sewer. **(Any definition that plainly states that a sanitary sewer is not a septic tank).**

We believe that these requirements apply to Los Angeles County, and we are especially interested in incorporation of these comments into any plan that will apply to Ventura County.

Should you desire further information, please call me at 805 648-9204.

Very truly yours,

Lowell Preston, Ph.D.
Manager of Water Resources

cc: Xavier Swamikannu, Storm Water Program

11-153-A-2

OFFICE OF THE CITY ATTORNEY
Long Beach, California

ROBERT E. SHANNON
City Attorney

HEATHER A. MAHOOD
Assistant City Attorney

PRINCIPAL DEPUTIES
Barbara O. de Jong
Richard L. Landes
Michael J. Mais
Daniel S. Murphy

DEPUTIES
William A. Rudder
Richard A. Alonso
Alan D. Bennett
Everett L. Glenn
Donna F. Gouin
Robert T. Higlit
Dominic T. Holzhaus
Richard P. Lopez
Lisa Perkay Melnstrom
Belinda R. Mayes
James N. McCabe
Susan C. Oakley
J. Charles Parkin
Michael M. Peters
Carol A. Slutz

January 14, 2000

Dennis A. Dickerson
Executive Officer
California Regional Water Quality
Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

VIA FAX

Re: **Standard Urban Stormwater Mitigation Plans (SUSMPs) for the City of Long Beach**

Dear Mr. Dickerson:

Please provide copies of this letter to the members of the Board and include it in the administrative record of the hearing on the above subject.

The City of Long Beach thanks the Regional Board and its staff for its efforts on behalf of stormwater runoff pollution mitigation. As part of its own continuing efforts in this regard, the City of Long Beach requests that the following comments be considered and addressed in the adoption of SUSMPs for the City of Long Beach as part of its separate permit. The primary issues, which will be elaborated upon in the body of this letter, are:

1. The findings contained in the Tentative Resolution should be revised to remove confusing references to "the permit" when two permits, Regional Board Order No. 96-054 (the "Countywide Permit") and Regional Board Order No. 99-060 (the "City of Long Beach Permit")are affected.

2. Pursuant to prior agreement, the implementation dates for those SUSMPs applicable to the City of Long Beach must be concurrent with those for the cities subject to the Countywide permit to avoid putting the City at an economic disadvantage.

3. The inclusion of numerical design standards as minimum design criteria should be deferred until such time as empirical data on the efficacy of such standards, obtained in this region or another region with a similar climate, is available.

R0068376

11-153-A-3

City Hall 333 West Ocean Boulevard, Eleventh Floor, Long Beach, California 90802-4664 (562) 570-2200 Fax (562) 436-1579
Workers' Compensation Eighth Floor (562) 570-2245 Fax (562) 570-2220

The Findings

The findings in the Tentative Resolution should be revised to reflect that two separate permits are affected by this resolution. These two permits were reached through two very different processes, and contain different procedures for modification and implementation. Finding 21 should be revised to reflect this. Similarly, Finding 13 should separately identify "Priority Projects" for each permit. Finding 5 should be revised to include references to the City of Long Beach, its receiving waters, its monitoring program, and its permit.

Implementation of SUSMP Requirements for the City of Long Beach

During negotiations for the settlement of the litigation between the City of Long Beach and the Regional Board, it was agreed that SUSMP requirements for the City would not take effect prior to the effective date for SUSMPs under the Countywide Permit. This issue arose during the hearing which resulted on the City of Long Beach's proposed permit, at which time it was agreed that the City should not be placed at an economic disadvantage by having its SUSMP effective prior to the requirements affecting the majority of the County. Members of the Regional Board staff have confirmed this sequence of events, which should be reflected in the Board's resolution. The Tentative Resolution is silent as to the implementation schedule for the SUSMP for the City of Long Beach.

The Countywide Permit anticipated that SUSMPs would be implemented 90 days following the next fiscal year following their adoption but no later than July 1999. While the City acknowledges that this date has past, a similar schedule of implementation is needed to avoid anticipated "taking" or related challenges from affected parties who have already initiated the planning review process with the City. development requirements should be scheduled to be implemented no sooner than 90 days following the start of the next fiscal year, but no sooner than the implementation date adopted under the Countywide Permit.

Numerical Design Standards

The adoption of numerical design standards as minimum design criteria is not supported by relevant empirical data or by any cost-benefit analysis. For these reasons, it fails to comport with either State or Federal law. Inclusion of numerical design standards as a voluntary standard or as part of an incentive program would assist in the collection of data relevant to this region and provide cities with a legal basis on which to defend the requirement.

Comments Submitted by the Executive Advisory Committee

As you are aware, the City of Long Beach has been an active participant in the development of the SUSMPs through the Executive Advisory Committee. To the extent that they apply to the four priority project categories contained in the City of Long Beach Permit, we join in the concerns expressed by the Executive Advisory Committee and its counsel.

We appreciate the opportunity to submit these comments as part of the administrative record for the January 26th hearing and hope you will give them thoughtful consideration. The City of Long Beach reserves the right to submit further comments at the hearing. Thank you for your efforts.

Very truly yours,

ROBERT E. SHANNON, City Attorney

By
LISA PESKAY MALMSTEN
Deputy City Attorney

LPM:et

CITY COUNCIL
NEW BUSINESS

January 18, 2000

SUBJECT: THE WEST HOLLYWOOD WATER CONSERVATION AND ENVIRONMENTAL WATER RUN-OFF ACT OF 2000

INITIATED BY: COUNCILMEMBER PAUL KORETZ
(Council Deputy, Scott J. Svonkin / Council Intern, Vickie Nuse)

STATEMENT ON SUBJECT:

This item asks the City Council to direct the City Attorney, Community Development Department and the Landscape and Building Maintenance Manager to research and develop a plan for implementing the goals outlined in the attached document.

RECOMMENDATION:

1) Direct Landscape and Building and Maintenance Manager to research the attached design standards and develop a plan to implement the goals of the attached document for city facilities prepare and present a report for the City Council.

2) Direct the City Attorney and the Community Development Department to research and develop a plan for implementing the goals outlined in the attached document

BACKGROUND ANALYSIS:

This item was developed with the help and support of Heal The Bay, working with City staff and the Cities consultant on water issues. Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and few measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

By adopting the proposed design standard the City of West Hollywood would take the lead among all the Los Angeles County cities in preventing urban runoff, the number one source of pollution to our coastal and inland waters.

The design standard was supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The design standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the proposed standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a cleaner environment, the City of West Hollywood should adopt the proposed standard to mitigate the effects of urban runoff from city property and new and redevelopment sites.

OFFICE OF PRIMARY RESPONSIBILITY:

Landscape Building and Maintenance

Community Development Department

FISCAL IMPACT:

Monies have been budgeted as a part of the existing contract with the city's consulting firm.

Staff will report back to Council with a cost analysis based on assessment of existing city properties.

By adopting the proposed design standard the City of West Hollywood would take the lead among all the Los Angeles County cities in preventing urban runoff, the number one source of pollution to our coastal and inland waters.

The design standard was supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

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In a region that is constantly being built and rebuilt, adoption of the proposed standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a cleaner environment, the City of West Hollywood should adopt the proposed standard to mitigate the effects of urban runoff from city property and new and redevelopment sites.

OFFICE OF PRIMARY RESPONSIBILITY:

PAUL KORETZ
Councilmember

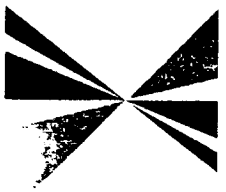
FISCAL IMPACT:

Undetermined.

11 - 153 - A - 8

R0068381

SOUTHERN CALIFORNIA



ASSOCIATION of GOVERNMENTS

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January 21, 2000

Mr. Dennis Dickerson, Executive Officer
Los Angeles Regional Water Quality Control Board
320 W. Fourth Street, Suite 200
Los Angeles, CA 90013-1105

SUBJECT: Standard Urban Stormwater Mitigation Plan (SUSMP)

Dear Mr. Dickerson:

Attached is the SUSMP policy statement adopted by our Regional Council on January 6, 2000. This statement reflects a policy process by which our Water Policy Task Force and our Energy and Environment Committee considered extensive testimony on this issue last year. You are already aware of the resolutions adopted by three of the subregional councils of governments in Los Angeles County.

During the Regional Council's deliberation comments were made that gave emphasis to varying environmental, economic and developmental concerns. All of these comments underscored the need for improved water quality in our region. Your Board should know that the Council voted unanimously to support this policy for environmental protection.

This action recommends that the Board pursue an alternative to the proposal developed by your staff. We believe that a much greater pollutant reduction can be achieved with a TMDL-driven numeric process than with a volume-driven numeric process. It should be significant to the Board that the approach we are recommending will accelerate a TMDL process that now is suffering from limited resources and staffing, not to mention needed participation. Where a volume-driven numeric approach is described as requiring between 50-100 years to bring desired water quality, a TMDL-driven numeric approach is likely to bring success much more quickly. This owes to its focus on, among other things, pollutants of concern, watershed-scale mitigation strategies and a larger public/private community through which raising financial and organizational resources can succeed.

With scarce resources at our disposal we must work for water quality in ways that best utilize these resources. For this reason, SCAG stands ready to work with you and the Board to develop the implementation schedules and program budgets needed for storm water pollution reduction in each of the County's six watersheds. Efforts underway such as those in the Malibu Creek Watershed offer an example of what needs to be started in other places of the Basin. We await word of the Board's interest in this accelerated approach to pollution reduction.

In the interests of sharing this vision with your Board, please assist us by earmarking 10 minutes for us to give our comments at the January 26th meeting.

Sincerely,

Mark Pisano

Mark Pisano,
Executive Director

R0068382

11-153-A-9

SUSMP Policy Approved by the Regional Council of the

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

(January 6, 2000)

The Southern California Association of Governments recommends that:

- ***the Los Angeles Regional Water Quality Control Board not adopt SUSMP numeric standards until such time as the Board can validate the feasible, technical and scientific bases for numeric standards.***
- ***the Board monitor pilot programs similar to those underway in Los Angeles County.***
- ***the Board work closely with cities such as Calabasas, Santa Clarita and Santa Monica to assess the effectiveness of local initiatives aimed at managing runoff water flows and quality.***
- ***the Board develop a Memorandum of Understanding with SCAG in which SCAG would incorporate a Best Management Practices for Preventing Storm Water Runoff Pollution in the Los Angeles Basin project in its Environmental Programs and Livable Communities work elements.***
- ***the Board ask SCAG to manage a legal authorities initiative in which all of the 85 cities in the Los Angeles Basin would work to develop model language which would then be available for municipal implementation throughout the Basin.***
- ***the Board invite SCAG to contribute its Section 208 authorities to a collaboration with other key organizations/stakeholders in scoping out plans for a watershed management initiative program in each watershed of the Basin.***
- ***the Board evaluate the operating results of watershed (regional) mitigation programs prior to its consideration of any general retrofit mandates on existing land uses.***
- ***the Board and SCAG cooperate with other stakeholders in putting best efforts into raising the new financial resources needed for planning and implementing these water quality commitments.***
- ***the Board's staff be encouraged to meet with those SCAG sub-regional councils affected by the SUSMP program prior to any Board action on these matters.***

The Regional Council calls for the participation of the various sub-regional councils, POTWs and other necessary entities in the development of watershed initiatives needed for reducing and managing storm water runoff pollution in the region.

11-153-A-10

STATE OF CALIFORNIA—THE RESOURCES AGENCY GRAY DAVIS, GOVERNOR

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400

January 20, 2000

California Regional Water Quality Control Board
Los Angeles Region
Mr. Dennis Dickerson, Executive Officer
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Proposed Standard Urban Stormwater Mitigation Plan

Dear Mr. Dickerson:

In light of your consideration of the proposed Standard Urban Stormwater Mitigation Plan for Los Angeles County and Cities in Los Angeles County, dated December 7, 1999, I wanted you to know that the California Coastal Commission has adopted, as guidance in carrying out its Coastal Act responsibilities, a *Plan for Controlling Polluted Runoff* (Coastal CPR Plan). The Coastal CPR Plan outlines the Commission's authorities to address polluted runoff and identifies actions, with timelines and milestones, to achieve the Commission's objective to reduce polluted runoff.

The Coastal CPR Plan addresses, among other issues, one raised in the proposed Standard Urban Stormwater Mitigation Plan. As adopted by the Commission on January 11, 1999, the Coastal CPR Plan includes language on capturing, infiltrating or treating urban runoff up to and including the 85th percentile storm, or 10% of the fifty-year storm. This language serves as guidance for the case-by-case review of projects pursuant to the Commission's regulatory and planning responsibilities under the Coastal Act.

Accordingly, we want to express support for the language in Section 9 (Design Standards for Treatment Control BMPs (page 8 of 17, Final Tentative, December 7, 1999)) of the Standard Urban Stormwater Mitigation Plan that states:

Post-construction Treatment Control BMPs shall be designed to:

A. mitigate (infiltrate or treat) storm water runoff from either:

1. each runoff event up to and including the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87* (1998) or
2. the volume of annual runoff based on unit basin storage water quality volume, to achieve 85 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook-Industrial/Commercial* (1993), or ....

Thank you for your consideration of our comments. Please feel free to call me (415/904-5265) if you have any questions.

Sincerely,

Jaime C. Kooser, Ph.D.
Deputy Director,
Energy, Ocean Resources, and Water Quality

11-153-A-11

R0068384

Ventura Countywide Stormwater Quality Management Program

2000 JAN 24 P 12:44

Participating Agencies

Camarillo

County of Ventura

Fillmore

Moorpark

Ojai

Oxnard

Port Hueneme

San Buenaventura

Santa Paula

Simi Valley

Thousand Oaks

Ventura County Flood Control District

January 14, 2000

Mr. Dennis A. Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Subject: Standard Urban Stormwater Mitigation Plan for Los Angeles County and Cities in Los Angeles County (SUSMP)

Dear Mr. Dickerson:

The Ventura County Flood Control District (NPDES Permit CAS063339) offers the following comments on the SUSMP proposed by the Regional Board for the stormwater programs in Los Angeles County. Our comments are provided given that approval of the numerical mitigation standard in the SUSMP has the potential to have a significant effect on the Ventura Countywide Stormwater Quality Management Program (Program) as well as other programs throughout the state.

Numerous treatment control Best Management Practices (BMPs) have been designed and built in Ventura County utilizing Program guidelines that deal with new development projects. The experience that we have gained has allowed us to take a practical look at design criteria. We feel strongly that when design standards are imposed, they should be written in a manner that is appropriate and technically sound. The proposed SUSMP, as presently written, will be extremely confusing to public agencies and engineers charged with designing facilities that comply with the specified criteria. The comments below are limited to technical issues that we feel need to be addressed and corrected prior to approval of the SUSMP document. Other details such as opportunities for regional facilities and credits for total design policies should be dealt with in a comprehensive stormwater quality mitigation plan.

1. SUSMP Design Standards

On September 13, 1999 in a letter to Dr. Xavier Swamikannu, we requested that the approach for the design of both volumetric and flow-based treatment control BMPs that has been successfully utilized in the design of BMPs on new development projects, i.e., *Unit basin storage volume design based on 70% capture of annual runoff and flow based design criteria based on 10% of the peak 50-year flow rate from impervious areas calculated using standard flood hydrology,* be considered as an option in the SUSMP. We subsequently provided back up documentation to show the equivalence of our 70% capture of annual runoff to the 0.75" rainfall capture criteria presented in the

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R0068385

11-153-A-12

original SUSMP. The "SUSMP Summary of Comments Received and Response" (Response to Comments) misinterprets Ventura County's comment by indicating that we requested inclusion of peak flow rate control. In addition, the Response to Comments includes an action to add "eighty five percent treatment of annual runoff volume as an equivalent mitigation criteria".

Inclusion of Peak Flow Rate Control as a Treatment BMP Design Criteria

It appears that the added condition B under Section 9 is an attempt to address Ventura County's request for the inclusion of a flow-based design criteria. This added language, as well as the language in the attached tentative resolution and the Response to Comments, indicates a confusion in the difference between requirements for peak flow rate control versus a standard that allows the use of low flow-based water quality treatment control BMPs. The current language in the SUSMP sets design standards for treatment control BMPs based upon a combination of four volume-based design options AND the "control of peak flow discharge" with no consideration of a design standard for BMPs that require a flow-based design. The language in the proposed SUSMP gives the designer an apparent flexibility in their choice of BMPs. This choice is important due to the wide ranges of land development types, pollutants, sensitive groundwater basin locations and BMP treatment control effectiveness. However, the present language limits the choices to those with volume-based design criteria, i.e. detention basins, infiltration basins. With the present language an engineer wanting to utilize any flow-based BMP, i.e., swales, filters, treatment devices, would need to make assumptions on technical items such as duration, frequency, and/or flow rate, leading to variable outcomes that could not assure compliance with the criteria as written.

When we asked questions on the above issue, your staff referred us to the State of Maryland's Stormwater Design Manual (Maryland Manual). This document is comprehensive and presents an approach for sizing stormwater facilities "to meet pollutant removal goals, maintain groundwater recharge, reduce channel erosion, prevent overbank flooding and pass extreme floods". It is clear when they are dealing with the reduction of peak stormwater flow for flood control and when they are dealing with low flow pollutant removal sizing criteria. The design sizing criteria for water quality is volume-based when the options given require a volume-based design. Examples are included. Redevelopment is encouraged in order to reduce urban sprawl and although redevelopment projects are encouraged to implement BMPs, they are not required to meet the design standards and performance criteria established. This appears to allow flexibility for the use of other BMPs, including those requiring a flow-based design, on redevelopment projects. A careful review of documents like this one, that appear to be based on years of experience, may be helpful in development of appropriate criteria.

SUSMP Design Standard Options Are Not Technically Equivalent

While the most recent SUSMP does present Ventura County's volumetric methodology as an option, it sets the runoff volume standard for Los Angeles at 85% capture. We are pleased that the SUSMP now includes our methodology, but request review of the back up calculations and modification of the percent capture to reflect equivalent standards. The document, "Calculations to Determine Equivalent Percent

Volume Capture Criterion", Swamikannu 12/12/99 appears to be inadvertently based on the rainfall curves for Bishop, CA. These curves are found one page before the page in the California Stormwater Best Management Practices Handbook (State Handbook) that contains the Los Angeles Airport curves. We request that the back up documentation be reviewed and the standards be set in an equivalent manner. Reducing the percent of runoff volume captured to a number is consistent with the proposed 0.75" rainfall criteria will have minimal effect on pollutant removal.

2. The SUSMP Encourages Directly Connected Impervious Areas (DCIA)

A basic and effective site design principle for stormwater management is to minimize the amount of DCIA. In some cases, even directly connected "clean" run-off can decrease treatment efficiency as well as increase flood and erosion potential. However, the proposed SUSMP language encourages the direct connection of roof drains by allowing the exclusion of their area from the area for calculation of rainfall or runoff volume to be treated provided they connected directly to the storm drain system. This may not be appropriate in many cases and appears to be contrary to other parts of the document that encourage projects to mimic predeveloped site conditions. In the Maryland Manual, stormwater credits are allowed for innovative site planning practices, one of which is "the disconnection of rooftop runoff".

The content of the SUSMP appears to have the potential to have far-reaching effects on many communities. We urge you to take the time to work with our county and others with experience in the design, construction and maintenance of treatment control BMPs as well as all other interested parties to discuss development of appropriate standards. We look forward to working with you on this issue.

If you have any questions please call me at (805) 654-5051.

Very truly yours,

V. Musgrove

Vicki Musgrove
Manager, Stormwater Quality Section

REVISED
Item 11 - SUSMP Public Comment Letters
In Support of Staff Proposal to Reduce Runoff

Example of the form letter received by the persons listed below is attached for your information.

Haan Fawn, Resident, Los Angeles
Karineh Sankian, Resident, La Crescenta
Chua Waul, Resident, Los Angeles
Todd Nora, Resident, Santa Monica
Grant Ramey, Resident, Santa Monica
William Kozma, Resident, Malibu
Rich Thigpen, Resident, Culver City
Victoria Wikle, Resident, Calabasas
Nancy Akers, Entertainment Marketing, Los Angeles
Bonnie Shatz, Saving Life on Earth
Hona Hyun, Resident, Resident, Los Angeles
Nola Butler Byrd, Resident, Lakewood
Jennifer Laird, Resident, Studio City
Eileen Espejo, Resident, Long Beach
Amo Tran, Resident, Rosemead
John Treanor, Resident, Venice
Stacey T. Hull, Resident, Glendora
Rachel McNevin, Resident, Santa Monica
Alex Huters, Resident, Pacific Palisades
Dayna Harary, Resident, Los Angeles
Susan Chun, Resident, Los Angeles
Azure Gilman, Resident, Santa Monica
Jeff Conn, Resident, Pacific Palisades
Cristie Moon, Resident, Venice
Thomas Fleming, Resident, Santa Monica
Randall, Resident, Santa Monica
Gabriele Morgan, Resident, Santa Monica
Jon M. Leader, Resident, Los Angeles
Syed Kazim Raza, Resident, Encino
Debra O'Hare, Resident, Oak Park
Penelope Moffet, Resident, Los Angeles
Madeleine Schwab, Resident, Santa Monica
Marti Witter, Resident, Topanga
Kathryn Gaffrey, Resident, Santa Monica
Daniel Linde, Resident, Santa Monica
Liz Provenzano, Resident, Los Angeles
Victor Chun, Resident, Los Angeles
Charleene Johnson, Resident, Malibu
Eduart Ourdufuanan, Resident, Tujunga
Tessy-Anna Hakkinen, Resident, Los Angeles
Takuro Imagana, Resident, Torrance

Anne Swater, Resident, Los Angeles
Celine Torbert, Resident, Los Angeles
Hannah Shoman, Resident, Los Angeles
Sarun Pape, Resident, Los Angeles
Kelly Wegan, Resident, Los Angeles
Moira Beery, Resident, Los Angeles
Stephanie T. Schroeder, Los Angeles
Samuel Studer, Resident, Los Angeles
Corena Bowers, Resident, Portland, OR

South Bay Surfrider Chapter

Steve Fisher
Jason Ritacco
Edward Vincent
Shiela Tamb
Cynthia Page
Tom Marollino
Thomas Salice
Jeffrey Thomas Thatcher
R.J. Ardon
Mitchell Lambert
Lawrence Eason
Lisa Hinkley
B.J. Phelp

October 5, 1999

Mrs. Victoria R. Ballesteros
3723 Tracy Street, #3
Los Angeles, CA 90027

Mr. Dennis Dickerson
Executive Director
L.A. Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Dickerson:

I am writing to urge you to enact the mandate that would require all cities in Los Angeles County to ensure that new developments capture either 85% of the runoff from a storm in a 24-hour period or the first three-fourths of an inch of rain.

I am aware that you are being pressured by the approximately 50 cities in the county to refrain from enacting this mandate, and that they are citing the cost as a primary reason for their objection. However, I feel that we cannot afford to continue polluting our oceans at the rate we currently are. Just last month Huntington Beach had to remain closed for weeks because of pollution. Sadly, business owners and city officials were more concerned with losing tourist dollars than they were with the damage that is being done to our oceans. I don't believe that cities have the right to save a few dollars in profit at the expense of our oceans.

Our beaches are one of earth's most precious resources. If we continue polluting the ocean unchecked, it is likely that generations to come may not enjoy them in the same way as we all take for granted. You are in a unique position to protect this invaluable resource. Please do not give in to the cities that are more concerned with the short term monies that will have to be spent to save the oceans. I fear that in the long term, my six month old son may not be able to take his children to visit our beautiful oceans.

I cannot compete with the pressure that so many cities are putting on you. I am only one very concerned citizen who feels passionately about preserving the oceans for generations to come. But I can tell you that you are in a position to do a very courageous thing, one that will have such positive ramifications for so many years to come. I urge you, please, enact the mandate that will require L.A. County cities to do their part to keep our oceans clean.

Sincerely,

VICTORIA R. BALLESTEROS

11-154

DOROTHY GREEN
801 HOLMBY AVENUE, LOS ANGELES, CA, 90024
310-270-4151 FAX: 310-270-4152

December 17, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Dickerson:

I, among many others, are concerned about the proposed storm water rule that will require the retention of water on site as a major way of alleviating some of our water quality problems.

As you know, the Los Angeles area is considered among the most polluted in the country, the landscape has been paved over, dramatically increasing both the amount of runoff, and the amount of pollution contained in that runoff. As the city is rebuilt, and most of it will be within the next 50 years, it is incumbent on all of us to do whatever we can to alleviate this problem and the public health issues which come as a direct result.

There are other benefits that can come from retaining storm water on site. Principal among them is augmenting our drinking water supply. About a third of our water supply comes from local ground water resources. As the city has been paved over, much less water is able to infiltrate into the ground. Only 5% of one inch storms historically ran off. Now about 50% of small storms are directed into our storm drain systems, and run off. This water should be captured so that we can lessen our need to import water from so far away.

For these and many other reasons, I am asking that you approve your staff's recommendations to require the retention of all ¾ inch storms on site for new construction. This is the least we can do to ensure healthy beaches, and coastal waters, cleaner rivers and streams.

Thank you for your kind consideration.

Sincerely,

Dorothy Green

11-155

CHATTEN-BROWN AND ASSOCIATES
10951 WEST PICO BOULEVARD
THIRD FLOOR
LOS ANGELES, CALIFORNIA 90064
TELEPHONE:(310) 474-7793
FACSIMILE: (310) 474-8504
E-mail: jchatten@earthlink.net

JAN CHATTEN-BROWN
DOUGLAS CARSTENS

KIMBERLY LEWAND
kimlewand@aol.com
Of Counsel

October 11, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. On January 6, 2000, we urge you to adopt the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

We have been brought to this crossroads by extensive development that completely disregards the quality and quantity of runoff generated. The Los Angeles Region already suffers from some of the worst water quality in the nation. Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

11-156

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In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our

streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Kim Lewand

Kimberly E. Lewand
Chatten-Brown and Associates

11-157

The Chamber
Long Beach Area Chamber of Commerce

October 14, 1999

Mr. Dennis Dickerson
Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: Standard Urban Storm Water Mitigation Plans (SUSMPs) Submitted For Approval To The Executive Officer Under The Los Angeles County Municipal Storm Water Permit (Public Notice No. 99-047)

Dear Mr. Dickerson:

The Long Beach Area Chamber of Commerce (The Chamber) has reviewed the Regional Water Quality Control Board's proposal to incorporate numeric mitigation measures (the first 0.75 inches of rainfall within a 24-hour storm event) into the SUSMPs. While The Chamber fully supports stormwater pollution reduction programs, we must express our concern with the numeric mitigation measures and offer some alternatives prior to the adoption of the SUSMPs.

On June 30, 1999 the California Water Quality Control Board unanimously adopted Order No. 99-060 making the City of Long Beach the first City in Los Angeles County to administer and implement its own Municipal Stormwater Permit. The Permit already incorporates many BMPs (Best Management Policies) and site specific SUSMP requirements. For example, at a minimum, peak runoff rates cannot exceed predevelopment levels, for developments where the potential for increased storm water discharge rates can result in an increase in downstream erosion potential and 25 percent of required landscape areas for new developments must be vegetated with xeriscape. Therefore, The Chamber is fully committed to the development of citywide SUSMPs, for the specific development categories detailed in our Permit, and requests the Board to consider the following prior to adoption:

- Studies to determine the "Pollutants of Concern" from storm drains in local/regional receiving waters and their true impact on beneficial uses. Is the 0.75" runoff mitigation appropriate and effective?

- Site specific studies to determine the impacts of runoff mitigation on water tables, soils and other environmental concerns unique to certain areas/cities.

- Studies to determine the 0.75" runoff mitigation's economic impact on new development and on Cities' economies implementing SUSMPs containing these numeric limits.

- Cost Analysis for the implementation and ongoing maintenance of Treatment Control BMPS.

One World Trade Center, Suite 206, Long Beach, CA 90831-0206
(562) 436-1251 ■ FAX (562) 436-7099 ■ http://www.lbchamber.com

11-158

- Cost benefit and effectiveness analysis of the 0.75" retention/treatment within the 24-hour period on the pollutants of concern on the receiving waters and impact on beneficial uses.

- Local/regional water studies and multi-year region specific monitoring and related data collection.

The Chamber supports the cities of Long Beach, Los Angeles and Lakewood and the Executive Advisory Committee in their opposition to the prescriptive measures and respectfully requests the Board give cities the opportunity to study and select programs that will result in real water quality improvements without significant unnecessary expenditures.

Sincerely,

Daymond W. Rice
Vice President Government Affairs

ENTERTAINMENT MARKETING

OCT 25 1999

BY:.....

October 20, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. Brought to this point by extensive development with a complete disregard for the quality and quantity of runoff generated, we stand at a point where approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

On January 6, 2000, you and the Board have the opportunity to change our course toward worsening water pollution by adopting the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to a three-quarter inch storm. The Los Angeles Region already suffers from some of the worst water quality in the nation. Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach...[that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

(continued...)

11-160

10430 Scenario Ln. • Los Angeles, CA 90077 • (310) 474-1224 Voice / (310) 474-4556 Fax
owear@earthlink.net E-mail

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coast waters. For the health of the aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Nancy M. Akers

AH
HA

Andrew Halpern

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

October 20, 1999

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. Brought to this point by extensive development with a complete disregard for the quality and quantity of runoff generated, we stand at a point where approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

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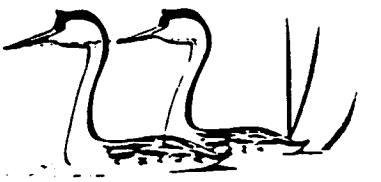
Sincerely,

Katie Jones 11-162

R0068398

514 Muskingum Avenue Pacific Palisades 90272 | Telephone 310.459.5657 Fax 310.459.8704

Ballona Wetlands Foundation



Preservation • Restoration • Education

October 21, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. Brought to this point by extensive development with a complete disregard for the quality and quantity of runoff generated, today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

On January 6, 2000, you and the Board have the opportunity to change our course toward worsening water pollution by adopting the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to a three quarter-inch storm. The Los Angeles Region already suffers from some of the worst water quality in the nation. Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

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In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Wendy Rains
Executive Director

11-163

318 B Culver Boulevard, Playa Del Rey, California 90293
(310) 574-0700 Fax (310) 574-9434 bwf@ballona-wetlands.org

HELLMUTH, OBATA + KASSABAUM, INC.

Interiors

October 22, 1999

Mr. Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. Brought to this point by extensive development with a complete disregard for the quality and quantity of runoff generated, today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

On January 6, 2000, you and the Board have the opportunity to change our course toward worsening water pollution by adopting the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to a three quarter-inch storm. The Los Angeles Region already suffers from some of the worst water quality in the nation. Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

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In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Susan Grossinger
Senior Vice President, Hellmuth, Obata + Kassabaum, Inc.
Member, Board of Directors, Heal the Bay

1655 26th Street, Suite 200
Santa Monica, California 90404 USA
Voice +1 310 453 0100 Fax +1 310 453 2052

11-164

KINSELLA, BOESCH, FUJIKAWA & TOWLE, LLP
INCLUDING PROFESSIONAL CORPORATIONS
LAWYERS
1901 AVENUE OF THE STARS, SEVENTH FLOOR
LOS ANGELES, CALIFORNIA 90067

PHILIP W. BOESCH, JR.
DIRECT LINE (310) 201-2002

TELEPHONE NUMBER
(310) 201-2000

FACSIMILE NUMBERS
(310) 284-6018
(310) 284-6020

OUR FILE NUMBER

November 2, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. Brought to this point by extensive development with a complete disregard for the quality and quantity of runoff generated, we stand at a point where approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

On January 6, 2000, you and the Board have the opportunity to change our course toward worsening water pollution by adopting the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to a three quarter-inch storm. The Los Angeles Region already suffers from some of the worst water quality in the nation. Your staff's proposal is supported by the *Los Angeles Times* in its October in its October 6th editorial as a "promising new approach ... [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

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dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Philip W. Boesch, Jr.

PWB\ro

H:\pboesch\LDICKERSON.WPD

Date:

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles. California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. On January 6, 2000, we urge you to adopt the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

We have been brought to this crossroads by extensive development that completely disregards the quality and quantity of runoff generated. The Los Angeles Region already suffers from some of the worst water quality in the nation. Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

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Sincerely,

Victoria Wikle

Name:
Address:

Victoria Wikle
25053 Mulholland Highway
Calabasas, California 91302

11-167

ENTERTAINMENT MARKETING

November 30, 1999

Mr. Dennis Dickerson
LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. On January 6, 2000, we urge you to adopt the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three-quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

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Sincerely,

Nancy M. Akers

Nancy M. Akers

NMA:ms

11-168

10430 Scenario Lane · Los Angeles, CA 90077 · (310) 474-1224 / (310) 474-4556 Fax
E-mail: owear@earthlink.net

R0068404

Community Coalition for Change
CCC
Improvement Through Action
Founded 1994

December 6, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the *number one source of pollution to our coastal and inland waters.* In January 2000, I urge you to adopt the reasonable proposal set forth by your own staff to curb urban runoff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

11-169

PO Box 59027, Los Angeles, California 90059 • Voice Mail (310) 609-4309 • Fax (310) 527-2774 e-mail CCChange@aol.com

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Rahman Shabazz, President
Community Coalition for Change

December 7, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Support for Staff Proposal to Reduce Runoff New and Redevelopment.

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. On January 6, 2000, we urge you to adopt the reasonable proposal set forth by your own staff. Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening

water pollution.

We have been brought to this crossroads by extensive development that completely disregards the quality and quantity of runoff generated. The Los Angeles Region Already Suffers from Some of the worst water quality in the nation. Today approximately 50% of our rainfall is coverted into runoff that builds in toxicity as it crosses parking lots, building sites, Industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measureable requirements in the municipal storm water permits we have countless beaches that frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and coastal waters that pose menHin risks to aquatic life.

Your staff's proposal is supported by the "Los Angeles Times" in its

October 6th editorial as a "promising New approach ... [that] could well keep ocean pollution from worsening and help prevent beach closing;" and a "good start in dealing with tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

-11122

- In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amout of polluted runoff that invades our streams, rivers and coastal waters, for the health of local aquatic life, for the health of 40 million people who visit Los Angeles County beaches annually, for the health of our regional economy. and for a more livable Los Angeles, Please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment

Sincerely

Sofia Mas

Sofia Mas
5312 Carteen Pl #14
N Hollywood, CA 91607

R0068410

11-14

Elizabeth Schuster
485 West California Blvd.
Pasadena, CA, 91105

December 8, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 6, 2000, I urge you to adopt the reasonable proposal set forth by your own staff to curb urban runoff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

Your staff's proposal is supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings." and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Elizabeth Schuster

R0068411

DEFEND THE BAY

A CALIFORNIA NON-PROFIT CORPORATION - FOUNDED 1995

Created to defend Newport Bay and public areas from potentially detrimental influences affecting the ecology and public health.

(949) 722-7822
FAX 722-6911

SUITE 200
471 OLD NEWPORT BLVD.
NEWPORT BEACH
CALIFORNIA, 92663

December 12, 1999

Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013-1105
Attn: Dennis Dickerson

RE: Storm water runoff standards

Dear LARWQCB:

I am writing to encourage you to set storm water runoff standards as soon as possible.

Storm water runoff is a huge source of pollution for our recreational waters and clearly degrades our oceans and bays to the point where they are not suitable for human contact for days after a significant storm event.

This does not have to be the case. The technology exists to reduce pollutants, but the business community will not be interested in installing retention basins, etc, until the RWQCB mandates their installation.

There is no reason to delay the implementation of runoff standards. The Los Angeles region has made huge strides in setting these standards, with significant input from the stakeholders. It is time to put these standards into effect now.

Thank you,

Bob Caustin

Robert Caustin
Founding Director

11-175

R0068412

CALPIRG
California Public Interest Research Group

STATE OFFICE
Los Angeles
11965 Venice Blvd. #408
Los Angeles, CA 90066
(310) 397-3404
(310) 391-0053 Fax
http://www.pirg.org/pirg/

LEGISLATIVE OFFICE
Sacramento
926 J St. #523
Sacramento, CA 95814
(916) 448-4516
(916) 448-4560 Fax

December 15, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

I am writing on behalf of the California Public Interest Research Group (CALPIRG) to urge you to take action in January, 2000 to significantly reduce urban runoff, the *number one source of pollution to our coastal and inland waters*. Specifically, we urge you to adopt the reasonable proposal set forth by your own staff to ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

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R0068413

Berkeley
2034 Blake St. #9
Berkeley, CA 94704
(510) 644-3454

San Diego
3960 Park Blvd. Ste A
San Diego, CA 92103
(619) 297-5512

San Francisco
450 Geary St. #500
San Francisco, CA 94102
(415) 292-1487
(415) 292-1497 Fax

Santa Cruz
149 C Josephine St.
Santa Cruz, CA 95060
(831) 459-0553

Santa Barbara
1129 State St #10-B
Santa Barbara, CA 93101
(805) 564-1207
(805) 965-8939 Fax

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Heather L. Hoecherl
Staff Attorney
California Public Interest Research Group

11-177

CALIFORNIA
CEA ENVIRONMENTAL
ASSOCIATES

December 16, 1999

Dennis Dickerson, Executive Director
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Dear Dennis,

As a representative of Burger King Corporation, California Environmental Associates (CEA) has been monitoring and participating in the storm water policy efforts of the Regional Water Quality Control Board (Board). We have received the revised Standard Urban Storm Water Mitigation Plan (SUSMP) rule packet and have concerns about the deadline for submitting comments.

We are familiar with the revised SUSMP rule and are currently working with our contractors, architects, and franchisees to assess the impacts of the requirements and develop comments for submittal to your office by December 20, 1999 in preparation for the January 6, 2000 Special Board Meeting. We have also discussed the revised SUSMP rule with the California Restaurant Association and are working with them to notify their members of the proposed rule. Given the short turn-around time and the impending holidays, Burger King, and the industry as a whole, does not have adequate time to fully review, analyze and develop comments to meet these deadlines. Therefore, we request that you extend the review and comment period and move the Special Board Meeting to a date no earlier than January 26, 2000.

While Burger King is interested in working with Los Angeles County and the Board on the development and adoption of a successful SUSMP program, we are concerned about the significant impacts to restaurant development and operations in Los Angeles County and providing an opportunity for all stakeholders in the industry to respond. Our ability to provide your office with accurate and valuable comments requires that we be afforded additional time to see that this takes place.

Regards,

John D. Claussen
on behalf of Burger King Corporation

cc: Jot Condie, Director of Government Affairs, California Restaurant Association
Marion Hoffman, Government & Community Affairs, Burger King Corporatior
Buzz Alexander, Corporate Architect, Burger King Corporation
Rick Burket, Director of Development - West, Burger King Corporation

423 Washington Street, 3rd Floor • San Francisco, CA 94111 • Ph: 415/421-4213 • Fax: 415/982-7989

11-178

STORM WATER REPORT:

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD PROPOSES DRACONIAN REGULATION OF COMMERCIAL AND RESIDENTIAL DEVELOPMENT[1]

ISSUE 2

December 7, 1999, Dennis Dickerson, Executive Director of the Los Angeles Regional Water Quality Control Board (Board) issued the Proposed Standard Urban Storm Water Mitigation Plan (Plan). The Plan will impose significant new regulation on almost all new and existing residential developments, businesses and real estate developers generally. These regulations threaten to terminate all development and redevelopment in Los Angeles County. This report summarizes the Plan and analyses its practical and legal implications. Finally, this report recommends further action by potentially affected parties to bring balance and clarity to the Plan.

WHO IS REGULATED?

The Plan imposes significant new regulations on eight non-industrial categories as follows:

1. Single-family hillside residences;
2. Hundred thousand square foot commercial developments;
3. Automotive repair shops;
4. Retail gasoline outlets;
5. Restaurants;
6. Subdivisions with ten or more housing units;
7. Parking lots, 5,000 square feet or more; and
8. All development adjacent or discharging to an "an area of Special Biological Significance designated by the State Water Resources Control Board, or designated as a

[1] "The Storm Water Report is a newsletter by S. Wayne Rosenbaum, Esq. and Charles V. Berwanger, Esq. It is intended for the use of our clients and associates. You may receive the Storm Water Report by e-mail. In order to minimize costs, and impact on the environment, we request that those readers who use e-mail provide our office with their address. The Storm Water Litigation Report is an information service only. The Report is not intended to provide legal advice. Before taking any action based upon the contents, you should consult legal counsel. In addition, this Report does not necessarily reflect the opinions or views of Higgs, Fletcher and Mack, LLP. We appreciate and reserve the right to publish comments and contributions by our readers. Please E-mail us at rosen@higgslaw.com.

Significant Natural Area by the California Resources Agency or designated as an area of Ecological Significance by the county of Los Angeles."[2]

The Plan captures both new development and redevelopment. The regulation defines new development as:

Land disturbing activities;

1. Structural development, including construction or installation of a building or structure;

2. Creation of impervious surfaces; and

3. Land subdivision.

Redevelopment is defined thusly:

1. The creation or addition of impervious surfaces;

2. The expansion of a building footprint or addition to or replacement of a structure;

3. Structural development including an increase in the gross floor area or exterior structural remodeling;

4. Replacement of an impervious surface that is not part of a routine maintenance activity; and

5. Land disturbing activities related to structural or impervious surfaces on or adjacent to an already developed site.

Thus, the Plan impacts literally all development or redevelopment in Los Angeles County.

WHAT ARE THE NEW REQUIREMENTS?

The Plan imposes eight general storm water control requirements on all the development or redevelopment categories listed above. It further imposes additional specific requirements for each of the eight categories.

General Requirements

The general requirements imposed on all development and redevelopment projects are as follows:

[2] In some watersheds this requirement may affect all development and redevelopment projects.

1. Post-development peak storm water runoff discharge rates may not exceed predevelopment rates.

2. Subdivision designs must:

(a) Concentrate or cluster development on the development site for the purpose of leaving the maximum amount of land in natural, undisturbed condition;

(b) Minimize clearing and grading of native vegetation;

(c) Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants; and

(d) Preserve riparian areas and wetlands.

3. Regulated development and redevelopment projects must be designed to minimize "to the maximum extent practicable" the introduction of pollutants of concern that may result in significant impacts, generated from runoff.[3] Pollutants of concern are defined to consist of any pollutant that exhibits one or more of the following characteristics:

(a) Current loadings or historic deposits impacting one or more beneficial uses of the receiving water;

(b) Elevated level of a pollutant are found in sediments of the receiving water or has the potential to bio-accumulate in organisms in the receiving water; or

(c) The detectable inputs of the pollutant are at a level high enough to be considered potentially toxic to humans, flora or fauna.[4]

4. Development and redevelopment projects generally must include best management practices to decrease the potential of slope or channel erosion. Those best management practices include:

(a) Capture and convey runoff safely from tops of slopes and stabilize disturbed slopes;

(b) Stabilize permanent channel crossings;

(c) Vegetate slopes with native or drought tolerant plants;

[3] The Plan does not define "maximum extent practicable." Does it include a cost/benefit analysis? Does it contemplate the Board may require changes in the development's density, intensity or type? The Plan is not clear on these issues.

[4] This requirement could result in an absolute discharge prohibition for projects whose storm water would normally drain either directly or indirectly to a 303(d) impacted water body or toxic hot spot. If the project can not be operated without such discharge, does the Board have the power to kill the project? The Plan does not expressly deal with this issue.

(d) Install energy dissipaters at the outlets of new storm drains, culverts, conduits or channels.

5. "Stencil" storm drains to discourage illegal dumping.[5]

6. Where proposed projects include outdoor areas for storage of any materials[6] the following structural best management practices are required:

(a) Areas where materials must be stored include:

(i) In enclosures such as cabinets and sheds to prevent contact of "materials" with runoff or spillage to storm water conveyance systems; or

(ii) A secondary containment structure such as berms dikes or curbs.

(b) The storage area must be paved and sufficiently impervious to contain leaks and spills; and

(c) Where feasible, the storage area should have a roof or awning to minimize collection of storm water in the secondary containment area.

7. All trash container areas must meet the following structural best management practices:

(a) Drainage from adjoining roofs and pavements must be diverted around trash container areas; and

(b) Trash container areas must be screened or walled to prevent off site transport of trash.

8. Municipalities regulated by the Board shall require developers or applicants for construction permits subject to any of the eight regulated categories to provide verification of maintenance and repair provisions and funding for such provisions of the best management practices through such means as may be appropriate, including but not limited to:

(a) Legal agreements:

(b) Covenants; or

(c) Conditional use permits.

[5] In the finest traditions of verbing nouns and bureaucrat speak, the Plan uses the noun "stencil" as a verb.

[6] The plan does not define "materials."

For all properties, such provisions shall include the developer's written commitment to accept responsibility for the maintenance of all structural best management practices until the property is transferred.

9. Best management practices shall infiltrate or treat all potential runoff produced from each and every storm up to and including .75 inches of rainfall prior to its discharge to a storm water conveyance system.[7] Further, best management practices must control peak flow discharge to provide stream, channel or bank flood protection based on flow criteria selected by the local agency.

In calculating the volume of water to be captured for infiltration or treatment, roofs may be excluded provided:

(a) The roof will not be a source of pollutants of concern[8]:

(b) Storm water from the roof is diverted directly to a storm water conveyance system:

(c) Roof mounted exhaust vents, filters and air pollution control devices will not contribute pollutants of concern into the storm water: and

(d) The storm water conveyance system does not directly or indirectly discharge to a natural stream or unlined channel or channel segment scheduled for restoration.[9]

Provisions Applicable to Specific Development Categories

In addition to the nine requirements listed above, each of the eight project categories has additional specific requirements. They include the following:

Hundred Square Foot Commercial Developments

1. Loading docks must be covered and designed to minimize run-on and run-off of storm water. Further, direct connections to storm drains from depressed loading dock drains are prohibited.

2. Repair and maintenance bays must be indoors or designed in such a way that does not allow storm water run-on or run-off. Repair and maintenance bays must be designed to

[7] While the proposed Plan provides for alternative measures of storm water capacity, the resulting volume to be captured and treated will not vary significantly from the .75 inch criteria.

[8] It is unclear whether prohibition includes aerial deposition that has been shown to be a significant contributor to pollutants of concern in storm water.

[9] What does "scheduled for restoration" mean? By whom? When? The Plan provides no guidance on these issues.

capture all wash water, leaks and spills. Direct connection of repair and maintenance bays to the storm drain system is prohibited. In some jurisdictions this may require operators to obtain an industrial waste discharge permit.

3. Vehicle and equipment washing areas must be self-contained, covered, equipped with a clarifier or other pretreatment facility and properly connected to the sanitary sewer.

Restaurants

An area must be supplied for the washing and cleaning of equipment. This area must be self-contained, equipped with a grease trap and properly connected to a sanitary sewer. If this wash area is outdoors, it must be covered, paved, have secondary containment and be properly connected to the sanitary sewer.

Retail Gasoline Outlets

Fuel dispensing areas must be covered with an overhang structure or canopy which prevents storm water from draining onto such areas. The overhang structure or canopy down spouts must be routed to prevent drainage across fueling areas. Fuel dispensing areas must be paved with Portland Concrete. The fuel dispensing areas must have a two to four percent slope to prevent ponding and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable. At a minimum, concrete fuel dispensing areas must extend two meters from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus one foot whichever is less.

Automotive Repair Shops

1. Fuel dispensing areas are regulated as described above for retail gasoline stations. In addition, repair and maintenance bays must be indoors or designed to prevent storm water run-on and run-off.

2. Repair and maintenance bays must be designed to capture all wash water, leaks and spills. Direct connection of repair and maintenance bays to the storm drain system is prohibited. Further, an industrial waste discharge permit may be required.

3. Vehicle washing areas must be self-contained, covered and equipped with a clarifier or other pre-treatment facility and properly connected to a sanitary sewer or other permitted disposal facility.

4. Loading docks must be covered and designed to minimize run-on and run-off of storm water. Direct connection to the storm drains from depressed loading docks is prohibited.

Parking Lots

Parking lots are required to treat or infiltrate runoff before it reaches the storm drain system.

ANALYSIS

This Plan raises at least three issues for every property owner, developer, business person and home owner in Los Angeles County, and possibly the entire State of California. Those issues include the scope of coverage; the ability to achieve and the cost of satisfying the Plan's requirements; and the scope of liability.

Scope of Coverage

As written, this Plan will likely impact every commercial and residential development or redevelopment project in Los Angeles County requiring a building permit. First, the Plan lays out seven defined categories that capture most, if not all, commercial and residential construction. Then it adds a catch-all category related to areas adjacent to or discharging to environmentally sensitive areas. This catch-all provision captures all construction, regardless of type, upstream of an environmentally sensitive area. Thus, this Plan would, for example, apply to the entire watershed draining into a lagoon, inlet, enclosed bay or estuary classified as environmentally sensitive.

The Plan's definition of redevelopment is startling in its breadth. It appears to cover any redevelopment activity imaginable, with the possible exception of an exclusively interior remodeling project. There is no minimum size or value threshold specified.

Finally, based on our analysis of the Plan and discussions with other Regional Water Quality Control Board staff and directors, this Plan – or any variant of it – will upon its adoption by the Board, be adopted wholesale by the other regional boards. Thus, it is vital that industry, property owners and real estate developers mobilize to clarify and scale back the Plan prior to January 6, 2000.

Feasibility

The Plan imposes new design criteria on residential development. No one knows whether developers can achieve these requirements and build affordable housing. Is this a no growth initiative disguised as a Clean Water Act regulation? If that is not intended, that could, nonetheless, be the consequence.

Unless the developer or redeveloper obtains a waiver, the Plan further requires that affected projects must either infiltrate or treat the first 0.75 inches of every rain event. Moreover, the Plan requires the treatment of storm water from roof surfaces in the event of any pollutants of concern from aerial deposition or roof vents or any downstream stream segments scheduled for restoration. Finally, the Plan absolutely bans the discharge of storm water from some types of commercial

facilities.[10]

Infiltration

Infiltration – in bureaucratize – is defined as "a downward entry of water into the surface of soil." Infiltration is not an option for many projects. The Plan requires ten-foot separation between the infiltration system and ground water. Further, infiltration is discouraged for areas of industrial activity or areas subject to high vehicular traffic without pretreatment.

Infiltration implies an engineering design capable of capturing and retaining massive quantities of water and then discharging that water slowly to leach fields capable of handling those flows during the wettest season of the year. Engineers would describe it as a massive septic system. If .75 inches of rain falls on a 100,000 square foot commercial property in one hour, the infiltration system must process 47,000 gallons of water. The Plan lacks any definition of "rain event." Thus, it is unclear how the system would infiltrate the first 47,000 gallons and then handle the next rain event. However, even assuming the most optimistic soil percolation characteristics and rain event definitions it is probable – even, inevitable - the infiltration design must include a capture and storage system prior to pumping or gravity feeding the storm water to the leach field.

In addition to the engineering issues and expense required by the infiltration option, there will be significant environmental issues. Can the soils absorb massive quantities of processed water without causing subsidence or slippage? Without these storm water flows, will sensitive environmental areas such as wet lands simply dry up? And the issues continue.

Pollutants and Treatment

The Plan defines treatment as "the application of engineered systems that use physical, chemical, or biological processes to remove pollutants." However, the Plan is vague as to "pollutants." For the purposes of this analysis the authors assume that pollutant means "pollutant of concern."

It is unclear whether the Plan requires the removal of all pollutants of concern or whether the Plan only requires that the pollutant be removed to the "maximum extent practicable." Two examples illustrate the need to clarify the points.

Assume a storm water discharge from a housing development to a stream segment listed as impacted for pathogens under section 303(d) of the Clean Water Act due to high levels of fecal coliform. Because fecal coliform is present in the waste of animals, the developer must prevent not only human waste in storm water, but also waste of birds, dogs, cats, squirrels, etc. Alternatively, the developer could design the development to capture and treat all storm water in the same manner

[10] The Plan requires shipping and receiving areas, repair bays, restaurants and car washes to discharge some, or all, of their storm water to the sanitary sewer. The authors do not know whether, or under what conditions local sewer authorities will agree to accept these discharges. Further if local sewer authorities require pretreatment, the Department of Toxic Substances Control may regulate the pretreatment facilities, creating additional expense and liability for many small businesses and property owners.

currently used for sanitary sewage. The cost – monumental!

The Plan does not define "maximum extent practicable." What does the Board intend? Is technical practicable determinative regardless of cost? Is cost relevant? The Plan is silent, and industry must speak!

A second example: Consider a proposed commercial development of a large shopping center whose storm water will (eventually) discharge to an estuary where "elevated levels of [copper] is found in the sediments and has the potential to bio-accumulate in organisms." Copper is a main constituent of brake dust and, thus, likely will be present in concentrations exceeding Plan allowed run-off. Infiltration is not an option.

Removing copper is theoretically feasible but is expensive beyond belief.

Waivers

The Plan allows waivers for developers and redevelopers if impracticability for a specific property can be established. Impracticability – using the wording of the Plan – includes:

1. Extreme limitations of space for treatment on a redevelopment project;

2. Unfavorable or unstable soil conditions at a site preventing infiltration;

3. Risk of ground water contamination because an underground source of drinking water is less than ten feet from the soil surface; or

4. Any other justification for impracticability approved by the Regional Board Executive Director.

There's a financial cost to a waiver. If a waiver is granted for impracticability, the project proponent must transfer the savings in cost to a storm water mitigation fund to be used to promote regional or alternative solutions for storm water pollution in the watershed. [11]

Thus, a project may buy its way out of its obligations under the Plan. However, the price may well be extraordinary and subject to second-guessing by public agencies and private environmental groups.

Liability

The Board developed the Plan as part of the municipal storm water program. That Board regulates the Plan through Los Angeles County's urban runoff and storm water NPDES permit. The Clean Water Act citizen suit provisions permit any citizen to sue to enforce the terms of a NPDES permit. Thus, this Plan is enforceable by the U.S. EPA, the county or municipality in

[11] The Plan does not make clear weather this means capital cost, operating cost, or both. The Plan further leaves the amount to the discretion of the municipality granting the waiver.

which the development exists or a county or municipality in which the development causes an alleged exceedence of a water quality objective, and, finally by any citizen or environmental group.

At least one regional board executive director has declared that his staff planned to enforce the provisions of the municipal storm water permit, of which the Plan is a part against both nonconforming developers and municipalities permitting such nonconforming developments. Thus, developers should expect diligent enforcement by municipalities as well as regional board staff.

Because of the current vagaries in the Plan, litigation is likely whenever the proposed project fails to gain unanimous support from the community and all the downstream communities. The Plan's vagaries will also mean that litigation will be exceeding costly. The vagaries include ambiguities that abound including the meaning of "maximum extent practicable" and "pollutants." Litigation will require technical experts and attorneys trained in all the nuances of the Clean Water Act and its progeny. Finally, litigation, or threatened litigation could postpone – or kill - development.

It bears emphasis remedies available under the Clean Water Act include injunctive relief; civil fines of $27,500 per day per violation; and reimbursement of plaintiff's legal fees and costs. Once again, because of the vagaries of the Plan, plaintiffs will be abundant. Further, the history of citizen suit litigation under the Clean Water Act, and the enormous legal fees paid to environmental citizen suit plaintiff's by settling defendants, have created an aggressive plaintiff's bar willing to take these cases on a contingency fee basis.

OPPORTUNITIES TO CHANGE THE FUTURE

The Plan, if adopted wholesale, will create draconian cost increases for construction and post-construction operation of any new development or redevelopment projects in Los Angeles County. It is likely that this Plan will infect all of California.

This Plan may or may not improve water quality. It is clear, however, the Plan will transfer huge sums of money from developers, homeowners associations, and commercial enterprise to environmental extremists and no growth advocates.

Interested parties have one last chance to be heard on January 6, 2000. This opportunity is critical. Any later legal test of the Plan will be limited to the Board's administrative record.

The Board has requested that representatives of municipalities or other interested parties contact the Board by December 20, 1999 to coordinate presentations to the Board on January 6, 2000. Please contact this office at your earliest convenience if you wish us to represent you at that hearing.

Building Industry Association of Southern California

1330 South Valley Vista Drive
Diamond Bar, California 91765
909.396.9993
fax 909.396.9846
http://www.biasc.org

VIA FACSIMILE

December 23, 1999

Mr. Dennis A. Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan and Related Materials

Dear Mr. Dickerson:

On behalf of the Building Industry Association of Southern California (BIA/SC), we want to thank you for changing the Standard Urban Storm Water Mitigation Plan (SUSMP) hearing from January 6, 2000 to January 26, 2000. The earlier date did not allow for proper review and comment given holiday and vacation schedules during this season of the year. Now, we will have a chance to more fully consult our members and prepare for the hearing. We will ask our members to support group presentations in order to help you structure the hearing to provide your Board members with information necessary to make an informed decision.

In reviewing the response to comments from the September 16, 1999 Regional Board Hearing, I have noted two items that we would like to review as soon as possible. One is the preliminary costing estimates cited in your response to comment number 34. The response claims that preliminary costing estimates indicate that the costs related to the numerical mitigation measure "are reasonable." We request that you provide us with all of your costing estimates so that we may understand the basis of your claim.

The second item is the Record of Decision (ROD) referenced in the Summary of Comments Received and Response. We are directed to the Record of Decision and to references in the ROD. However, the document was not provided with the material you distributed on December 7, 1999. We need to review this document in order to understand the responses to comments.

[redacted]

11-189

R0068426

We need to review the costing estimates and the Record of Decision as soon as possible so that we may be prepared to answer questions from our members. Therefore, we would appreciate receiving the documents early next week. If necessary, we can have them picked up at your office. Please call me to confirm when we may expect the documents.

Once again, thank you for your assistance on this matter.

Sincerely,

Charles Gale

Charles Gale
Director of Government Affairs

cc: Dr. Xavier Swammikannu

11-190

AIR LIQUIDE

December 23, 1999

Dennis Dickerson Executive Director
s Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. On January 6, 2000 I urge you to adopt reasonable proposal set forth by your own staff: Ensure that specified new and redevelopment capture, treat, infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

We have been brought to this crossroads by extensive development that completely disregards the quality and quantity of runoff generated. The Los Angeles Region already suffers from some of the worst water quality in the nation. Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted. I walk on the beach often and on occasion find it embarrassing to observe so much trash and pollution on the beach and in the surf. It should be unacceptable for such a great city to allow this to occur at one of its prized natural resources.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers, and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Imagine having relatives or friends visit and then going to the beach for the day only to find posted signs warning persons to stay out of the water and trash and debris littering the beach. For me, this is what is riding on this proposal.

Sincerely,

Karl Bruskotter
Santa Monica, CA

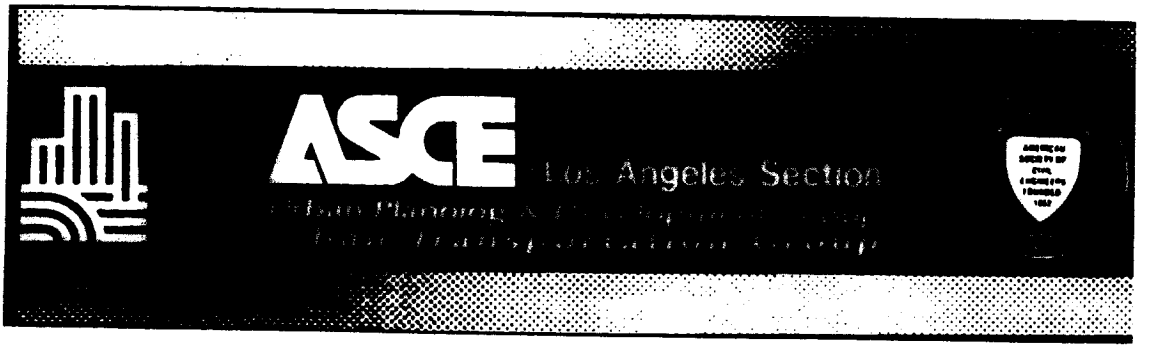
11-191

Dear Mr. Dickerson,

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our costal and inland waters. On January 26, 2000, I urge you to adopt the reasonable proposal set forth by your own staff to curb urban runoff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three-quarter-inch storm. Thank you.

Sincerely,

Joe Weichman
959 Princeton St.
Santa Monica, CA 90403



December 28, 1999

Mr. Dennis A. Dickerson
California Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: Revisions to Standard Urban Stormwater Mitigation Plans (SUSMPs)

Dear Mr. Dickerson:

The Los Angeles Section of the Urban Planning and Development Group of the American Society of Civil Engineers is a group of professional engineers which focuses on current issues and projects within the Los Angeles area. We are extremely concerned with several of the recent proposed modifications of the model programs as they are not based on sound engineering judgement, and have been improperly extracted from sources which were not prepared for the purposes they are being used.

NUMERICAL LIMITS

We have been contacted by several groups regarding their concerns with the basis for and the application of numerical limits. In particular, we are concerned with the validity of using a volumetric standard for the design of Best Management Practices (BMPs) which are based on treating a certain flow rate. The ASCE/WEF manual has been used as a standard for this design, but this method is for a combination of detention and treatment, not for the sizing of individual BMPs.

Most of the structural BMPs which are currently in use are sized by using a flow rate. The volume could theoretically occur over a 24-hour period, or a much shorter period similar to a storm used for hydraulic sizing of drainage conveyance devices. The inverse ratio of the design flow rates calculated by these two methods would be identical to the length of the design storms. For example, a typical design storm used for drainage conveyance sizing could be around twelve (12) minutes for a site of this size. The ratio between the design flow rate the 24-hour storm versus this shorter storm would be 1440/12 = 120. This means that the ratio of the flow rates would also be a factor of 120.

Also, the County of Los Angeles has prepared a hydrology manual which is the standard for engineers within the County to determine flow rates for sizing storm drainage

structures. The hydrology of different areas of Los Angeles County varies significantly, and can be seen in the Hydrologic Maps in the County manual. The County maps indicate the 50-year maximum 24-hour rainfall with contours superimposed on USGS maps. The values range from 5 inches within a 24-hour period to 18 inches within a 24-hour period. In fact, the rainfall varies up to 7 inches within a 24-hour period with 3 miles (Palos Verdes Figure C1.14).

There is insufficient information regarding levels of relevant pollutants in receiving waters to justify the Treatment Control BMPs dictated by the numerical standards. There are no studies that indicate which pollutants of concern are above acceptable levels in the receiving waters.

There is insufficient stormwater monitoring data available to demonstrate that the types of activities regulated by the numerical standards are actually causing a negative impact to the receiving water. We may incorrectly be placing BMPs in locations where they will have no impact on storm runoff or on the reduction of target pollutants.

An in-depth analysis has not been performed regarding the effectiveness of the approved BMPs that provide criteria for the selection of BMPs to achieve the numerical standards being recommended. If we are required to treat a certain amount of water flowing from the site, we need to choose BMPs which effectively treat the flow rate due to the design storm. There needs to be criteria for calculating contact time, settling rates, and other deisgn parameters that are not known at this time.

ENVIRONMENTALLY SENSITIVE AREAS

One additional category added to the SUSMPs is Environmentally Sensitive Areas (ESAs). meaning that projects located adjacent to or discharging to an environmentally sensitive area would need to conform to a SUSMP. One of the definitions of an ESA is an area designated as a Significant Natural Area by the California Resources Agency. The California Department of Fish and Game (DFG) is the agency in charge of locating the SNAs.

We have investigated the theory behind and the current limits of the SNAs. The theory behind the SNAs was to identify natural areas to promote local educational awareness. The areas are very general, and were not created for any type of regulatory application. A radius of up to one mile was created around locations where natural vegetation or wildlife is located and identified in the Natural Diversity Database. The use of the SNAs to identify projects needing SUSMPs is not a misapplication of the DFG's information.

We have also investigated the limits of and the implications of using the SNAs as an ESA. The SNAs cover much of Los Angeles County, including the outlets of Malibu Creek, Ballona Creek, and the San Gabriel River. We feel that this is not the intent of the SUSMPs, and subjects virtually all projects draining to any of these channels to the SUSMPs.

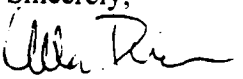
HILLSIDE DEFINITION

The modification of the definition of a hillside to any project in which there is any grading. We suggest that the original definition be used, which is a project where the existing ground is over a 25% slope.

CONCLUSION

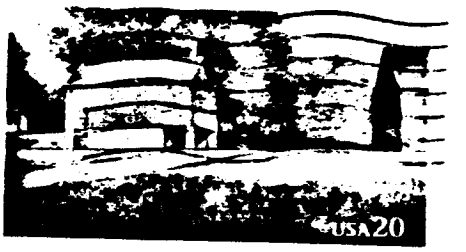
We strongly suggest that these proposed revisions to the SUSMPs be eliminated to reflect the approach originally put forth by the local cities and the County of Los Angeles. If revisions are still needed, they should be based on proper engineering design, and not to simply satisfy the concerns of environmental groups. We would be happy to be a part of any effort to reach a sound solution.

Sincerely,



Allan Rigg, P.E.
Vice Chairman, Los Angeles Section ASCE Urban Planning and Development Group

David G. Baxter
4470 Calhoun Ave
Sherman Oaks, CA 91423



Dennis Dickerson
Executive Director
L.A. Regional Water Quality
Control Board
320 W. 4th St. #200
Los Angeles 90013

12-26-99

Dear Mr. Dickerson:

This urges your and the Board's support in the proposed rules & require new and re-developments to trap rainwater up to 0.75 inches/24 hr. Good for groundwater recharge, good for beach & ocean pollution, rivers & streams.

Thank You

David Baxter

DEAR EXEC DIRECTOR DICKERSON, JAN. 1, 2000

I SUPPORT THE PROPOSED REQUIREMENT FOR RETAINING STORMWATER ON-SITE AT NEW DEVELOPMENT & REDEVELOPMENT PROJECTS IN L.A. COUNTY. YOUR STAFF RECOMMENDS SUCH PROJECTS BE DESIGNED TO RETAIN RAINFALL OF UP TO 0.75 INCHES DAILY. THIS IS A GOOD IDEA. H_2O COULD PERCOLATE INTO GROUND OR BE TREATED & DRAINED. THIS WILL REDUCE POLLUTED RUN-OFF.

Sign Yourself (Address on reverse)

11 197

R0068434

JBI Process Equipment

Brent Cromar
5266 Forest Hill Drive
Pleasanton, CA 94588

January 5, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt reasonable design standards for sizing treatment control Best Management Practices at specified new and redevelopments. Ensure that these developments mitigate, through treatment or infiltration, 100% of the runoff generated by up to and including a three quarter-inch storm, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who

visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Brent Cromar

January 5, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

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Sincerely,

Walt Stein

Walt Stein
Manager – Project Development

11-20

R0068437

CDS Technologies, Inc. • http://www.cdstech.com/ • cds@cdstech.com
16360 South Monterey Road, Suite 250, Morgan Hill, CA 95037 • Phone: (408) 779-6363 • Toll Free: (888) 535-7559 • Fax: (408) 782-0721
1255 La Quinta Drive, Suite 218, Orlando, FL 32809 • Phone: (407) 855-8848 • Toll Free: (800) 848-9955 • Fax: (407) 855-7815

E A R T H
COMMUNICATIONS
O F F I C E

Ruben Aron
12021 Wilshire Blvd., #5
Los Angeles, CA 900

January 5, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

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In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Ruben Aronin

R0068438

11-201

Dr. Mha Atma Singh Khalsa
1536 Crest Drive
Los Angeles, CA 90035

January 6, 2000

Dennis Dickerson
Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th St. #200
Los Angeles, CA 90013

Dear Mr. Dickerson,

Our current managment of urban runoff contributes greatly to coastal and ocean pollution, and encourages both flooding and the channelization of our streams as we attempt to prevent flooding. I strongly urge that we institute massive changes to our ineffective approach.

The recommendation by the Water Board's staff to require new development and redevelopment projects to be designed to retain rainfall of up to .75 inches daily would be a huge step in the right direction. Adoption of the recommendation would bring areas in incorporated cities up to the same standards already in place in unincorporated areas of the county. This proposal would be good for the health of local aquatic life, for the health of the 60 million people who visit L.A. County beaches each year, and for a more livable healthy region.

I urge you to adopt this important proposal.

Sincerely,

Dr. Mha Atma Singh Khalsa

11-208

MJG

Madelyn Glickfeld
28907 Grayfox Street
Malibu, CA 90265
Tel: (310) 589-9110
Fax:(310) 457-5692

January 10, 2000

VIA FAX
2 pages

Mr. Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

I am writing you again to ask you to take advantage of the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt a Standard Urban Stormwater Mitigation Plan for the cities in Los Angeles County that requires mitigation, by specified newand redevelopments, through treatment or infiltration, of 100% of the runoff generated by the first three quarters of an inch of rain, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and few measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

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The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington

11-203

Beach) - and with billions ofdollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Madelyn Glickfeld
President, MJG Consulting
Visiting Lecturer and Researcher,
UCLA Institute of the Environment

11-304

Dennis Dickerson, Executive Director
and Members of the Board
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Runoff Controls on New and Redevelopment

Dear Mr. Dickerson and Members of the Board:

I urge you to adopt on January 26, 2000, a reasonable standard to address polluted runoff from development projects in the Los Angeles metropolitan area. In a region that is constantly being built and rebuilt, these types of controls are necessary to reduce the amount of polluted runoff that invades our streams, rivers and coastal waters.

At a minimum, please ensure that specified new and redevelopments capture, treat, or infiltrate the runoff generated by a 0.75 inch storm. Many other areas of the country have already adopted similar or more stringent standards. By adopting this proposal, you and the Regional Board can take a significant step in water quality protection.

Sincerely,

11-205

DEAR DENNIS DICKERSON,

I URGE YOU TO REQUIRE NEW DEVELOPMENT AND REDEVELOPMENT PROJECTS BE DESIGNED TO RETAIN RAINFALL. WATER COULD EITHER PERCOLATE INTO THE GROUND OR BE TREATED AND THEN DRAINED. ADOPTION OF THESE RECOMMENDATIONS WOULD BRING AREAS IN INCORPORATED CITIES UP TO THE SAME STANDARDS ALREADY IN PLACE IN UNINCORPORATED AREAS OF THE COUNTY. PLEASE SUPPORT THE PASSAGE OF THIS CHANGE ON JAN 26TH.

SINCERELY

NATHANIEL BOOTH

DONALD DUCK DUET
TIN WIND-UP TOY
(1947)

11400 W. Olympic Blvd., 17th Floor, Los Angeles, CA 90064

cruz kravetz IDEAS

Phone: 310-312-3630 · Fax: 310-312-9013 · www.ckideas.com

January 10, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter - Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt a Standard Urban Stormwater Mitigation Plan for the Cities in Los Angeles County that requires mitigation, by specified new and redevelopments, through treatment or infiltration, of 100% of the runoff generated by the first three quarters of an inch of rain, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

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Sincerely,

Carl J. Kravetz
President/CEO

11-208

R0068445

Fields & Pearl*
ATTORNEYS AT LAW
1875 Century Park East, 14th Floor
Los Angeles, California 90067
(310) 286-2035
Fax (310) 286-9735

January 10, 2000

*A PARTNERSHIP COMPRISED OF PROFESSIONAL CORPORATIONS

REFER TO FILE NO.
N/A

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter - Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt reasonable design standards for sizing treatment control Best Management Practices at specified new and redevelopments:

1. Ensure that these developments mitigate, through treatment or infiltration, 100% of the runoff generated by up to and including a three quarter-inch storm, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

2. Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

3. The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

4. The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and

with billions of dollars at stake, the health of our entire regional economy is impacted.

5. In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Very truly yours,

FIELDS & PEARL

KENNETH S. FIELDS, A
PROFESSIONAL CORPORATION

KSF:nsp

363 North Carmelina Avenue
Los Angeles, CA 90049

January 10, 2000

Mr. Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: SUPPORT FOR THREE QUARTER - INCH STANDARD TO REDUCE RUNOFF FROM NEW AND REDEVELOPMENT

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt a Standard Urban Stormwater Mitigation Plan for the Cities in Los Angeles County that requires mitigation, by specified new and redevelopments, through treatment or infiltration, of 100% of the runoff generated by the first three quarters of an inch of rain, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and few measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Matthew J. Hart

MJH/yct

KENNETH A. EHRLICH
TENTH FLOOR
2121 AVENUE OF THE STARS
LOS ANGELES, CALIFORNIA 90067

(310) 785-5395

January 11, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter - Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, I urge you to adopt a Standard Urban Stormwater Mitigation Plan for the Cities in Los Angeles County that requires mitigation, by specified new and redevelopments, through treatment or infiltration, of 100% of the runoff generated by the first three-quarters of an inch (3/4") of rain, with no exceptions. By adopting this standard, the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that becomes more toxic as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and few measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

The Los Angeles Times supported the three-quarters inch standard in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

K:\USERS\KAE\HTB.LTR

11-213

The three-quarter inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff hurts our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars ($2,000,000,000) annually, but these businesses largely depend on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business. With billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

KENNETH A. EHRLICH

K:\USERS\KAE\HTB.LTR

11 214

January 11, 2000

Dennis Dickerson,
Executive Director
Los Angeles Regional Water
Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

RE: RUNOFF STANDARDS FOR NEW DEVELOPMENT AND REDEVELOPMENT

Dear Mr. Dickerson:

The Environmental Defense Center (EDC) is a non-profit environmental law firm working to protect and restore watersheds and water quality on the Central California Coast.

We are writing to remind you that you have the opportunity to significantly reduce urban runoff, the number one source of pollution in our coastal and inland waters. As we are grappling with the same runoff issues to your north, we look to your Board to set a precedent for water pollution control. Therefore, please adopt reasonable design standards for sizing treatment control Best Management Practices at specific new developments and redevelopment projects. Additionally, please make sure that these developments mitigate, through treatment or infiltration, 100% of the runoff generated by up to and including a three quarter-inch storm, with no exceptions. Another standard for development projects is to require bio-filtration basins (a.k.a. constructed wetlands) for urban stormwater runoff in project designs. Reduce reliance on storm drains, and incorporate vegetated swales and basins in project designs. By adopting these standards, the Regional Water Quality Control Board has the opportunity to reverse the trend of watershed and water quality degradation, and to set a precedent for improvements in other areas.

In urban environments, rainfall is converted into runoff that collects pollutants as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled in stormdrains and culverts and directed untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, southern California has countless beaches that are frequently unsafe for swimming. Creeks have water that is unsafe to touch, and inland and coastal waters that pose health risks to aquatic life.

The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

11-215

R0068452

906 GARDEN ST, SANTA BARBARA, CA 93101 • (805) 963-1622 FAX: (805) 962-3152 E-MAIL: edc@rain.org
31 N. OAK ST, VENTURA, CA 93001 • (805) 643-6147 FAX: (805) 643-6148 E-MAIL: edcvent@west.net

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Central and Southern California's coastal tourism and recreation businesses generate over three billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business. With billions of dollars and human health at stake, the health of our entire regional economy and population is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will reduce the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 100 million people who visit this region's beaches annually, for the health of our regional economy, and for a more livable region, please adopt the three quarter-inch standard and other design standards that reduce polluted runoff.

Sincerely,

Brian Trautwein
Environmental Analyst

Santa Monica Baykeeper
P. O. Box 10096
Marina del Rey, California 90295
310 305-9645

January 11, 2000

Dennis Dickerson, Executive Director
and Members of the Board
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles CA 90013

Re: Support for Runoff Controls on
New and Redevelopment Projects

Dear Mr. Dickerson and Members of the Board:

On January 26, 2000, I urge you to adopt a reasonable standard to address polluted runoff from development projects in the Los Angeles metropolitan area. In a region that is constantly being built and rebuilt, these types of controls are necessary to reduce the amount of polluted runoff that invades our streams, rivers and coastal waters.

At a minimum, please ensure that specified new and redevelopments capture, treat or infiltrate the runoff generated by a 0.75 inch storm. Many other areas of the country have already adopted similar or more stringent standards. By adopting this proposal, you and the Regional Board can take a significant step in water quality protection.

Sincerely,

Gilbert N. Segel
President

11-217

Dear Mr. Dickerson,

I am writing in support of the proposed requirement for retaining stormwater on-site at new development and redevelopment projects in L.A. county.

This proposal could have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters.

Please help protect L.A. county's aquatic life and all of us who enjoy and love its beaches.

Sincerely,

Clea Wright

11-218

STAINLESS
INDUSTRIAL COMPANIES
ANTHONY N. PRITZKER
President & CEO

12 January 2000

Mr. Dennis Dickerson
Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street #200
Los Angeles, CA 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, *the number one source of pollution to our coastal and inland waters.* On January 26,200, we urge you to adopt a Standard Urban Stormwater Mitigation Plan for the Cities in Los Angeles County that requires mitigation, by specified new and redevelopments, through treatment or infiltration, of 100% of the runoff generated by the first three quarters of an inch of rain, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today, approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and few measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers, and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exception, to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Anthony N. Pritzker

R0068456

11-219

1111 SANTA MONICA BLVD SUITE 1120 LOS ANGELES CA 90025
TEL 310 575 0023 FAX 310 575 9882 TONYPRITZ@AOL.COM

Ballona Wetlands Foundation

JAN 13
QUALITY CONTROL BOARD
LOS ANGELES REGION

Preservation • Restoration • Education

January 12, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. Brought to this point by extensive development with a complete disregard for the quality and quantity of runoff generated, today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

On January 6, 2000, you and the Board have the opportunity to change our course toward worsening water pollution by adopting the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to a three quarter-inch storm. The Los Angeles Region already suffers from some of the worst water quality in the nation. Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

11-220

315 E Culver Boulevard Playa Del Rey California

R0068457

Ballona Wetlands Foundation

Preservation • Restoration • Education

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Wendy Rains
Executive Director

11-221

3115 B Culver Boulevard, Playa Del Rey, California 90293
(310) 574-0700 Fax (310) 574-0454 info@ballona-wetlands.org

2000 JAN 14 P 2:37

Amy Blount
481 Crane Blvd.
Los Angeles, CA 90065

January 12, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt reasonable design standards for sizing treatment control Best Management Practices at specified new and redevelopments: Ensure that these developments mitigate, through treatment or infiltration, 100% of the runoff generated by up to and including a three quar per-inch storm, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

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The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Cordially,

A. Blount.

11-222

R0068459

From: "R. Tahir" <tecsenv@yahoo.com>
To: Nasser Abbaszadeh <Nabbaszadeh@ci.azusa.ca.us>, Desi Alvarez <dalvarez@downeyca.org>, Richard Burtt <rburrt@torrnet.com>, Rose Collins <rocolli@ci.long-beach.ca.us>, Dennis Dickerson <DDICKERS@rb4.swrcb.ca.gov>, Dan Griset <griset@scag.ca.gov>, Wendell Johnson <wjohnson@torrnet.com>, Tom Leary <toleary@ci.long-beach.ca.us>, Scott Pohmrehn <spomrehn@lakewoodcity.org>, Morad Sedrak <Msedrak@SAN.ci.la.ca.us>, Barry Waite <bwaite@e-mail.carson.ca.us>
Date: 1/13/00 5:19PM
Subject: Another Option Worth Considering

On 1-13-00, LACODPW transmitted a revised SUSMP, reflecting several corrections made at the 1-12-00 EAC meeting. It does not, however, deal with the 2 options
dealing with numeric limits. There is a need for a third option that is not arbitary and is fair and objective. Please take a good look at it (it's in word and word perfect formats) and let me know what you think. If you have any questions, please call me (626) 396-9424.

Thanks,

Ray Tahir

Option #3: An Imperfect But Sane Alternative

Basis for Another Option

This option is offered because of the unacceptable disadvantages associated with options 1 and 2 as mentioned in the most recent draft SUSMP. **Option 1** is unacceptable because it still includes mandatory controls for a subject development, without any factual demonstration that the pollutants discharged from such developments are **POLLUTANTS OF OF CONCERN**. To require such developments to install mandatory retention/treatment controls designed according to 1 of the 4 numeric standards is arbitrary at best. It also establishes a dangerous precedent because it is based on the assumption that all pollutants in runoff have an impairing impact on a beneficial use of a receiving water. **Option 2**, is even more undesirable than **Option 1** because it merely defers implementation of mandatory retention/treatment controls for all of the subject development categories to July 1, 2001 – under the next permit, presumably.

Option 3 requires mandatory retention/treatment controls under 3 justifiable, non-arbitrary scenarios: (1) any development project, sited anywhere, requiring coverage by a General Industrial Activity Storm Water-type NPDES permit (GIASWP); (2) 100,000 square feet commercial developments with 200-plus parking spaces SITED WITH ¼ OF A MILE WITHIN ENVIRONMENTALLY SENSITIVE AREAS; and (3) any subject development project that discharges pollutants of concern in storm water runoff as determined by existing authoritative documents or future receiving water studies – as the permit intended.

Elements of Option 3

Upon approval of the SUSMP, permittees, at the minimum, would prescribe appropriate retention/treatment controls (infiltration-type devices, oil/water separators, CDS units, catch basin inserts) for the following:

Industrial Facilities

Any industrial facility -- including manufacturing facilities – irrespective of siting location, that requires a GIASWP (issued by the State Water Resources Control Board and enforced by the regional board). The retention/treatment controls would apply to outdoor surface areas, excluding roof-tops (a requirement which is dealt with elsewhere) that are exposed to storm water. The retention/treatment controls would be sized according to any of the 4 design standard alternatives referenced in the most recent SUSMP draft. (Note: Although these facilities, also known as Phase I facilities, are required under specific provisions of the Clean Water Act to obtain a GIASWP, they are ONLY REQUIRED TO INSTALL RETENTION/TREATMENT CONTROLS IF RUNOFF SAMPLING ANALYSIS WARRANTS THEM).

Responsibility for insuring that retention/treatment controls are properly operated/maintained shall be that of the regional board and with the appropriate industrial waste permitting agency (if any of the selected controls require industrial waste discharge permits).

Development Projects Sited in ESAs

Any development project that is designed to include 200 or more parking spaces that is sited within ¼ of a mile of an environmentally sensitive area (ESA). The definition of ESA is taken from CEQA (wetlands, rare and endangered species habitats, etc.) and can be enlarged by a permittee to accommodate local environmental concerns.

The retention/treatment controls would be sized in accordance with any of the 4 design standards referenced in the most recent SUSMP draft. However, if necessary, design standards may exceed the minimum requirements (capturing or treating 100% runoff).

Subject Projects Generating Pollutants of Concern

Any of the subject development projects specified in the Los Angeles County Municipal NPDES permit that discharge pollutants of concern shall be required to install retention/treatment controls in accordance with any of the 4 design standards referenced in the most recent SUSMP draft. Pollutants of concern, as defined in the permit,

"...consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at a level high enough to be considered potentially toxic to humans and/or flora and fauna."

Identification of pollutant of concerns can be determined using authoritative documents include the basin plan, ocean plan, California Toxics Rule, the 3039(d) list (part of the regional board's water assessment program) monitoring data collected by the principal permittee or other permittees.

In addition, permittees would be willing to perform receiving water studies, as a requirement under the next municipal NPDES permit, similar to the one conducted for Santa Monica Bay (pursuant to the Los Angeles County Municipal NPDES permit requirement). The results of the receiving water studies will be used to identify pollutants of concern, by a specified time (e.g., third or fourth year of the next permit). This is offered because it is recognized

11-335

that the aforementioned authoritative documents may not be accurate or comprehensive enough to identify actual pollutants of concern.

11-236

From: Dennis Dickerson
To: "tecsenv@yahoo.com".mime.Internet
Date: 12/20/99 7:32AM
Subject: Re: January 6 Public Hearing

Ray, thanks. We have sent out a notice cancelling the Jan 6th mtg. Let me know if you do not get the notice.

Good comments, thanks.

>>> "R. Tahir" <tecsenv@yahoo.com> 12/17/99 06:26PM >>>
Hi Dennis:

Can I get 10-15 minutes of time at the January 6th public hearing. I plan to present concerns about the over-estimated catch basin inserts and other issues.

Also, I think Eileen and/or Margaret want to say something on behalf of SCAGs/EEC.

FYI, South Bay Cities COG adopted a resolution a couple of weeks ago calling for the regional board not to make
storm water numeric standards mandatory -- under any guise, including design standards for parking lot ollution reduction controls. The reso also authorizes the COG prepare a petition to the state water resources control board in the event the regional board ingores its plea. The SGVCOG the same action last night and the
Gateways Cities COG is expected to follow suit at its January 6th monthly meeting.

I think, however, that if you can get the environmental community and/or the board to buy-off on the following changes such action can be averted: (1) increase the threshold for triggering mandatory parking lot pollution reduction controls from 25 spaces/5k sf to 200 spaces/40k sf; (2) relax the waiver requirements to
allow cities base the cost savings that areto be transfered to some sort of storm water fund on the least costly control (viz., catch basin inserts; (3) clearly allow cities to prohibit the use of infiltration systems where the water table is lower the 10 feet, with good reason of course; (4) re-define some of the terms (e.g., slopes); (5) allow cities to base the definition of an ESA on CEQA, exclusive of any other interpretive defintion (e.g., fish and game);
and (6) use the development planning model program -- not the SUSMP as the place where ESAs and parking lots should be addressed (create a checklist "C").

Further, tell Mark that the issue more stringent parking lot controls could be dealt with under the next permit, but must be justified ON THE PROTECTION OF WATER QUALITY STANDARDS (using the basin plan, ocean plan, or authoritative monitoring data).

I'll call you on Monday Dennis. Good luck with the Alameda Corridor issue. We know that you're getting beat up unfairly -- again.

Ray

CC: Xavier Swamikannu

AbTech INDUSTRIES

RECEIVED

January 13, 2000

2000 JAN 14 A 9:47

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION

Re: Runoff Standard for new and redevelopments. AbTech Ultra-Urban™ Filter – Effectiveness of Storm drain inserts.

Dear Mr. Dickerson

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt reasonable design standards for sizing treatment control Best Management Practices at specified new and redevelopments: Ensure that these developments mitigate, through treatment or infiltration, 100% of the runoff generated by up to and including a three quarter-inch storm, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

11-229

R0068466

4110 N. Scottsdale Rd., Suite 235, Scottsdale, AZ 85251 602•874•4000 800•545•8999 fax 602•970•1665 email info@oars97.com www.oars97.com

AbTech is a corporation that manufactures Ultra Urban Filters which contain the OARS Smart Sponge technology. This stormdrain insert is designed to absorb, adsorb and chemically bond hydrocarbons in the typical stormwater runoff as it runs through the filter. The design of the Ultra Urban Filter is such that the box itself also collects trash, debris, sediment and other solid waste (which carry with it various other contaminants such as heavy metals) that would otherwise enter the storm system. This passive system, installed at the curb inlets, is a low cost effective solution to the problem. Costs range from $500-$1500 per storm drain, and the effectiveness has ranged from 70% to 99% in tests for hydrocarbon removal. We at AbTech firmly believe that the benefits of this rulemaking far outweigh the costs.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,
AbTech Industries Inc.

David Zarider

David Zarider
Vice President Sales and Operations
Resident of Los Angeles

NRDC NATURAL RESOURCES DEFENSE COUNCIL

January 14, 2000

VIA FACSIMILE (w/o enclosures) and *U.S. Mail*

Executive Officer and Members of the Board
California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Proposed Model Standard Urban Storm Water Mitigation Plans (SUSMPs)
Los Angeles County Municipal Stormwater Permit (NPDES No. CAS0061654)

Dear Mr. Dickerson and Members of the Board:

The Natural Resources Defense Council ("NRDC") is a national environmental organization with over 400,000 members, approximately 35,000 of whom live within the Los Angeles region. NRDC has reviewed the "Proposed Standard Urban Storm Water Mitigation Plan" (the "Proposal") issued on December 7, 1999 as a proposed "model program" of the Los Angeles County Municipal Storm Water Permit (the "Los Angeles Permit"), and as the remaining unfinished element of the Long Beach Municipal Storm Water Permit (the "Long Beach Permit"). We submit the following comments[1] on behalf of NRDC, Heal the Bay, the Santa Monica BayKeeper, and their respective members (collectively, "NRDC").

Introduction

NRDC Position

While NRDC strongly supports the Regional Board Staff's retention of the 0.75-inch numerical standard initially embraced in its August, 1999 proposal, we are extremely disappointed that Staff has included a host of exceptions, exemptions, and general limitations on the scope of the program that, collectively, render that numerical standard virtually meaningless. Taken as a whole, these limitations so severely undermine the impact of the numerical standard that it is genuinely questionable whether that standard will ever actually be effectuated. It appears that the Regional Board Staff ("Staff") has maintained the numerical standard only as a token concession to the requirements of the Clean Water Act, while essentially capitulating to the cries of those municipalities who are reflexively opposed to the idea of having to implement such a standard.

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[1] In addition, NRDC joins in the comments submitted by Heal the Bay, in its letter of January 14, 2000, and those submitted by the Santa Monica Mountains Conservancy, in its letter of December 16, 1999. We also hereby incorporate our previous comments, submitted with our letter of September 9, 1999 ("September Letter"), attached hereto (without exhibits) as Exhibit A, which, in turn, incorporated the comments submitted by the Santa Monica BayKeeper on the same date, and those submitted by Heal the Bay on September 7, 1999.

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The SUSMP should function like any other type of building code, with its requirements applying equally to ministerial development projects and to discretionary ones. It should simply become a part of the set of requirements that apply automatically to any new development.

Request: Los Angeles County removed the limitation to "discretionary" projects from its program, and we strongly encourage the Regional Board to do the same.

Problem 3: The Proposal is Rife with Exemptions, Exceptions and Overly-Restrictive Definitions

(a) Remove the Roofing Exclusion

The significance of the numerical standard is greatly diluted by the insertion of a "rooftop exclusion" that was introduced directly by the Executive Officer without any technical support or precedent. Section 9 of the current Proposal would allow developers to divert runoff from roof tops directly to the storm drains and to take credit for that volume of runoff as if it were being treated. Such an exception would be directly contrary to the purpose of the SUSMPs. Not only would it allow treatment of less runoff, but it would actively encourage developers to increase the amount of impervious surface (in the form of roof tops) built into the development process. That is because every additional inch of roof top would enable developers to build smaller BMPs and direct more runoff straight to the stormdrains. We are aware of no similar exclusion in any program anywhere in country. **The provision is nonsensical. It would function as an affirmative attack on environmental protection and must be removed.**

Staff appears to believe that roof-top runoff will not be contaminated, thus making it appropriate to send this runoff directly into the stormdrain and reduce the volume of runoff treated on-site. The Proposal does include a few provisions to ensure that some of the most obvious contaminating influences on roof tops are not present, such as roof-based exhaust systems and air pollution control devices; however, these protections are inadequate, and, more significantly, they do nothing to address the larger issue that this exemption creates incentives directly contrary to the purpose of a stormwater management system. The following paragraphs explain each of these points in more detail.

First, the only safeguard against pollution in the rooftop runoff is the limitation of the exclusion to cases in which: (1) "roofing materials will not be a source of pollutants of concern;" and (2) "roof based exhaust systems, vents, filters, and air pollution control devices will not present a significant source of pollution." Proposal at 9. The Proposal neither explains who will make these determinations, nor how they will be made. There is no explanation of what it means for roofing materials to be a source of pollutants of concern; there is no definition of "significant source of pollution" or guidance for assessing whether the structures at issue would act as such a source. Because of the vagueness of this exclusion, it provides essentially no protection against polluted roof-top runoff flowing freely into the storm system, exempt from all the otherwise-applicable treatment requirements.

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Second, the Proposal makes no provision for public notice or comment on these decisions. Thus, it opens the door for decision-making that could significantly undermine the effect of the numerical standard, and that would do so without the ability for any public review or accountability. This violates Clean Water Act public participation requirements. See 40 C.F.R §§ 25.3, 25.4, 124.5(c), 122.62, and Part 124; see also Hampson v. Superior Court, 67 Cal. App. 3d 472, 484 (1977) (granting of discretionary exemption requires regional board review).

Third, there is no protection against, or even recognition of, the potential polluting effects of aerial deposition. Studies are underway to assess the significance of this source of pollution, but the Proposal effectively prejudges the results of these studies and encourages developers to increase the area of roofing, thus increasing the amount of runoff sent directly to the stormdrains laden with any pollutants that have settled on those roofs. The aggregate amount of pollution from these roof tops may well be a significant contributor to the pollution in our receiving waters and may prevent municipal governments from meeting their responsibilities to reduce the pollution entering the receiving waters from the ends of their storm drains. It will undoubtedly make meeting those requirements more difficult. Still, the proposal completely discounts, or ignores, this source of stormwater pollution, and thus is arbitrary and capricious and without any support in the record.

Fourth, even if the water could be proved to be pristine, this provision encourages additional flow problems and a further deviation from the natural water cycle. A stormwater management program must take into account both water quality *and* water quantity concerns. A comprehensive management plan considers the entire hydrologic cycle, including infiltration and evaporation, and does not simply focus on getting rid of the water as quickly as possible. See "Storm Water: Asset or Liability," S. Dallman and T. Piechota (Dec., 1999), attached hereto as Exhibit D, see, also, "Stormwater Infiltration," B. Ferguson, 1998, presented at Urban Storm Water Management in the Southwest Conference sponsored by U.S.E.P.A., Long Beach, Califomia, attached hereto as Exhibit E. In 1928, only five percent of the rainfall in the Los Angeles area translated into runoff in the Los Angeles River. In the 1990s, that ratio has reached fifty percent. "Storm Water: Asset or Liability" at 8. If we continue to increase the amount of rainfall that we convert to runoff, at the same time development continues to increase, we will not only exacerbate our existing water quality problem, but we will also create a flood control threat that is beyond the capacity of our current flood control system to handle.

In sum, this exclusion is riddled with problems. It will reduce, if may totally eliminate, the pollution-control benefit that the numerical standard would otherwise provide. It will encourage environmentally destructive design practices. It will subvert public accountability. And it will exacerbate our flood control problem. **This exclusion must be removed.**

(b) Modify "Retail Gasoline Outlet" definition, as specified below

The Proposal states that gas stations with associated convenience stores are to be classified based on their "primary" activity. Proposal at 3. A huge percentage of gas stations today have convenience stores associated with them. These gas stations have just as much potential to generate stormwater pollution as gas stations without associated convenience stores, and there is no reason why a gas station should be able to avoid compliance with stormwater regulations by adding in a convenience store.

Furthermore, like the roofing exclusion, this provision provides no guidance on how to determine a facility's "primary activity." Without any limitations on that phrase, this exemption could quickly become an avenue to relieve most gas stations from the requirements of the SUSMP. **Any pumping station, regardless of whether it has an associated convenience store, should have to meet the requirements of this SUSMP.**

Finally, we note that definitional limitations such as this one and the ones discussed in the following two sections are particularly troubling because they do not simply relieve the excluded facilities from the requirements of the numerical design standard; they seem to remove those facilities from *any* of the facility-specific requirements enumerated in section 10, see Proposal at 9-12. Consequently, even the most basic design requirements of that section, such as the requirement to cover fueling areas, would not apply. There is no excuse for removing such basic requirements.

(c) Change the "Hillside" definition, as specified below

The Proposal establishes three criteria, all of which must be satisfied, for an area to qualify as a "hillside." The definition is both overly restrictive and dangerously vague. Los Angeles County's stormwater management program lists three similar criteria, but meeting *any one* of these three criteria suffices to qualify as a "hillside." Furthermore, criteria such as "erosive soil conditions" are defined in the Los Angeles County program, whereas the current Proposal provides absolutely no guidance for determining whether soil conditions are erosive, nor does it specify who would make such a determination.

Request: This definition should be modified to read as follows: "'Hillside' means property located in an area that has any of the following characteristics, or where the planned development has any of the following characteristics:

"location in an area known to have erosive soil conditions as identified in the *Los Angeles County Department of Public Works Hydrology/Sedimentation Manual*;

"grading will occur on any natural slope where the natural slope is 15% or greater; or

"plans include cut or fill slopes that are 30 feet high or greater."

(d) Modify "Automotive Repair Shop" definition, as specified below

The Proposal defines automotive repair shops based on standard industrial classifications (SIC codes). Proposal at 3. In so doing, it provides exceptions for SIC codes 5013 (essentially wholesale parts suppliers), 5014 (wholesale tire suppliers), and 5541 (retail gas stations) that are unnecessarily and unacceptably broad, as well as being vague in many cases. For example, facilities providing supplies and new parts (code 5013) are exempted as long as they do not store hazardous substances or recycled oil outside; however, the definition does not define "hazardous substances," a term that has different meanings in different contexts even within the area of water quality law. The phrase should be defined to include any substance designated in 40 C.F.R. part 116, pursuant to section 311 of the Clean Water Act, which is how it is defined for the NPDES program generally. See 40 C.F.R § 122.2.

Moreover, there are many types of automotive-related supplies that may not qualify as hazardous substance, but that may nevertheless contribute pollutants of concern to the receiving waters if left outside to come in contact with runoff. Any outside storage of automotive supplies should suffice to impose the requirements related to automotive repair shops on this category of facility.

Similarly, tire and tube suppliers (SIC code 5014) are excluded from categorization as "automotive repair shops" as long as they do not engage in repair work. This should be clarified to include tire and tube installation and should include the outside storage of other automotive supplies or hazardous materials as well.

Finally, the Proposal excludes retail gasoline stations (SIC code 5541) as long as they do not perform any onsite repair work. They should only be excluded if they meet all of the prior criteria, meaning they not only do they perform no onsite repair work, but they do no installation of new parts or upgrades, and they do not store any hazardous substances (properly defined) or other automotive supplies outside.

Request: Modify the exceptions provided for facilities with SIC codes 5013, 5014, and 5541 so that they are excepted *only* if they perform none of the pollution-producing activities described above.

(e) Remove the small restaurant exemption

Section 9 of the Proposal concludes by completely excluding small restaurants (those of less than 5,000 square feet) from the BMP sizing requirements. However, there is no necessary correlation between the size of a restaurant and the amount of pollution it produces. A small restaurant can produce much greater storm water pollution than a large one, depending on the materials they use and their source control practices. All restaurants should be required to meet the same standards with respect to the runoff generated by their sites. Because smaller sites generate less runoff, the burden on them will automatically be proportionately smaller.

Second, the failure to provide a means for public review and comment violates federal regulations applicable to state NPDES programs. Federal law requires that any change to an NPDES permit that does not meet one of the criteria for a "minor modification" must go through public notice and comment proceedings. 40 C.F.R. § 122.62 and 122.63. The granting of an exemption for other than purely factual reasons can constitute a permit modification. Cf. Hampson v. Superior Court, 67 Cal. App. 3d 472, 483-84 (1977).

Third, the delegation of such authority to the Executive Officer, without any provision for Regional Board review, violates the limitations on the Regional Board's ability to delegate its duties. See Cal Water Code § 13223. This statute prohibits the Regional Board from delegating its power to modify waste discharge requirements ("WDRs"). The SUSMP is a provision of an NPDES permit and of a WDR. Furthermore, in a similar situation, Hampson specifically held that, although a regional board resolution could authorize the board's executive officer to make a *preliminary* determination regarding one's eligibility for an exemption, the regional board still had the power *and duty* to review that determination if it would constitute a modification of the waste discharge requirement. Id.

In sum, this waiver provision, which could exempt an unlimited number of developments, is illogical, unwise, and, as written, illegal. **The provision must be significantly modified, if not removed.**

Request: Modify this provision to allow dischargers to seek variances for a showing of impracticability made to, and approved by, the Regional Board.

Problem '5: The SUSMP Should not Allow Self-Certification of Compliance

Section 13 allows developers to certify that they have complied with the requirements of this SUSMP, thus avoiding any municipal or Regional Board review of their development plans. Proposal at 13. Such a provision would be an abdication of the Regional Board's responsibilities under the stormwater program, and **this provision should be removed.** In no other area does the Regional Board allow the regulated community to completely remove itself from regulatory oversight. At a minimum, there must be a mandatory spot checking system so that municipalities retain some sort of oversight over these otherwise-completely unregulated developments.

This section also states that the Executive Officer will decide on the acceptable training and curriculum. This, too, exceeds the Regional Board's authority to delegate duties to the Executive Officer. Just as model programs under the Los Angeles Permit had to come back before the Regional Board for approval, any training program proposed by the Executive Officer as an element of this permit's requirements must be approved by the Regional Board before it is effective.

Problem '6: The Section on Conflicts with Local Practices Vitiates the Proposal

Finally, page 5 of the Proposal allows local practices to override the requirements of the SUSMP as long as the local practices would not "defeat or circumvent the intent of the SUSMP requirements." This vague standard is, once again, an invitation for abuse. Since the cover letter describes the purpose of the SUSMP as being "to ensure that storm water pollution is addressed . . by incorporating [BMPs] in the design phase of new development and redevelopment," one could interpret this exemption as allowing local practices to trump the requirements of the SUSMP as long as they require the incorporation of *some* BMPs in the design phase. Since this is already required under the general development planning program adopted by the Regional Board in January of 1999, this may vitiate the entire SUSMP.

The SUSMP requirements should be implemented like any other program. There is no reason why inconsistent existing practices should trump the SUSMP. **This provision must be eliminated.**

Conclusion

In sum, Staff has proposed a host of alternatives, exemptions, and limitations that, as a whole, threaten to completely negate all of the benefits that the numerical design standard would otherwise produce. There is no justification for retreating from that design standard or providing a series of "back doors" through which developers can avoid it. The proposed standard is entirely reasonable. Indeed, as the following section demonstrates, it is far less restrictive than the standards being adopted by hundreds of other municipalities all over the country. If anything, it should be stronger.

The Proposed Numerical Standard is Necessary and Entirely Reasonable

This is the second time that Staff has recommended the inclusion of a numerical standard within the SUSMP to guide BMP-design and ensure adequate mitigation of stormwater pollution in development planning. Furthermore, Staff both times proposed that the numerical standard to be included should be based on the 85th percentile 24-hour runoff event and on the maximized capture storm water volume for the area, or, in the alternative, a 0.75-inch storm size standard. See Proposal § 9.A, at page 8, and Public Notice No. 99-047 (Aug. 16, 1999) at 2-3. This is the minimum acceptable standard for development planning in the Los Angeles area,[3] and it provides a good starting point for the implementation of this aspect of the Los Angeles and Long Beach Permits.

NRDC also recognizes that the current Proposal provides two additional methods for calculating the exact standard to be applied to any given development. See Section 9.A. Thus, Staff has provided maximum flexibility to developers and municipalities while still ensuring a minimally-adequate level of mitigation of stormwater pollution. **NRDC supports the use of this numerical standard and its formulation in the current Proposal.**

The first section below provides a sense of just how reasonable the proposed numerical standard is in comparison to other programs being implemented across the country. It also relays the results of a survey of similarly-structured programs that are being implemented in thirty-two different geographical areas around the country.

The other two sections address concerns that were raised by several municipalities at the September 16, 1999 hearing regarding the technical effectiveness, and the *cost*-effectiveness, of the BMPs in the program. Their complaints generally took the form of alleging – without any evidence – that there was a lack of data to support the use of these BMPs. As we demonstrate below, this claim is completely fallacious, as there is, and has been for years, an incredible wealth of data supporting both the effectiveness, and the cost-effectiveness, of these BMPs.

In responding to these municipalities' concerns, it bears repeating that the selection of BMPs is **not even at issue** in this proceeding, as the Regional Board has already adopted a list of BMPs for the development planning program under the Los Angeles Permit. See Regional Board Resolution No. 99-03, April 22, 1999, attached as Exhibit F. Thus, the Regional Board has already determined that the BMPs in this program are both cost-effective and appropriate. We nevertheless review the wealth of data regarding the effectiveness and cost-effectiveness of the structural BMPs approved by the Regional Board last April, in response to these concerns.

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[3] As indicated in the September Letter, NRDC believes that the threshold should actually be higher. We believe that new development projects should be designed to mitigate all the runoff generated by storms of up to either 1.0-inch or the size of a one-year, 24-hour storm, whichever is greater. Many areas around the country use a 1.0-inch standard, many others use the six-month or one-year, 24-hour storm standard; and still others require BMPs in new and redevelopment to be designed with sufficient capacity to ensure that they capture 90% of the stormwater generated. See, e.g., Table 1, on page 13. Given the hydrology of the Los Angeles area, any of these standards would translate to at least a 1.0-inch storm.

Hundreds of Municipalities Across the Country Use Similar or Stronger Standards

At the September 16, 1999, hearing at which the Regional Board heard testimony on this issue, representatives of several municipalities, as well as the building industry, decried the alleged difficulties of implementing the proposed numerical standard and the alleged hardships that would befall them and (in the case of the municipalities) their constituents, if this standard were to be adopted. None of the speakers presented any evidence in support of their "parade of horrors" scare tactics. Instead, they simply – and incorrectly – implied that there was no basis for the standard that Staff had recommended.

As we showed in great detail in our September Letter, not only was there a basis, but a technically-sound, environmentally-critical basis for adopting a standard at least as stringent as the one proposed by Staff. Furthermore, there are literally hundreds of municipalities across the country already employing such standards.

Many municipalities have structured their standards in ways that make them difficult to compare. However, one of the nation's leading experts in stormwater management engineering, Dr. Richard Horner, has noted that, although there are myriad ways of articulating a standard for BMP design, in his professional judgment, "the majority of municipalities that have a numerical standard [such as the one listed in the current Proposal] have **a more stringent one than Los Angeles County's**." See Supplemental Declaration of Richard R. Horner ("Horner Suppl. Decl.") ¶ 7, attached hereto as Exhibit G (emphasis added). And in fact, **three of the Nation's leading stormwater experts have all submitted affidavits or letters supporting the use of this standard**. See Exhibit H.

Moreover, the legal standard for municipal stormwater pollution management requires that this Development Planning program be structured so as to reduce pollutants in stormwater to the "maximum extent practicable." 33 U.S.C. § 1342(p)(3)(B)(3); Los Angeles Permit, Part II, at page 12. Given this standard, the fact that other municipalities are implementing more stringent standards, **in and of itself**, should suffice to show that this is a practicable option and therefore **must** be implemented.

Presented below, in Table 1, is a partial listing of several hundred municipalities around the country that employ more stringent standards than the one currently proposed by Staff. Table 2 lists additional municipalities that employ equally stringent or more stringent standards, depending on the situation. This list is by no means comprehensive – it comes from an academic survey of 32 city, county, regional, and state programs[4] – however, it serves as an indication of how common the proposed approach is.

[4] Institutional Aspects of Urban Runoff Management: A Guide for Program Development and Implementation, Watershed Management Institute, Inc. (1997).

Table 1 – Standards Exceeding the Los Angeles County Standard of Runoff from the First 0.75 Inches of Rain:

Municipality or Municipalities	Design Standard for Treatment Control BMPs	Equivalency to Standard Proposed for Los Angeles
All municipalities in the "Puget Sound Basin," which encompasses a 12-county region, and well over 100 individual municipalities.	Runoff from 6-month, 24-hour rainfall.	**1.2 inches** for the Seattle area; a similar amount in most other highly urbanized areas (A few smaller urban areas have either heavier or lighter rainfall, but all have a standard exceeding Los Angeles County's.)
Clark County, Washington	Runoff from 6-month, 24-hour rainfall.	Approximately **1.2 inches**.
State of New Jersey (all municipalities)	Runoff from first 1.25 inch of rainfall occurring in 2 hours, or runoff from 1-year, 24-hour rainfall event, whichever is greater.	**1.25 inches or greater**
State of Delaware (all municipalities)	First 1 inch of runoff	**Greater than 1.0 inch**
State of Maryland (proposed new standard for all municipalities)	Runoff from 90% of average annual rainfall	Approximately **1 inch** of rain in most places in the state.
Northeast Illinois Planning Commission (Metropolitan Chicago)	Runoff from first 2 inches of rainfall (except runoff from 6-month [unstated duration] rainfall event for swales)	**2.0 inches**, except for swales, which could be more or less.
Austin, TX	First 0.5 inch of runoff + 0.1 inch of runoff for every 10% of impervious area above 20%	**1.3 inches or greater**.

Orlando, FL	First 0.5 inch of runoff, or runoff from first 1 inch of rainfall, whichever is greater.	1 inch or greater.
Winter Park, FL	First 1 inch of runoff	Greater than 1 inch.

Table 2

Standards Exceeding the Los Angeles County Standard (Runoff from First 0.75 Inches of Rainfall) Under All or Most Circumstances:

Municipality or Municipalities	Design Standard for Treatment Control BMPs	Equivalency to Standard Proposed for Los Angeles
Florida (Water Management Districts and municipalities that have not adopted their own standard)	First 0.5-1.5 inch of runoff, depending on BMP, receiving water, and impervious fraction.	Greater than 0.5, almost always greater than .75, and often above 2.0.
South Florida Water Management District (Miami-West Palm Beach metropolitan areas)	Runoff from first 1.0-2.5 inches of rainfall (depending on impervious fraction) multiplied by impervious fraction.	Almost always greater than 0.75
Suwanee River Water Management District, FL	First 0.5-2 inches of runoff, depending on BMP, receiving water, and impervious fraction	Usually greater than 0.75
State of Virginia	Basic treatment volume is first 0.5 inch of runoff, but wet pond is to have wet pool volume = 3 times basic treatment volume	Usually greater than 0.75, and always greater than 0.75 for wet pools.

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The Relevant BMPs Have Repeatedly Been Shown to be Highly Effective

Another concern raised by several municipalities at the September 16, 1999 hearing, was over the effectiveness of the BMPs. There is no doubt that structural BMPs are a highly effective means of controlling stormwater pollution, and any uncertainty regarding the effectiveness of individual or specific BMPs has been substantially reduced by the myriad technical studies that have been performed on this subject. Indeed, contrary to the claims of several municipal representatives at the September 16, 1999 hearing, EPA has recently noted that "[t]here has been a great deal of published data documenting the efficiency of BMPs in removing pollutants from storm water." Preliminary Data Summary of Urban Storm Water Best Management Practices, EPA (Aug., 1999) ("EPA Study") at 5-50. In fact, there have been "[s]everal nationwide monitoring programs . . . to evaluate the performance of storm water BMPs," as well as data in the professional literature and "a large amount of data . . . collected by various cities and municipalities as part of the storm water permitting program." Id. at 5-46 – 5-48. Indeed, some of the data recounted below has been known for over 15 years, making the municipalities' claims perplexing. See, e.g., U.S. EPA, *Results of the Nationwide Urban Runoff Program (Volume 1-Final Report)*, December, 1983, at 6-1 – 6-64.

In addition, two separate groups have developed databases on the issue of BMP effectiveness. "The Center for Watershed Protection . . . has prepared a database containing BMP performance data for 123 structural BMPs," id. at 5-47, and the American Society of Civil Engineers ("ASCE") has developed what EPA refers to as "a comprehensive database on BMP performance." www.epa.gov/OST/stormwater, visited on Dec. 10, 1999. The Center concluded that "there is enough data to select specific BMP groups on the basis of their comparative ability to remove specific pollutants." "Comparative Pollutant Removal Capability of Urban BMPs: A Reanalysis," Watershed Protection Techniques; Vol. 2, No. 4, June 1997, Technical Notes – Stormwater BMPs; Technical Note 95 at 520.

Although a complete literature review and summary is beyond the scope of this letter, the attached excerpt from Fundamentals of Urban Runoff Management: Technical and Institutional Issues, R. Horner, J. Skupien, E. Livingston, and H. Shaver (Aug., 1994), see Exhibit I, reports the results of several in-depth studies on BMP effectiveness. The information is provided as exemplary of the sort of data that has been generated regarding the effectiveness of BMPs. It is by no means the only source of information on the subject. It is but one example of the sort of detailed information that has been developed to characterize the effectiveness of structural BMPs. Some of the conclusions of the report are summarized below. Additionally, Table 5-7 from the EPA Study, attached hereto as Exhibit J, reports similar pollutant removal levels for total suspended solids, nitrogen, phosphorus, pathogens, and metals, for 10 types of BMPs.

All of the BMPs listed below are on the Regional Board's list of approved BMPs for use in the Development Planning Program under the Los Angeles Permit. See Regional Board Resolution No. 99-03, attached as Exhibit F. Thus, the following data directly reflects the effectiveness of the existing program.

A. Wet ponds

EPA's Nationwide Urban Runoff Program ("NURP") performed a comprehensive investigation of pond design and performance. Performance was found to relate best to volume ratio (the ratio of pool storage volume to mean storm volume). Total suspended solids ("TSS") reductions were found to reach 100% with sufficient volume ratio. Similarly, lead reductions could be greater than 90%, phosphorus reductions greater than 60%, and copper and zinc reductions as high as 50%. Seattle's water quality design storm is equivalent to a volume ratio of approximately 2.5, which yields reductions in TSS of 75%, lead of over 70%, phosphorus of 50%, and copper and zinc of 40%. Fundamentals of Urban Runoff Management, R. Horner et al., Exhibit I, at 120-21.

B. Extended-Detention Dry Ponds

A 1990 study by Stahre and Urbonas analyzed several studies of long-term efficiencies for various pollutants and a 40-hour detention time. The researchers concluded that dry ponds under such conditions could remove 50-70% of TSS, 75-90% of lead, 50-90% of bacteria, 50-70% of hydrocarbons, 30-60% of zinc, 20-40% of chemical oxygen demand, and 10-20% of total phosphorus and total nitrogen. Id. at 122.

C. Vegetative Practices

A 1992 performance investigation in the Puget Sound area of Washington found grass swales can be effective in capturing solids, oils, and the least soluble metals. Over a six-storm period, the swale, with an average hydraulic residence time of nine minutes, removed an average of 83% of the TSS, 75% of oil and grease/TPH, 72% of iron, over 60% of the lead, turbidity, and T-Zn/T-Al, and even removed 30% of the *dissolved* zinc. Id. at 124.

D. Constructed Wetlands

Another 1992 study, by Strecker, considered more than 140 papers and reports and assembled detailed information on 18 locations within the United States. The study found median pollutant removals of 80.5% for TSS, 44.5% for ammonia-nitrogen (NH_3-N), 58% for total phosphorus, 83% for lead, and 42% for zinc. Id. at 128-29.

E. Sand Filters

Monitoring sand filters in Austin, Texas, Shaver reported expected pollutant removal efficiencies of 75-87% for TSS, 71-88% for lead, 49-82% for zinc, 19-61% for total phosphorus, and 36-37% for fecal coliform, among other pollutant parameters. Id. at 138.

F. Leaf Compost Filters

A leaf compost filter developed and tested by W and H Pacific (1992) showed influent event mean concentrations to be reduced, on average, by 95% in TSS, 84% in turbidity, 67%

chemical oxygen demand, 41% phosphorus, 88% zinc, and 87% total petroleum hydrocarbons, among other results. Id. at 139.

G. Catch Basin Filters

Before independent testing, "MacPherson reported concentration reductions of 90 percent for total suspended solids, 87 percent for lead, 77 percent for zinc, and 86 percent for copper." Id. at 139. Dr. Michael Stenstrom has also reported removal efficiencies of 50 to 90 percent for petroleum hydrocarbons, and up to 99 percent for sediments and trash. See Santa Monica Bay Restoration Project Catch Basin Study, 1998 (Michael Stenstrom, Ph.D., primary author).

H. Continuous Deflective Systems

Robin Allison, of the University of Melbourne, in Victoria, Australia, found continuous deflective systems, or CDS, to remove 70 to 85 percent of trash, vegetation *and* TSS. R. Allison, B.E., Ph.D., "Effectiveness of Two Stormwater Trash Trapping Systems" (1998). See Exhibit K.

I. Conclusion

There is an enormous body of detailed technical information regarding the efficiency of the various structural BMPs listed above. Because the BMPs listed above are part of the existing Development Planning program, see Regional Board Resolution No. 99-03, attached as Exhibit F, this data is directly on-point and completely supportive of the Board's decision to require that these BMPs be sized to work most effectively.

The data presented herein is also highly relevant because the pollutant parameters for which these structural BMPs have been tested – and for which they have proven to be the most effective – are the same pollutants for which the vast majority of the waters of this region are listed as impaired. The Los Angeles River, for example, is presently listed as being impaired by ammonia, coliform, lead, oil, and nutrients such as nitrogen and phosphorus, among other things, see 1998 California 303(d) List and TMDL Priority Schedule, approved by EPA, May 12, 1999 ("303(d) list") at 79-81, all of which can be effectively managed by the BMPS listed above. Even a casual review of the 303(d) list reveals that most of the contaminants listed above, including copper, lead, zinc, TSS, coliform, and nutrients, are ubiquitous problems in the Los Angeles area. Indeed, with the impending development of TMDLs for these impairments, the implementation above the above BMPS may actually soon be *mandated*.

There is Ample Data Regarding the Reasonable Costs of Structural BMPs

A. The Municipalities' Demands Regarding the Consideration of Costs Show a Fundamental Misunderstanding for the Structure of the Clean Water Act.

Several of the municipal representatives who spoke at the Regional Board's September 16, 1999, hearing on this issue complained that there was insufficient data on the costs of the

various BMPs to assess whether they should be required. If effectiveness is viewed as a measure of the benefit of a BMP, they argued that, even if we knew how effective the BMPs were, and therefore what the benefits are, the absence of cost data nevertheless meant that there was not enough data to justify the BMPs on a cost-benefit basis.

As an initial matter, it should be noted that a cost-benefit analysis is not required at this stage in the implementation of the Clean Water Act's stormwater management program. Costs, to the extent they are relevant at all, have been factored into the equation in designating the beneficial uses for the receiving waters. Once uses are designated for those water bodies, the Clean Water Act requires that sufficient controls be implemented on all sources of pollution to *assure* that those standards are attained. See, e.g., 33 U.S.C. § 1313(d)(1)(C); see, also, id. at § 1312(a). Also, once again, the BMPs at issue were selected and/or approved by the Regional Board nine months ago, see Exhibit F at 16-31, so their propriety is not in issue in this action. The only question before the Board is the appropriate sizing of the pre-approved list of BMPs that the municipalities must require of new and redevelopment regardless of how the Board acts on the instant issue.

Further, although the municipalities' objections do not relate to the propriety of adopting a numerical sizing standard, it is worth noting that this element – the development of SUSMPs with meaningful standards – is *mandated* by the Los Angeles Permit. The permit *requires* that SUSMPs and guidelines for their preparation be developed. Los Angeles Permit § III.A.1.c. It also states that, in order to implement a program for planning measures consistent with the SUSMPs, permittees "shall require that the project applicant submit an [USMP] appropriate and applicable to the project." Id. at § III.A.2. Thus, the permit requires the adoption of SUSMPs and envisions that the Regional Board will develop standards, such as the numerical standard at issue, to assessing the adequacy of the specific USMPs submitted by developers.

Finally, the statute itself, as well as the permit, requires that the Development Planning program be structured to reduce pollutants in stormwater to the maximum extent practicable. 33 U.S.C. § 1342(p)(3); Los Angeles Permit, Part II, at 12. Given the number of municipalities that are implementing more stringent sizing standards than this Regional Board is considering, see section above entitled "Hundreds of Municipalities Across the Country Use Similar or Stronger Standards," there can be no doubt that the standard before the Board is not impracticable.

B. The Economic Data is Plentiful

Even if a cost-benefit assessment were required at this stage, the municipalities' claim that there is some general dearth of economic data on the cost of BMPs is simply false. EPA's Preliminary Data Summary of Urban Storm Water Best Management Practices, supra at page 15, discusses the costs (and benefits) of stormwater BMPs, in chapter 6. Table 6-1, attached hereto as Exhibit L, lists typical base capital costs, in dollars per cubic foot of treated water volume. Using that table, and even assuming 100% imperviousness, a one-half acre development would be required to spend between approximately $675 and $8,000 to construct and install a

sufficiently-sized structural stormwater BMP(s).[5] Similarly, a 10-acre complex could be required to spend as little as $13,500 or, using the most expensive BMPs, as much as $161,000.[6]

EPA goes on to note that, in part because of economies of scale, the costs of many BMPs will vary from these numbers as the sizes increase, making it useful to assess the total cost of typical applications of each BMP. Table 6-2, attached as Exhibit M, shows the costs for the same eight BMPs for 5- and 50-acre sites.[7] These amounts are likely to be only a small fraction of the overall costs to develop lots of this size. The Center for Watershed Protection concluded that "about a third of every dollar spent on stormwater pond construction was devoted to water quality control, with the remainder spend on flood control storage." "The Economics of Stormwater BMPs: An Update," Watershed Protection Techniques: Vol. 2, No. 4, June 1997; Technical Notes – Economics; Technical Note 90 at 496. Furthermore, the Regional Board Staff itself performed "BMP cost calculations for an actual site in Los Angeles in the process of development and determined that the mitigation criteria cost is **less than 0.5 percent of the project cost.**" Staff's "Summary of Comments Received and Response," Dec. 7, 1999, at 3.

In any event, the wealth of data regarding the costs of BMPs should put to rest the notion that such data is unavailable.

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[5] 0.75 inches of rain on a 100% impervious surface would generate 0.75 inches (or 0.0625 feet) of runoff. One-half acre is 21,500 square feet. 0.0625 feet of water over 21,500 square feet yields 1,344 cubic feet of water, which, when multiplied by .5 to 6 (the approximate range of costs reported in Table 6-1) yields costs of between $672 and $8,064.

[6] Again assuming 100% imperviousness, since ten acres is 430,000 square feet, the site would yield 26,875 cubic feet of water. Multiplied by .5 and 6, that volume yields costs of $13,437 and $161,250.

[7] As EPA's data ranges from two to nine years old, these numbers should be adjusted for inflation, in addition to a further adjustment for regional factors.

Recommended Changes

The following is a proposed resolution for the Regional Board's adoption. Adoption of this resolution would affirm the well-supported numerical standard proposed by Staff while eliminating the exemptions and scope limitations that will undoubtedly hamper the effectiveness of this program.

The Regional Board hereby adopts the current Proposal from Staff with the following modifications:

1. Remove the roofing exclusion from section 9, on page 9.

2. Remove the final paragraph within section 9, which excludes small restaurants (those of less than 5,000 square feet) from the requirements established in that section.

3. Modify Section 11, on Waivers, to allow dischargers to seek variances only upon a showing of impracticability made to, and approved by, the Regional Board, following adequate public notice and opportunity for public comment.

4. Remove section 13, allowing self-certification of compliance.

5. Remove the section on page 5 entitled "Conflicts with Local Practices."

6. Expand the scope of the program to include all the project and activity types covered by Los Angeles County's program, including removal of the limitation to discretionary projects, by doing the following: (a) change the sentence in the last full paragraph on page 2 of the Proposal from:

"This SUSMP applies to projects that are Priority Projects (Discretionary Projects) as defined by the NPDES Permit;" to read:

"This SUSMP applies to all project and activity types described in attachment 1;" and

attach the list from the Los Angeles County Stormwater Management Manual, see Exhibit C, as attachment 1.

(b) Remove the word "discretionary" from the beginning of the last line on page 2 of the Proposal.

(c) Remove the top paragraph from page 5, defining "Discretionary Project."

7. Modify the definition of "Retail Gasoline Outlet" on page 3 of the Proposal to say that any commercial facility that includes a pumping station qualifies as a retail gasoline outlet subject to the requirements applicable to such entities. If other facilities, such as convenience stores, are associated with the pumping station, the requirements for gas stations only apply to the area around the pumping station, which will be the greater of the area 50 feet outward from the outer-most pumping stations or half way to the associated facilities.

8. Modify the definition of "Hillside" on page 3 so that it reads as follows: "'Hillside' means property located in an area that has any of the following characteristics, or where the planned development has any of the following characteristics:

"location in an area known to have erosive soil conditions as identified in the *Los Angeles County Department of Public Works Hydrology/Sedimentation Manual*;

"grading will occur on any natural slope where the natural slope is 15% or greater; or

"plans include cut or fill slopes that are 30 feet high or greater."

9. Modify the definition of "automotive repair shop" as follows:

(a) Facilities with SIC code 5013 are exempted only if they do not store hazardous substances (meaning any substance designated in 40 C.F.R. part 116, pursuant to section 311 of the Clean Water Act), recycled oil, or automotive-related supplies, outside.

(b) Facilities with SIC code 5014 are excluded only if they do not engage in repair work or tire and tube installation and do not store automotive supplies or hazardous materials (defined as any substance designated in 40 C.F.R. part 116, pursuant to section 311 of the Clean Water Act) outside.

(c) Facilities with SIC code 5144 are excluded only if they meet all of the prior criteria, meaning they not only do they perform no onsite repair work, but they do no installation of new parts or upgrades, and they do not store any hazardous substances (as any substance designated in 40 C.F.R. part 116, pursuant to section 311 of the Clean Water Act) or other automotive supplies, outside.

* * *

Thank you for the opportunity to comment on the Regional Board Staff's proposed SUSMP for the Los Angeles and Long Beach Permits. If you have any questions regarding any of the above, feel free to contact Alex Helperin at (323) 934-6900.

Sincerely,

David S. Beckman
Senior Attorney
Natural Resources Defense Council

Alex N. Helperin
Attorney
Natural Resources Defense Council

Steven E. Fleischli
Executive Director
Santa Monica BayKeeper

Mark Gold
Executive Director
Heal the Bay

cc: Felicia Marcus, Regional Administrator, USEPA, Region IX
Winston H. Hickox, Secretary of Environmental Protection, Cal/EPA
Alexis Strauss, Director, Water Program, USEPA, Region IX

Enclosures

R0068486

11-249

[redacted]
Heal the Bay

www.healthebay.org

January 14, 2000

Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plans

Dear Mr. Dickerson:

Heal the Bay has reviewed the proposed *Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County* submitted by the Los Angeles Regional Water Quality Control Board Staff on December 7, 1999 (the "December 7th Proposal") for approval by the Executive Officer under the Municipal Storm Water Permit for Los Angeles County and Cities. We hereby join in the comments of the Natural Resources Defense Council (NRDC) and submit the following comments on behalf of Heal the Bay and its members. We also hereby incorporate Heal the Bay's comments submitted on September 7, 1999 concerning the preceding version of the Proposal issued by the Regional Board staff on August 11, 1999 (the August 11th Proposal).

General Comments

Although Heal the Bay found ample room for improvement of the August 11th Proposal (see our comments submitted September 7, 1999), we were so strongly supportive of the numerical mitigation measure proposed therein that we called upon our membership and other citizens and organizations to voice their support for the August 11th proposal as an important step toward cleaner coastal and inland waters. Consequently, we were alarmed to discover that the December 7th Proposal, modified in an apparent effort to placate disgruntled municipalities, takes numerous dramatic steps backwards from achieving enforceable and effective regulation of storm water and from realizing the goals of the Clean Water Act.

Exemptions are the Rule

The December 7th Proposal sets forth the promise of a new era of reduced urban runoff, when priority new and redevelopment sites must apply appropriately designed BMPs to capture, infiltrate or treat runoff generated by the 85th % storm or the 0.75 inch – 24-hour storm. But the promise of this new era of runoff-reduction from new and redevelopment vanishes as exemptions prove to swallow the rule. The following is a list of exemptions to the numerical mitigation standard that serve to vitiate it:

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[redacted]

11-350

P.2

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Dennis Dickerson
January 14, 2000

The Rooftop Exclusion

The exclusion of roofing surfaces from the total area for calculation of rainfall or runoff volume to be treated guarantees undersizing of BMPs to accomplish the stated goal of capturing 85% of the total runoff from the sites. Worse yet, the roofing exclusion encourages building from lot line to lot line, and discourages landscaping on site. Thanks to this exclusion, the bigger the rooftop, the less storm water to treat or infiltrate, as storm water from roofing surfaces may be diverted directly to a storm water conveyance system. Thus, rooftop runoff bypasses the mitigation measure and goes straight into street gutters and stormdrains, carrying pollutants to receiving waters. This is exactly what the SUSMP provision and the Stormwater NPDES permit authors were trying avoid.

Rooftop runoff contributes both significant volume and pollutant loadings to the total urban runoff problem. It is a complete travesty that rooftops have been excluded when they serve as the deposition site for so much aerial pollution and provide such a large percentage of the total impermeable surface in this region. The Center for Watershed Protection has demonstrated a strong correlation between the percentage of impermeable surface and the health of receiving waters and habitat.

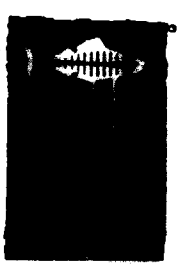
Finally, the rooftop exclusion has not been used anywhere in the nation and has absolutely no substantiation in the record. Staff developed the exclusion just to appease opponents of the 0.75 inch and 85th % standards. This exclusion has no sensible justification in terms of achieving water quality standards, and can only be seen for what it is, a sell-out to the vocal opposition of the proposed numerical mitigation measure.

Small Restaurants

The exclusion of restaurants less than 5,000 square feet is nonsensical. The size of a restaurant may have little to do with the amount and quality of runoff it produces (they all have kitchens, garbage bins and parking lots), and this exclusion would cover the majority of restaurants.

Local Practices Prevail

Your response to comments states that "federal laws and regulations require that controls on new and redevelopment be enforceable." Yet the December 7th Proposal allows permittees to continue with local practices that conflict with the SUSMP requirements except where those practices would "defeat or circumvent the intent of the SUSMP requirements." This begs the question: How will the Board enforce a standard that can be replaced by any other so long as it doesn't defeat the intent of the standard? The SUSMP should provide definitive standards that are clear to the regulated community and the public in whose interest these standards are adopted.



2701 Ocean Park Blvd., Suite 150
Santa Monica CA 90405

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Impracticability Waivers

Permittees can provide for a waiver of the SUSMP requirements if "impracticablity" for a specific property can be established. "Recognized situations of impracticability include: (I) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because an underground source of drinking water is less than 10 feet from the soil surface."

Since the December 7th proposal calls for treatment OR infiltration, the listed "recognized situations of impracticability" is perplexing. For example, if infiltration is impracticable because of unstable soil conditions or the risk of groundwater contamination, treatment may be practicable.

One can envision an extremely rare situation at a redevelopment site where there is insufficient room for infiltration or treatment. We are intrigued by the idea of in-lieu fees set forth in the December 7th proposal whereby the project proponent in these cases could contribute to a fund used to reduce the overall amount of storm water pollution in the watershed. However, we question the workability of having the "savings in cost" determined by the project proponent. How will this sum be determined? Infiltration could cost next to nothing, so this storm water abatement fund could add up to a big nothing.

The December 7th proposal should be amended to reflect that certification of groundwater contamination risk or geologic hazards must be provided by a California Registered Geologist.

Finally, the provision that the Executive Director may approve any other justification for impracticability is troublesome. What are the standards? Where is the public in this decision making process? Too much reliance on the Executive Officer's discretion for approval has already led to tremendous delays and spotty implementation of the current Los Angeles County Stormwater NPDES permit.

Clarification of Exemptions not provided

The Regional Water Quality Control Board needs to clarify that the SUSMP requirements apply to all categories of priority development. As stated previously we oppose all exemptions. RWQCB staff has not differentiated between exemptions from the 85th % standard and other SUSMP requirements. Please clarify that exemptions only apply to the 85th% standards, not certain types of gas stations, small restaurants, etc.

Alternative Certification for Storm Water Treatment Mitigation

The provision that allows for permittees to accept a signed "certification" stating that a developer's plan meets the criteria established in the SUSMP, and that the plan preparer has undergone training on designing BMPs to meet the numerical mitigation criteria. This "certification" is in lieu of the permittee actually verifying BMP adequacy.

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Dennis Dickerson
January 14, 2000

Heal the Bay is opposed to the proposed self-certification of compliance with no requirements set forth for plan preparers. This system will only work if plan preparers undergo legitimate training and certification as occurs in the fields of lead and asbestos abatement.

Guidance to Cities

The December 7th Proposal states in the "Background" section that "The permittees are required to use this SUSMP to develop their own citywide SUSMP." This guidance is not sufficient. The SUSMP needs introductory language clarifying that the permittees shall adopt the standards set forth therein in their own citywide SUSMPs.

Environmentally Sensitive Areas

Heal the Bay is pleased to see the additional SUSMP for development that may impact Environmentally Sensitive Areas. An Environmentally Sensitive Area (as defined in the Long Beach Storm Water Permit) is (a) an area of special biological significance as designated by the SWRCB, (b) an area designated as a significant natural area by the California Resources Agency, (c) or an area designated as an Area of Ecological Significance by the County of Los Angeles. Clearly these areas require the special protection of a SUSMP for all new and redevelopment, including single family homes. The impacts of single family home development in the Santa Monica Mountains has proven to be nothing less than devastating to some riparian habitats in the mountains. An additional BMP for development in these areas should be a buffer zone of at least 100 feet between any development and an Environmentally Sensitive Area.

However, Heal the Bay finds the category description "located adjacent to or discharging to an environmentally sensitive area" to be too ambiguous. In keeping with the intent of the provision, we propose the following revision: "located *within or directly* adjacent to or discharging *directly* into an environmentally sensitive area."

Parking Lots

Heal the Bay is also pleased to see the additional category for "parking lots 5,000 feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff." However, Heal the Bay suggests, in addition, that mitigation of runoff from parking lots should be a separate requirement in every SUSMP category (with the exception of single hillside residence). This requirement should emphasize that parking lots are a significant source of pollutants in runoff and should include a list of BMPs and good housekeeping requirements applicable to all parking lots. In addition, this section should incorporate the numerical mitigation measure that applies to every SUSMP. The City of Santa Monica has successfully required mitigation of a 1-inch, 24-hour storm at parking lots since 1992.

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Dennis Dickerson
January 14, 2000

Definition of Redevelopment

Heal the Bay was concerned that the trigger for application of the SUSMPs to redevelopment in the August 11th Proposal ("where the cost of new improvements exceeds a predetermined threshold [that] shall be consistent with the local jurisdiction's policy for application of other building codes to new improvements") made for an uneven playing field and decreased the applicability of the SUSMPs in less environmentally-progressive municipalities. We believe that the December 7th Proposal solves this problem with a more general definition for redevelopment.

SUSMP Provisions Applicable to All Categories

As stated in our previous comments, the following requirements should be applicable to all categories:

a) Minimize the amount of storm water directed to impermeable areas;
b) Maximize the percentage of permeable surface; and
c) Reduce storm water pollutant loads to the maximum extent practicable.

We are troubled by the limiting definitions contained within the December 7th Proposal provision entitled "Minimize Storm Water Pollutants of Concern." The definition of "pollutants of concern" limits the applicability of the SUSMP standards unduly, especially when this term is modified by the phrase "that may result in significant impacts." There is no definition provided for "significant impacts." Heal the Bay recommends, in the alternative, "reduce storm water pollutant loads to the maximum extent practicable." This language is derived from the Clean Water Act amendments of 1987 and the Municipal Storm Water Permit for Los Angeles County and Cities (Board Order No. 96-054; NPDES No. CAS614001) Part 2 IIII.A.2).

Discretionary Projects

Heal the Bay objects to the limitation of the December 7th Proposal to "discretionary" projects. Los Angeles County does not limit its program to discretionary projects, and there is no justification for this severe limitation. The SUSMP requirements should apply equally to ministerial and discretionary development projects, just like any other building code requirements. Clearly, a parking lot or commercial development covered by ministerial provisions still is a significant pollutant source that needs appropriately sized and designed BMPs.

Xeriscape

As stated in previous comments by Heal the Bay, please add to all SUSMPs that 25% of required landscaped areas must be vegetated with xeriscape.

Outdoor Material Storage Areas

As stated in previous comments by Heal the Bay, within the SUSMP provision "Properly Design Common Outdoor Material Storage Areas," please address the issue of storm water accumulation

11-254

in secondary containment areas not covered with a roof. Please state that storm water that accumulates in the containment area must be treated or infiltrated, not directly discharged into the storm drain system. Also, please provide guidance on what period storm the secondary containment should store without discharge to the MS-4.

Also, properly designed common storage areas should contain trash containers with lids. This is the most cost-effective BMP to prevent polluted runoff, trash and debris problems.

Wildlife Corridors

As stated in previous comments by Heal the Bay, "Conservation of Natural Areas" in the SUSMPs should include state or locally designated wildlife corridors.

Protect Slopes and Channels

As stated in previous comments by Heal the Bay, 'Protect Slopes and Channels" should not be modified by the phrase "if applicable." All project plans must include BMPs consistent with local code and ordinance to decrease the potential of slopes an/or channels from eroding and impacting storm water runoff. This section should also define "slope". In addition, this section should include two additional bullet points, as follow:

* Utilize natural drainage systems when possible, and avoid the activity of replacing natural systems with concrete channels and pipes.

* Where possible, eliminate or reduce runoff flow to unlined channels to the maximum extent practicable.

As stated in previous comments, please include within the "Protect Slopes and Channels" SUSMP provision that riprap or other structural energy dissipaters should never impinge on existing habitats.

Unacceptable Connections to the MS-4

The model program fails to prohibit some unacceptable connections to the MS-4. For example: no connections to the MS-4 should come from wash-down areas, restaurants, fueling, and vehicle maintenance areas contained in new and redevelopment.

Proof of Ongoing BMP Maintenance and Control

We are pleased by the inclusion of BMP maintenance guidelines in order to insure that BMPs get maintained after installation. However we suggest the additional requirement that all structural BMPs should be inspected by the property owner on at least a quarterly basis with proof of inspection (a standard form) to be provided to the municipality.

11-255

Dennis Dickerson
January 14, 2000

Comments for Specific Plans

Single Family Hillside Residence

Heal the Bay objected to the definition of "hillside" contained in the August 11th Proposal because the definition was left to the local jurisdiction making for an uneven playing field and decreasing the applicability of the SUSMPs in less environmentally-progressive municipalities. As stated in previous comments by Heal the Bay, we argue that in order to be effective, the SUSMP must include minimum standards for natural slopes and height of cut or fill slopes. However, the definition of "hillside" within the December 7th Proposal, including "any natural slope", is too broad. We suggest a review of local ordinances to develop these minimum standards, or adoption of the current definitions in the County Public Works Hydrology/ Sedimentation Manual:
1) grading will occur on any natural slope where the natural slope is 15% or greater, and 2) plans include cut or fill slopes that are 30 feet high or greater.

Retail Gasoline Outlets

As stated in previous comments by Heal the Bay, the requirements for gasoline outlets should apply to any retail operation that includes a fueling dispenser regardless of the development's primary activity classification. For example, fueling stations at car washes pose the same risk of storm water contamination as fueling stations at a gas station. We strongly recommend the applicability of this SUSMP be widened to include any retail development that will include a fuel dispenser, including marina fueling stations that don't even have pumps with automatic shut-off valves.

Conclusion

BMPs must be sized correctly to be effective, and numerical mitigation standards are the only guarantee of proper sizing. Heal the Bay remains committed to the three quarter-inch or 85th %, 24-hour storm standards as both a necessary and reasonable step toward clean coastal and inland waters.

The three quarter-inch and 85th %, 24-hour storm standard are accepted by Los Angeles County. On January 11, 1999 the Coastal commission adopted the 85th % standard (or 10% of the 50 year storm) in their Coastal Polluted Runoff Plan. From now on, all Coastal Development Permits, new Local Coastal Plans and Local Coastal Plan amendments must contain these standards. This will apply to **all** new development in the coastal zone. Also, the California Coastal Commission has adopted an 85th % standard for the town plan portion of the Gualala LCP. Similar or more stringent standards have been adopted in jurisdictions across the country. The standard is economically efficient as it is built into the development phase of projects, and the standard prevents costly cleanup away from the source. After a summer of beach closings and the associated economic hardship, the opposition from municipalities to this standard perplexes us.

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Dennis Dickerson
January 14, 2000

The support for this standard is significant, ranging from respected storm water experts Professor Mike Stenstrom from UCLA and Tom Schueler, Director of the Center for Watershed Protection, and a broad base of environmental groups, to the Los Angeles Times and business people who support a more livable Los Angeles.

However, this decision should not be a popularity contest. With over 150 impaired water bodies in the Los Angeles region and increasing development pressures, we must be guided the desperate state of our water quality and the legal mandate to reduce storm water pollution to the maximum extent practicable.

Unfortunately, the December 7th proposal nearly nullifies the numerical mitigation standard with a host of troubling exceptions. We encourage you to eliminate the rooftop; small restaurant, local practices and impracticability exceptions so that the numerical mitigation standard will provide the tremendous water quality benefits it can bestow upon this region.

Thank you for the opportunity to comment on the December 7th draft of the Proposed Standard Urban Storm Water Mitigation Plan. Please call Lisa Boyle at extension 142 if you have any questions about our comments.

Sincerely,

Mark Gold

Mark Gold, D.Env.
Executive Director

Lisa Kaas Boyle (MT)

Lisa Kaas Boyle, Esq.
Director of Law and Policy

11-257

John L. Hunter
AND ASSOCIATES, INC.

January 15, 2000

Dennis Dickerson, Executive Director
California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013-1105

Subject: Standard Urban Stormwater Mitigation Plans (SUSMPs)

Dear Mr. Dickerson;

The development and implementation of the SUSMP program has evolved into one of the most contentious issues of the entire NPDES Stormwater Program. Only now, when the deadline has arrived, are many agencies realizing the total breath and scope of the program and the commitment to reducing stormwater pollution that is required. Many farsighted cities have taken up the challenge of developing a workable SUSMP program, some as early as 1998. These cities include:

Arcadia	Hermosa Beach	Sierra Madre
Baldwin Park	Pasadena	South El Monte
Cudahy	Rancho Palos Verdes	South Gate
Culver City	Redondo Beach	Temple City
El Monte	San Fernando	West Hollywood

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HAZARDOUS
SUBSTANCE
REMEDIATION
LIC. 3382

As with any program of this magnitude, the status varies between individual cities. Some cities already meet essentially all of the major tasks required of the SUSMPs. Others are waiting for the formal approval before finalizing their programs. Adjustments to the cities' programs to meet the final guidelines are not anticipated to require a major effort. These Cities have always supported the Regional Board's reasonable efforts to reduce stormwater pollution.

This program is very complex and highly technical. The Board's staff should be commended for their effort thusfar to simplify and streamline the requirements as much as possible. Having been in the forefront, these cities have overcome many of the technical difficulties associated with a program still in its infancy.

11-258

To improve the program further we offer the following recommendations to the December 7th draft SUSMP program:

Item 2 - Conserve Natural Areas: This requirement contains phrases such as:

"Every effort shall be made",
"Maximize,
"Wherever practical", and
"Preserve"

These are very vague and offer little guidance on what constitutes adequate compliance with the SUSMP program. Reference materials are equally vague. In lieu of specific standards, Cities are left only with their best judgment, which often may not be defensible. At this time, cities should have broad discretion of what constitutes compliance with this item.

3 - Minimize Stormwater Pollutants of Concern: This section refers to many guidance documents for selection of many types of Best Management Practices for many differing situations. There are often several different BMPs any one of which would adequately reduce stormwater pollution. It is not clear if the cities have the discretion to (1) approve a single BMP, (2) a combination of several or (3) are all applicable BMPs required in every situation?

Clearly, requiring every BMP in every situation is not feasible. It must be clear in the SUSMP guidelines that cities have the authority to determine which BMPs are appropriate (see comment item 11).

6 & 7 Outdoor storage and trash areas: Our interpretation thusfar is that these items do not apply to single family dwellings. To eliminate future difficulties, items single family dwellings should be specifically exempted from these requirements.

9 - Design standards: Establishing the design standard as a volume (¾ inches) is pertinent for the capture of rainfall, but not for treatment since treatment equipment is generally rated in gallons per hour. Typical rainfall intensity varies from one location to another (¾ inch per 48 minutes in some areas, ¾ inch per 55 minutes in others, etc.). The criteria for treatment should be a simple easy to remember number throughout the County. We suggest using ¾ inches of rainfall per hour.

Also, the Executive Office, after consultation with the permittees, should have the authority to revise the standards based upon the results of any future credible studies.

General Comment for section 10 A - E: These sections contain many specific requirements. Experience has shown that not all will be feasible in every case. In fact, in most cases an appeal will be made by the builder or developer to waive or modify one or

more requirement for cost, location, space, aesthetic or planning reasons. There is no provision for the waiver or substitution of other BMPs of equal or greater value except to appeal to the Regional Board's staff on a case by case basis. (see next comment)

11-Waiver: This section as worded will result in the Board's staff quickly being inundated by appeals that will far outpace staffs ability to review cases. This could ultimately result in a near halt of many priority projects, clearly not the intent of the SUSMP program. As an alternative, Cities with effective programs should be allowed to approve substitutions (or waivers if appropriate) that are equal to or better than those specified in the SUSMP guidelines.

We recommend that two paragraphs be inserted into section 11:

> *Upon review and approval of the Board's Executive Officer, a Permittee's SUSMP review program may be authorized to either: Provide a for (1) a substitution of a BMP of equal or greater effectiveness in reducing pollutants in storm water runoff or (2) a waiver from any specified BMP requirement if the impracticability of the BMP for the individual property can be established. Recognized situations of impracticability in addition to those listed above, are: (iv) Cost of installing BMPs in redevelopment projects as compared with the overall cost of the redevelopment project, (v) if the requisite BMPs would necessitate extensive construction of areas outside of the proposed project's area, (vi) conflict with existing planning and city code requirements, or (vii) conflict with health and safety requirements. This authorization is subject to the same revocation procedure as above.*
>
> *To be eligible for this authorization, a permittee's principle plan reviewer must either meet the requirements of Section 13 or be (i) a California Registered Professional Engineer, and (ii) a Registered Environmental Assessor and (iii) have a minimum of 10 years of experience in reviewing stormwater runoff systems. The Executive Officer can modify this criteria as necessary to accomplish the goals of the SUSMP program.*

Definitions

Hillside: The proposed definition of a hillside could result in many small projects being subject to the entire SUSMP program requirements. Projects of less than 1,000 square feet should be exempted from the Hillside SUSMP requirement.

In addition, the steepness of the site should be taken into consideration as well. The 25% slope suggested by Los Angles County should be incorporated into the definition. Permittees should also be given the option of modifying the slope to conform with city characteristics if justified.

Environmentally Sensitive Areas: It is realized that any list of these areas will change over time. But in order to move forward as rapidly as possible with effective implementation of the program, the Board should provide the lists as they exist within 30 days of SUSMP approval. The criteria of what constitutes discharging into an ESA should be:

Discharging directly into a listed environmentally sensitive area without having crossed through another jurisdictional boundary.

Redevelopment: This definition while technically accurate does not focus on stormwater concerns. A second sentence should be added:

The SUSMP need only address those areas being redeveloped unless the project exceeds the lesser of either 50% of the value of the site's existing improvements or other related threshold as established by the Permittee.

--- ---

Finally, forward thinking cities have continually made an effort to implement as many facets of the Planning Model Program as soon as reasonably possible as it has evolved over the last three years. As a result, city forms, outreach materials and policies have had to change with every new iteration. As an example, in the last few months, each cities' program was revised when the "0.75 capture" criteria was first espoused. Now, just a few months later, two new categories of SUSMPs are proposed, requiring a re-revision. Program modifications and fine-tuning are a normal course of any new program, but the constant major changes that this program has undergone have added to the challenge of implementing this program. Cities that have demonstrated the willingness to work towards the goal of achieving cleaner stormwater runoff should be granted the authority to work under the best guidelines available when the program was initiated and to augment the program when reasonably feasible.

We look forward to working with the Board in the continued implementation of the SUSMP portion of the overall NPDES Stormwater program. Please call this office if you have any questions.

Sincerely,

John L. Hunter, P.E.
President

Sheila Kennedy
Vice President

11-361

Item 11 - SUSMP Public Comment Letters

In Support of Staff Proposal to Reduce Runoff

Example of the form letter received by the persons listed below is attached for your information.

Haan Fawn, Resident, Los Angeles
Karineh Sankian, Resident, La Crescenta
Chua Waul, Resident, Los Angeles
Todd Nora, Resident, Santa Monica
Grant Ramey, Resident, Santa Monica
William Kozma, Resident, Malibu
Rich Thigpen, Resident, Culver City
Victoria Wikle, Resident, Calabasas
Nancy Akers, Entertainment Marketing, Los Angeles
Bonnie Shatz, Saving Life on Earth
Hona Hyun, Resident, Resident, Los Angeles
Nola Butler Byrd, Resident, Lakewood
Jennifer Laird, Resident, Studio City
Eileen Espejo, Resident, Long Beach
Amo Tran, Resident, Rosemead
John Treanor, Resident, Venice
Stacey T. Hull, Resident, Glendora
Rachel McNevin, Resident, Santa Monica
Alex Huters, Resident, Pacific Palisades
Dayna Harary, Resident, Los Angeles
Susan Chun, Resident, Los Angeles
Azure Gilman, Resident, Santa Monica
Jeff Conn, Resident, Pacific Palisades
Cristie Moon, Resident, Venice

South Bay Surfrider Chapter

Steve Fisher
Jason Ritacco
Edward Vincent
Shiela Tamb
Cynthia Page
Tom Marollino
Thomas Salice
Jeffrey Thomas Thatcher
R.J. Ardon
Mitchell Lambert
Lawrence Eason

11/18/99

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. On January 6, 2000, we urge you to adopt the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

We have been brought to this crossroads by extensive development that completely disregards the quality and quantity of runoff generated. The Los Angeles Region already suffers from some of the worst water quality in the nation. Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

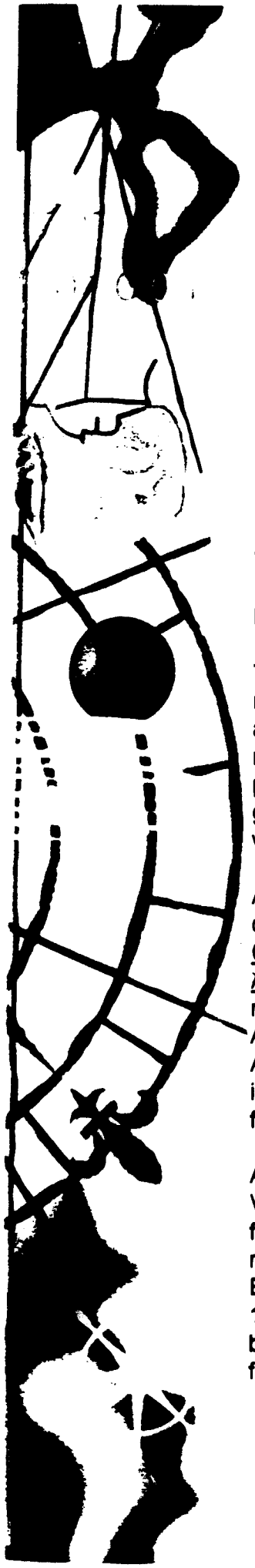
Sincerely,

LAWRENCE EASON 11/15/99

South Bay Surfrider Chapter

R0068500

USING A EXAMPLE OF FORM LETTER



FRIENDS OF THE SAN GABRIEL RIVER

P.O. Box 3725, South El Monte, CA 91733

(626)794-1

Last submittal in SUSMP Binder

Friday, January 15th, 200(

Chairman David Nahai an
Los Angeles Regional Wa
320 West 4th Street, Suit
Los Angeles, CA 90013

RE: Proposed Standard Storm Water Mitigation Plan (SUSMP).

Dear Chairman Nahai and Members of the Board,

The 0.75 inch 24 hour storm numerical standard retention design must remain undiluted by any exceptions, exemptions or exclusions. As well as waivers not brought before you for discussion and public scrutiny.

The rooftop exemption (Requirement 9) has no technical basis, is ridiculous and must be removed. This only exacerbates the continued water quantity problems and adds to the need for flood control projects. This exemption does not seek to retain runoff onsite for later reuse for irrigation purposes or home heating or cooling purposes as some of the new architecture designs for homes are promoting. This goes contrary to the philosophy for the need for water conservation and reuse as well as the reduction of unnecessary runoff which acts as a conveyor for pollutants.

At the turn of the century homes in Los Angeles captured rainfall for later use as drinking and bathing water source in rooftop cisterns. In the letter from the Los Cerritos Wetlands Task Force, dated Thursday, September 9th, 1999 (Attachment A), local Los Angeles examples are given of rooftop rainfall and other stormwater retention management. The examples are included on pages 12 and 13 of The Los Angeles and San Gabriel Rivers Watershed Council's first white paper, draft, dated April 30, 1999: "Storm Water: Asset or Liability" (Attachment B). These examples include rainfall capture and underground cisterns storage at new and remolded facilities of the Los Angeles Unified School System.

Alternatives to a conventional $42 million concrete flood control channel in the Sun Valley watershed now includes funding for individual home retrofit to capture rainfall from rooftop runoff. A rooftop rainfall capture designs for single family homes and referenced field test by the Transagency Resources for Environmental and Economic Sustainability (TREES) project of the TreePeople. This project created in 1997 has..."the goal of demonstrating the economic, environmental and social benefits gained by cooperative approaches to designing our urban landscapes as functioning mini-watersheds."

Friends of the San Gabriel River wishes to provide support to the incorporation of the Recommended Changes, listed on pages 23 and 24, provided by the Natural Resources Defense Council in their letter to you of January 15, 2000. The urban watershed of the San Gabriel River will not be able to meet water quality standards or Total Maximum Daily Loads without incorporation of the proposed 0.75" numeric standard and the "Recommended Changes" identified for you by the Natural Resources Defense Council.

The arguments provided by Cities, other influences and decision makers to incorporate exceptions, exemptions, exclusions and waivers are arbitrary and capricious. These exceptions, exemptions, exclusions and waivers are not in step with the wealth of available literature. There are many examples of this information applied as designs and methods and many monitored for effectiveness and retrofited if necessary in many parts of the country including Arizona with a similar climate and hydrologic cycle as in the Los Angeles area and southern California as a whole.

It is time to "bite the bullet", as you mentioned to the Cities on September 16th. Chairman Nahai, and for us to take a steady and firm step forward. Otherwise water quality will continue to suffer.

Sincerely,

Jacqueline Lambrichts
Founder

Attachments (three):
(A)Los Cerritos Wetlands Task Force letter of September 9th, 1999
(B)Stormwater: Asset or Liability, Los Angeles & San Gabriel Rivers Watershed Council
(C)Los Angeles Times article, September 7th, 1999 on the Fate of the last remaining open spaces in Los Angeles County

TASK FORCE
5710 EAST SEVENTH ST. SUITE 168
LONG BEACH, CA 90803 • 562-630-1491

Thursday, September 9th, 1999

Members of the Board
California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: Standard Storm Water Mitigation Plans (SUSMPs) on stormwater runoff controls for development projects at: 1)100+ home subdivision; 2)10-99 home subdivision; 3)100+ square-foot commercial development; 4)automobile repair facilities; 5)retail gasoline outlets; 6)restaurants; 7)hillside located single-family dwelling.

Dear Members of the Board,

We wish to provide strong support for the recommended changes the Executive Officer, Mr. Dennis Dickerson, proposes to include in the Standard Storm Water Mitigation Plans (SUSMPs). In addition, we wish to support Heal the Bay's concern for the need to provide a one hundred foot physical buffer width as well as separate language for the special considerations involving Environmentally Sensitive Areas.

The President and members of this Task Force have been directly involved in developing and providing support to the Sustainable Cities program for the City of Long Beach. The establishment of a Sustainable Cities program is evolving through the new Environmental Task Force of the Strategic Plan convened with representation appointed by the Mayor and Council of the City of Long Beach to review the Open Space Element of the City of Long Beach's General Plan. Many design elements and structural controls such as rainfall capture cisterns are incorporated into this Sustainable Cities program.

There must be an even playing field in development standards between Los Angeles County unincorporated areas and the Cities within the County. This even playing field reference appeal was made to you on this issue by the City of Long Beach during the hearing of the Cities' stormwater permit on June 30th. There is no question that the playing field must be even and everyone adhere to a minimum standard as suggested by the Executive Officer to reduce and retain onsite stormwater runoff which in itself will reduce downstream water quality impacts.

One of the focus areas of the Los Angeles and San Gabriel Rivers Watershed

Council is to explore alternative land use patterns and management for storm water. For your reference is the draft copy of the Watershed Council's first white paper: " Storm Water: Asset or Liability". On page two, the graph illustrates the ratio of runoff to precipitation over time. What is interesting is that prior to the mid 1960's runoff was 20 percent and infiltration and evaporation amounted to 80 percent. Since the mid 1960's infiltration and evaporation has been reduced to only 50 percent and declining further with the ever increasing impermeable construction. To assist in rethinking the traditional approaches to stormwater management local examples are described in pages 12 and 13 and techniques described in pages 6 though 12. Examples of locally developed ordinances are included as appendices to this paper as guidance for other municipalities.

It is critical that the Executive Officer's recommended changes be included in the SUSMPs. Especially, when the fate of the last remaining open spaces in Los Angeles County for new and redevelopment are debated in the Los Angeles Times as recently as the attached article of Tuesday September 7th, 1999.

The Los Cerritos Wetlands Task Force mission is *to preserve, protect, enhance and restore the wetlands of the San Gabriel Estuary.*

Please contact me to further discuss at (626) 794-0487.

Sincerely,

Jacqueline Lambrichts
Water Quality Regulatory

Attachments - two

cc: Don May - President of the Los Cerritos Wetlands Task Force

R0068504

Storm Water: Asset or Liability

Prepared for:

The Los Angeles-San Gabriel Rivers Watershed Council

Prepared by:

Suzanne Dallman
sdallman@ucla.edu
(562) 985-3320

and

Thomas Piechota, Ph.D., P.E.
piechota@seas.ucla.edu
(310) 206-8612
FAX (310) 206-7245

April 30, 1999

DRAFT

however, and the prevalence of expansive clay soils in the area limits the use of infiltration inducing measures in some situations.

Los Angeles County, as a National Pollutant Discharge Elimination System (NPDES) permit holder, is required to manage municipal stormwater discharges. The County's **Department of Public Works** has developed a program to implement the requirements of the permit, and to serve as a model for the cities that are co-permitees. The program establishes guidelines for minimum standards, monitoring compliance, education and public outreach. For new or redevelopment, the program establishes Standard Urban Storm Water Mitigation Plans, designed to minimize runoff pollutants and reduce overall runoff volume by increasing on-site retention and infiltration. Some of the suggested techniques include porous paving and other alternatives to concrete, vegetated swales and buffer strips, and extended detention basins.

Non-traditional Approaches in Action

Projects in the Los Angeles area

The **Los Angeles Unified School District** recently began implementing infrastructure improvements for its 400 schools, including playground pavement repaving. With the help of TreePeople and others, LAUSD is developing a plan to reduce paved areas by 30% throughout the schools. A number of Best Management Practices are under consideration which will provide a greener, more sustainable environment, capture runoff, and reduce air and water pollutants. A pilot project has been proposed for the Osage Elementary School in Westchester which will utilize porous pavement, additional landscaping, and facilities to capture runoff on-site for reuse as irrigation water.

- compost absorbs 8x6 of its own water.

Long Beach Organic, a non-profit community service organization, has been facilitating community gardening and green waste recycling on vacant lots in the greater Long Beach area since 1994[18]. They are currently securing funding for a proposed plan to divert 15,000 tons of green waste destined for landfills in Los Angeles County, to use as mulch for weed abatement, water retention, bio-filtration, and creation of compost for soil amendment. The project will cover about 27 acres of vacant property in Long Beach and Signal Hill.

One of the primary goals of the project is to measure the effects of mulch and compost on runoff and soil infiltration. Mulch cover provides insulation to retain soil moisture, reducing evaporation and soil erosion. Compost can hold up to eight times its weight in water, which would not only reduce runoff but provide increased infiltration time. This project is scheduled to start as soon as funding is finalized, and will continue monitoring into 2001.

Sun Valley Watershed, a 2,681-acre watershed located north of downtown Los Angeles between Tujunga Wash and the Burbank Airport, experiences problems with flooding during heavy rains. The existing drainage system within the watershed is inadequate, but the cost of constructing a traditional storm drain to alleviate the flooding has been estimated to be $42 million. **Los Angeles County** is considering the possibility of alternative solutions in the watershed that would address the flooding problem while providing additional benefits to the community such as increased recreation, reduced flows and pollutant loads entering the Los Angeles River, increased water and energy conservation, and enhanced wildlife habitat.

Any alternative project must be able to provide the same level of flood protection without adversely impacting groundwater quality in the region. Among the solutions under consideration are retrofitting existing developments and requiring new development to capture runoff onsite, use of permeable paving where feasible, and creating detention and/or retention basins to capture runoff and provide habitat and recreation during dry periods. Support for this project is high, and a stakeholder group was formed late in 1998 to evaluate the feasibility of various alternatives. It is hoped that this project will serve as a model for flood control design in other parts of Southern California.

The Transagency Resources for Environmental and Economic Sustainability (**TREES**) project was founded by **TreePeople** in 1997 with the goal of demonstrating "the economic, environmental and social benefits gained by cooperative approaches to designing our urban landscapes as functioning mini-watersheds." The implementation of more sustainable design and management measures would result in significant reductions in imported water use, in the volume and velocity of urban runoff generated, and in the amount of pollutants carried by runoff to the ocean. The initial design session brought together engineers, landscape architects and other experts to develop sustainable landscape designs for commercial, industrial, multiple and single family residential, and public sites. A design "planbook" was produced which includes prototype designs for retrofitting these different types of development. Each design includes a variety of suggestions for accomplishing a more sustainable local environment[19].

As a demonstration of some of these ideas, a home in south Los Angeles was retrofitted with drainage, runoff storage and landscaping techniques capable of capturing rainfall from a 10-inch, one-day storm. In addition, TreePeople has developed cost-benefit modeling software which allows different design scenarios to be more easily evaluated prior to implementing solutions. The final component of the TREES project is an implementation plan which will identify investment strategies for financing retrofitting on a large scale, and encourage property owners to make their sites more sustainable. TreePeople has also been a great resource in helping to design solutions for several of the other projects discussed here.

Venice Off-Street Parking Lot projects are currently in progress by the city of Los Angeles' Architectural Division, incorporating several methods of Storm Water Management Best Practices. One of these projects is the lot used for the Venice Farmer's Market, at the corner of Venice Boulevard and Venice Way. It was recently redesigned to capture and filter runoff onsite. Strip filters surrounding the lot collect runoff for bio-filtration and groundwater recharge. The lot was landscaped to collect additional runoff and reduce the amount of "hardscape" area. The city is also installing porous paving and filtration devices in very creative ways on other sites.

Where Do We Go From Here?

This small sampling of projects illustrates the diversity of design strategies being implemented to manage stormwater runoff and reduce the need for more regional disposal facilities. There are many other examples of sustainable practices in use or in the planning stages throughout the county. This demonstrates the change of thinking that is taking place --

SWQTF
California Stormwater Quality Task Force
5469 E. Olive Avenue Fresno, CA 93727
Ph (559) 456-3292 Fax (559) 456-3194
www.stormwatertaskforce.org

510.1415

January 14, 2000

Mr. Dennis A. Dickerson
California Regional Water Quality Control Board,
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

Proposed Standard Urban Stormwater Mitigation Plan

The California Stormwater Quality Task Force was formed to provide guidance to the State Water Resources Control Board on the development of NPDES permit and regulatory guidelines for stormwater discharges. The Task Force is officially recognized by the state in this role through Administrative Procedures Update 90-004, which states our common goals of developing feasible control programs which provide significant environmental benefits and protect designated beneficial uses, promote the advancement of stormwater management technology, and effect compliance with state and federal law. The Task Force is composed of stormwater quality management personnel from cities, counties, and special districts, and other interested professionals.

The Task Force strongly urges the LA Regional Board to consider the comments, concerns, and recommended revisions submitted by the Task force, local agencies, and stormwater professionals concerning the proposed stormwater mitigation plan.

The Task Force's primary interest in the Regional Board's proposed requirements lies in protecting the locally-driven process of determining, adopting, and enforcing: 1) appropriate stormwater quality controls as envisioned by the federal NPDES municipal stormwater permit regulations and in compliance with Porter-Cologne, 2) land use controls and development standards, and 3) regional, cost-efficient storm drainage master plans where appropriate. The Task Force believes the Regional Board's proposed requirements create an intrusion into this area of local government responsibility and therefore have more than regional significance. The Task Force also believes the proposed standard requirements will have environmental effects (e.g., land use densities) which have not been evaluated in a public forum.

The permits subject to the proposed stormwater mitigation plan provide appropriately for local creation of development standards, and provides the Regional Board Executive Officer opportunity to review and approve or disapprove such plans. Specific requirements beyond those enumerated in adopted permits should not be added to permits without a proper reopening process.

Rather than the Regional Board dictating specific local urban design standards, the Board should provide a process through which local communities select–with public stakeholder discussion–those design strategies and standards which address the permit objectives. This assures development of workable programs which are legally defensible and publically supported. By contrast, reviews of the proposed standards by engineering and stormwater professionals conclude they are difficult to verify and ambiguously worded.

Local agency boards and councils have the legal duty and must be given the opportunity by means of Regional Board policy to exercise jurisdiction over land use and development standards. These agencies have the duty to determine, implement, and enforce local land use policies to meet permit objectives. The Board is strongly urged to ensure a process consistent with this duty of local government.

The Task Force recommends the following more appropriate approach to mitigating stormwater impacts resulting from development:

1) The Regional Board's proposed stormwater mitigation plan should be returned to the local agencies required in LA Region NPDES permits to develop such plans. The agencies should be provided the opportunity to revise the plan, target specific problems, work with local constituencies, develop site-specific and regional control strategies, and secure the direction and involvement of their decision-making bodies. This process should also ensure review pursuant to the California Environmental Quality Act.

2) The Regional Board should maintain its oversight role by establishing processes within permits for review and approval (or denial) of stormwater quality control programs submitted by local agencies. If circumstances require additional controls, the Regional Board should provide appropriate means to reopen the affected permit, ensuring due process and public and agency participation.

3) There needs to be an inclusive process, working with the Regional Boards, to develop guidelines, provide evaluations of practices found to be cost-effective, and provide for the analysis of hydrology and land use, considering site-specific and regional approaches and infrastructure resources. The Task Force will work actively and collaboratively with the boards on any advisory panels they would convene for that task.

4) The policies produced by this effort should be subject to evaluation of economic and technical feasibility in compliance with the Porter-Cologne Act and review pursuant to CEQA.

The Task Force supports the requests of affected municipal stormwater management agencies to reconsider and revise the proposed standard requirements, allowing for adaptation to and coordination with land use authorities. We further urge the LA Regional Board to work with those agencies to resolve these matters.

If you have any questions or would like to discuss this matter further, please call me at (559) 456-3292.

Respectfully,

Melinda S. Marks
Chair, Stormwater Quality Task Force

c: LA Regional Water Quality Control Board Members

LEGACY PARTNERS

Legacy Partners
30 Executive Park, Suite 100
Irvine, CA 92614-6741
Phone: 949. 261.2100

January 18, 2000

Mr. Dennis Dickerson
Executive Officer
Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: Standard Urban Stormwater Permit

Dear Mr Dickerson:

As a project manager for a local industrial development, I believe it to be important to inform you of certain successes that have been achieved relative to on-site storm water management.

The involved project is known as Los Angeles Media Tech Center. This project is approved for 750,000 square feet in 12, two-story, concrete tilt up buildings. The site contains 49.32 gross acres and was formerly a portion of the Union Pacific Railroad's Taylor Classification Yard at San Fernando Road and the Glendale Freeway. Phase 1, involving 396,000 square feet in 7 buildings, is now under construction and to be completed in Spring, 2000. Phase 2 will be underway shortly thereafter.

During our entitlement processing, certain preferred environmental mitigation measures were identified by local conservation groups, primarily represented by Friends of the Los Angeles River. After appropriate negotiation, an agreement was reached, the language of which was included in our conditions of approval. Essentially, the agreement provides that the project shall, among other things, retain on site a ½ inch rain event, without discharge from the site. This rain event was chosen by identifying the savings from on-site storm drains and applying this amount toward the design and construction of an infiltrator system. The number of infiltrators that could be purchased through the storm drain off-set resulted in the ½ inch retention. As we were the first industrial project to take on this task, there were design and engineering costs in excess of the amount budgeted for the storm drains, and timing for approvals were understandably protracted; however, future efforts will likely not face similar difficulties.

Los Angeles County promptly approved our storm drain connection permits (for those events over ½ inch per 24-hour period) as the impact to the existing flow was determined to be negligible. The City of Los Angeles just recently approved our infiltrator system. Installation is due to begin shortly. It is my belief that future efforts to utilize infiltrators as a retention devise should now be somewhat easier in the city of Los Angeles.

While this method of storm water management may not be suitable for every site (percolation rates have a bearing), it should certainly be part of any prudent review. If you should require further information on the process, the system or the installation, please fell free to call me at (949) 261-9871 ext. 136.

I hope you have found this information to be helpful.

Best regards,

LEGACY PARTNERS COMMERCIAL, INC
Michael P. Conway
Manager, Acquisitions & Development

R0068511

11273

Building
Industry
Association
of Southern
California

1330 South Valley Vista Drive
Diamond Bar, California 91765
909.396.9993
fax 909.396.9846
http://www.biasc.org

December 13, 1999

Mr. Dennis Dickerson
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Time Extension for Special Board Meeting on Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

The Building Industry Association of Southern California (BIA/SC) has received the revised Standard Urban Storm Water Mitigation Plan (SUSMP) and Supporting Regional Board Resolution. We have several concerns relating to the revised SUSMP and proposed January 6, 2000 Special Board Meeting.

As you know, the revised SUSMP was released to the public on December 7, 1999. You requested in your public notice that we respond to your office by December 20, 1999 on the amount of time needed for our industry to comment and to identify our lead speaker. Our members are very concerned, however, that there is not enough time before the upcoming holidays to fully review, analyze, and comment on the proposed revisions to the SUSMP in order to meet your deadline. Therefore, we are requesting that you extend the comment period and move the Special Board Meeting on the adoption of the SUSMP to no earlier than January 26, 2000.

Lastly, we would like to meet with you and your staff on the revisions to the SUSMP. Of particular concern are the revised definition for Hillside Development and the new definition for environmentally sensitive areas.

Once again, our members are very concerned about the revised SUSMP and their impacts on our industry. We look forward to hearing from you in the near future.

Sincerely,

Charles H. Gale
Director of Government Affairs

R0068512

CALIFORNIA COASTKEEPER

CALIFORNIA
COASTKEEPER
A PROJECT OF
ENVIRONMENT NOW

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the *number one source of pollution to our coastal and inland waters*. In January 2000, I urge you to adopt the reasonable proposal set forth by your own staff to curb urban runoff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any

11777 SAN VICENTE BLVD. SUITE 555 • LOS ANGELES, CA 90049
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CACOAST@ENVIRONMENTNOW.ORG
WWW.COASTKEEPER.ORG

11-275

businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Denise Washko
Director

11-276

LIBERTY HILL
FOUNDATION

Change, Not Charity

2121 Cloverfield Blvd.
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T: (310) 453-3611
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info@libertyhill.org
www.libertyhill.org

December 6, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the *number one source of pollution to our coastal and inland waters.* In January 2000, I urge you to adopt the reasonable proposal set forth by your own staff to curb urban runoff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business – and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted

R0068515

runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Lina Paredes
Program Officer

William E. Lloyd, Jr.
Attorney and Counselor at Law
SUITE 1250
9401 WILSHIRE BLVD.
BEVERLY HILLS, CA 90212
Voice: (310)276-5300
Facsimile: (310)276-2381
E-Mail: willoyd@ispwest.com

December 7, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the *number one source of pollution to our coastal and inland waters*. In January 2000, I urge you to adopt the reasonable proposal set forth by your own staff to curb urban runoff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

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11-279

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In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Very truly yours,

William E. Lloyd, Jr.

WEL:dg

Robert A. Roth
ATTORNEY AT LAW

15332 ANTIOCH STREET, #533
PACIFIC PALISADES, CALIFORNIA 90272

AREA CODE 310
207-2121

December 8, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality
Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

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Very truly yours,

Robert A. Roth
RAR/pc

SIERRA CLUB
FOUNDED 1892

Angeles Chapter

December 8, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, # 200
Los Angeles CA 90013

RE: Support for Staff Recommendation for Standard Urban Stormwater Mitigation Plans

Dear Mr. Dickerson:

Sierra Club urges you to adopt the staff recommendation for the inclusion of numeric standards into the Standard Urban Stormwater Mitigation Plan. By requiring new development and redevelopment projects to capture and treat the runoff from a .75-inch rainfall, the RWQCB will start to improve the serious, chronic problems associated with urban runoff.

Without such standards in the past, not only have our coast and inland waters been polluted by runoff but also our rivers have been channelized and habitat degraded in attempts to deal with the excessive quantity of runoff.

Instituting this clear and necessary requirement will ensure future opportunities to improve water quality, to protect the coast and to revitalize our waterways throughout our region. By requiring these minimum standards in the design and construction of new development and redevelopment projects, RWQCB takes important action in a cost-effective way.

Sincerely,

Martin Schlageter
Conservation Coordinator
213-387-4287 x 204

11-052

R0068521

3435 Wilshire Boulevard, Suite 320 Los Angeles, CA 90010-1904 TEL (213) 387-4287 FAX (213) 387-5383 www.angeles.sierraclub.org

John & Lynn Murdock
1209 Pine Street
Los Angeles, CA 90405

December 8, 1999

Dennis Dickerson, Regional Director
RWQCB
320 W. 4th Street, Suite 200
Los Angeles, CA 90013-1105

Re: Runoff Standards

Dear Mr. Dickerson:

This letter is written to express our strong support for adoption of numeric performance standards to control pollution from commercial runoff.

We live in a coastal community and have a small child, therefore we have numerous occasions to witness the impact of run-off on the ocean water quality after heavy rains. It has become clear beyond peradventure that unless we, as a society, don't take strong measures to control the amount of pollutants that are swept into the bay from storm-water run-off, we will continue to experience a degraded, disease-ridden bathing quality at the beaches near urban centers. California cannot turn a blind eye to the evidence. It requires courage and fortitude to insist on measures that are surely unpopular in the eyes of commercial developers who insist they will be hampered and burdened by more and more regulation. Nevertheless, as a society we have voted to use tax dollars to establish an agency called the "Regional Water Quality Control Board" and we as taxpayers must now insist that our money be used exactly for that purpose - to "CONTROL" the water quality by imposing standards that can be quantified. Only with enforceable standards can we expect to have meaningful, measurable improvement. The alternative - increasing degradation and disease - is completely unacceptable.

We are consumers. We expect to be customers and buyers of the commercial goods and services provided by urban development. As such, we acknowledge that imposing enforceable standards may lead to higher costs for developers and that these costs will be passed on to us as consumers.

We taxpayers have already ACCEPTED this reality by creating an agency called the Regional Water Quality Control Board, which we know leads to higher costs for business which we patronize. This is obviously the cost of cleaning up our environment. We are willing to pay our taxes and to pay your salaries, and we are willing to pay the higher costs we face as a result of regulation.

11-284

We are **NOT** willing to pay our taxes for your salary if you fail to do that for which you have been hired. We are angry that the Board has postponed this matter from September to January, and we request that positive, aggressive action be taken with all deliberate speed and rectitude.

Thank you for your attention. We would welcome your views in reply.

Very truly yours,

John & Lynn Murdock

JBM:ly

The University of Georgia
School of Environmental Design

December 9, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles CA 90013

Dear Mr. Dickerson:

Treating or infiltrating urban stormwater can significantly reduce pollution in rivers and bays. You have the opportunity to do so with the proposal before you for development and redevelopment to treat or infiltrate the runoff generated by storms 0.75 inch and smaller.

Along the range of storms that designers around the country are accustomed to designing for, the 0.75 inch storm is small. It is very feasible, even easy, for development and redevelopment to design for a storm of this size. But according to my calculations, designing for this level of rainfall will effectively treat or eliminate the runoff from more than half of all the rain that falls in Los Angeles in an average year. Most of the runoff and almost all the pollution are in the small, frequent storms and in the first runoff from larger storms. So the 0.75 inch proposal identifies an approach that is at once both highly feasible and highly effective.

Any urban region like yours is constantly being built and rebuilt. One of the few things we can confidently predict about the future is that times will continue to change, as they have always changed in the past. Acting through the ongoing and inevitable economic process of development and redevelopment, an approach such as that of the 0.75 inch storm can transform the quality of the rivers, bays and beaches that receive the effects of urban runoff.

Design experience in your region and elsewhere have shown that it is entirely possible, and even desirable, to integrate the provisions of stormwater treatment and infiltration with urban land use, economic activity, and quality of life. Integration of these things produces not a "cost", but a more completely designed city.

Surely the rivers, bays and beaches that are loved by the people of your region and of all the world are reason enough to be protective of runoff quality.

Yours,

Bruce K. Ferguson, FASLA
Professor
MLA Coordinator

cc: Heal the Bay

R0068524

11-256

609 Caldwell Hall • Athens, Georgia 30602-1845 • (706) 542-1816 • FAX (706) 542-4485

BRUCE K. FERGUSON is Professor of Landscape Architecture and Director of the Master of Landscape Architecture program at the University of Georgia. He is a landscape architect who has specialized in environmental management of urban watersheds for twenty years.

Ferguson's consulting projects have included stormwater quality protection at the Goddard Space Flight Center, conservation of irrigation water on the lawn of the White House, goals for urban water conservation in the California Water Plan, and urban design guidelines to protect runoff quality in the metropolitan regions of Atlanta, Pittsburgh, and San Francisco, and the states of Florida, Georgia, and New York.

His most recent book is *Introduction to Stormwater* (1998). He is also the author of *Stormwater Infiltration* (1994), which is the standard reference in its field, and 130 scientific and professional papers on environmental management of urban watersheds. Using the results of his research, he lectures at universities throughout the United States and conducts continuing education courses for design practitioners.

Ferguson is a Fellow of the American Society of Landscape Architects and a past president of the Council of Educators in Landscape Architecture. He is a recipient of ASLA's Bradford Williams Medal and CELA's Outstanding Educator Award, the highest award for landscape architectural education in North America.

Ferguson obtained the BA degree at Dartmouth College and the MLA at the University of Pennsylvania. He is a licensed landscape architect in Georgia and Pennsylvania.

Bruce K. Ferguson
School of Environmental Design, University of Georgia
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(706) 542-4720
fax (706) 542-4236
bfergus@arches.uga.edu

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TELEPHONE: (213) 688-7795

FAX: (213) 688-1080

December 9, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the *number one source of pollution to our coastal and inland waters*. In January 2000, I urge you to adopt the reasonable proposal set forth by your own staff to curb urban runoff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

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Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation

businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Very truly yours,

Baird A. Brown

BAB/amb
c: Lisa Boyle, Esq.

NEWHALL LAND

December 13, 1999

Mr. Dennis Dickerson
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Proposed Standard Urban Storm Water Mitigation Plans and Supporting Regional Board Resolution

Dear Dennis:

We are in receipt of your notice dated December 7, 1999, announcing that the Regional Board will be asked to adopt a set of newly revised Standard Urban Storm Water Mitigation Plans (SUSWMP's) at the upcoming Regional Board Meeting of January 6, 2000.

We are extremely concerned that you have made the decision to act on a matter of such magnitude to our industry in such haste. We were originally advised that The Board would not be taking action on this issue until the end of January. We were also totally unprepared for the extensive changes which have been made to the SUSWMP's that were originally discussed at the September 16, 1999 Public Hearing.

During the many discussions we have had with you and your staff since the original SUSWMP's were proposed, we advised you of the serious nature of our concerns regarding the proposed guidelines and the negative impact that they would have on the development industry, we had no indication that our concerns would be totally ignored, nor that the revisions to the SUSWMP's you would recommend to your Board would be even more restrictive than the previous versions. The revised SUSWMP's are totally unacceptable to us.

THE NEWHALL LAND AND FARMING COMPANY, 23823 VALENCIA BOULEVARD, VALENCIA, CA 91355-2094
TEL 661.255.4000 FAX 661.255.3960 WEBSITE www.newhall.com

11-389

In light of the extensive changes which you are recommending to the proposed SUSWMP plans, the introduction of two completely new categories, and the upcoming Holidays, we must have additional time to respond. As I am sure you realize, these newly revised guidelines were not made available to us until December 7, 1999, via the Internet. You have requested our comments by December 20, 1999, which is nine working days from the date we were provided with the revised guidelines. You then have requested that we make a joint presentation to the Board at the January 6, 2000 meeting, which is right after the Christmas Holiday, not allowing us adequate time to study the changes, understand the impacts, and make a formal presentation to your Board.

Due to the critical importance of this matter, and the far reaching negative impacts these new guidelines will have, not only on The Newhall Land and Farming Company, but the development and building industry throughout the Los Angeles Region, we ask that you grant this extension of time, and that you not request action by the Board on this matter until the end of January, as we were originally promised.

Sincerely,

Ross Pistone
Vice-President of Operations

cc: Jane Nelson
Tom Lee
Gary Cusumano
Regional Water Quality Control Board Members

KENNETH J. ARAN*
CHRISTOPHER POLK
JEFF BERKE*

*A PROFESSIONAL CORPORATION

ARAN, POLK & BERKE
ATTORNEYS AT LAW
SUITE 550
11766 WILSHIRE BOULEVARD
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NORTHERN CALIFORNIA OFFICE
50 CALIFORNIA STREET
SUITE 1500
SAN FRANCISCO, CA 94111
(415) 439-5242
TELECOPIER (415) 439-5299

December 14, 1999

Dennis Dickerson,
Executive Director
Los Angeles Regional Water Quality Control Board
320 West 4th Street
Suite 200
Los Angeles, California 90013

Re: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. On January 6, 2000, we urge you to adopt the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

We have been brought to this crossroads by extensive development that completely disregards the quality and quantity of runoff generated. The Los Angeles Region already suffers from some of the worst water quality in the nation. Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and costal waters that pose health risks to aquatic life.

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11-991

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and costal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Chris Polk

RUBY RAITT
2509 OCEAN AVE.
VENICE, CA 90291

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. In January 2000, I urge you to adopt the reasonable proposal set forth earlier this year by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

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Sincerely,

Ruby Raitt

11-393

Jeff Littrell
1601 N. Sepulveda Blvd #148
Manhattan Beach, CA 90266

December 5, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

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Sincerely,

Jeff Littrell

Friends of the Los Angeles River

January 17, 2000

Post-it® Fax Note 7671	Date 1/19/00	# of pages ▶ 2
To DICKERSON	From WINTER	
Co./Dept. RWQCB	Co. FOLAR	
Phone # 213 576 6605	Phone # 323 223 0585	
Fax # 213 576 6640	Fax # 818 980 0700	

HARD COPY TO FOLLOW

Mr. Dennis Dickerson, Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th St., Suite 200
Los Angeles, CA 90013

RE: Standard Urban Stormwater Mitigation Permit

Dear Mr. Dickerson:

Friends of the Los Angeles River (FoLAR) fully concur with the comments submitted by NRDC on Friday, January 14, 2000.

In addition we would like to submit comments relating to our own experiences with development standards in Los Angeles.

In November of 1998, FoLAR entered into a mitigation agreement with Legacy Partners Commercial, Inc. for the development of a business park on 49 acres at the Taylor Yards. This agreement was included in the final Mitigated Negative Declaration for the property. The Taylor Yards are a riverfront property which had never been previously developed or paved. FoLAR's concerns were related to the inherent increase in runoff that standard development practices would necessarily cause to contribute to this soft bottom section of the river. Legacy's president, Bill Shubin, being an avid surfer, shared our concerns.

FoLAR's consultants worked jointly with Legacy's engineering experts to develop a drainage design plan, which would retain and detain surface water runoff and would implement surface water quality measures. The plan was designed so as not to increase peak flows of surface water runoff in a 100-year storm event.

Facilities were designed to prevent or otherwise minimize surface water runoff from the developed parcel. Efforts resulted in a parking lot and landscaping design which direct surface water runoff to bio-swales, allowing for natural percolation of rainwater to the groundwater via an 18" perforated pipe subdrain system. The final design accomplished a system that can immediately accommodate a 1/2" rain event every 24 hours. Additionally, storm drain improvements were designed to drain surface water runoff on-site during the peak period of a 100-year storm event. This latter is accommodated through detention, which then over time allows gradual percolation through the bioswales.

The innovative design has the positive result of accommodating a capital event (and detaining the additional peak flows) while eliminating the need for certain on-site storm drain improvements. Storm drain cost savings were re-allocated to construct a system for retention and percolation.

Much of the resistance within the building industry seems to stem from a fear that approvals will be too difficult to obtain or that these new standards will send development costs skyrocketing

Our experience with Legacy shows that costs are not necessarily increased, but shifted. And while initial meetings with building and safety and other agencies were challenging, a spirit of cooperation prevailed and these innovative concepts were readily approved. Moreover, it will be easier and easier with each new project. Change is possible and in this instance, necessary.

We agree with Legacy Partners' Michael Conway, project manager who says he "can point to this project as evidencing successful cooperation between private industry and public interest." And we would encourage other developers to follow their lead.

Melanie Winter
Executive Director

CENTER FOR MARINE CONSERVATION

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Fax: (415) 956-7441

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Washington, DC 20036
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Fax: (202) 872-0619
Web: www.cmc-ocean.org

January 19, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: January 26, 2000 Board Meeting, Agenda Item # 11: Support for Three Quarter - Inch Standard to Reduce Runoff from New Development and Redevelopment

Dear Mr. Dickerson:

On behalf of our 15,000 California members, the Center for Marine Conservation welcomes this opportunity to comment on the proposed Standard Urban Stormwater Mitigation Plans (SUSMPs) submitted to the Executive Officer pursuant to the requirements of the Los Angeles County Municipal Stormwater Permit, Order No. 96-054. CMC urges you to adopt a Standard Urban Stormwater Mitigation Plan for the Los Angeles County municipalities that requires mitigation by specified new and redevelopment projects of 100% of the runoff generated by the first three quarters of an inch of rain, with no exceptions. By adopting this standard, the Regional Board will have the opportunity to alter significantly our current course towards worsening water pollution.

The majority of rainfall in the area is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and few measurable requirements in the municipal storm water permits, Los Angeles County's beaches are frequently unsafe for swimming; and its creeks and streams pose health risks to aquatic life.

The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to begin to solve the runoff problem. Second, controlling urban runoff benefits the regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, and these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does the tourist business. With billions of dollars at stake, the health of our entire regional economy is impacted. The standard

also will help the $10 billion statewide coastal tourism economy in that it will serve as a model to be adopted by other coastal Regional Boards.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard can make a major difference in the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, we urge you to adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new development and redevelopment.

Sincerely,

Linda Sheehan
Pollution Programs Director
lsheehan@cacmc.org

11-298

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January 11, 2000

Dennis Dickerson
Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Support for the 3/4 inch standard to reduce runoff from new and redevelopment

Dear Mr. Dickerson:

I recently have had the chance to review the standard urban stormwater mitigation plan for Los Angeles County and Cities in Los Angeles County. Treatment of the stormwater quality is an essential element for protecting local watersheds, and is widely used by many municipalities around the country. I strongly support the three-quarter inch runoff treatment standard based on past scientific research on the performance of stormwater best management practices. I have also enclosed a recent article on stormwater strategies for arid and semi-arid watersheds that may be helpful in adapting effective stormwater practices for your region.

Thank you for the opportunity to comment on the proposed stormwater mitigation plan. Adoption of the three quarter inch standard will help to protect the creeks and coastlines of Los Angeles from the impacts of stormwater pollutants, and represents a fair, equitable and achievable threshold for stormwater treatment.

Sincerely,

Thomas R. Schueler

Thomas R. Schueler
Executive Director

cc Mark Gold

attachment

II. Stormwater Strategies for Arid and Semi-Arid Watersheds

Water supply and flood control have traditionally dominated watershed planning in arid and semi-arid climates. Until recent years, stormwater quality has simply not been much of a priority for water resource managers in the west. This situation is changing rapidly, as fast growing communities are responding to both emerging water quality problems and new federal regulations. In particular, larger cities in the west have gradually been dealing with stormwater quality to meet the requirements of the first phase of EPA's municipal stormwater NPDES program. Soon, thousands more smaller communities will need to develop stormwater quality programs when the second phase of this national stormwater regulatory program is rolled out later this year.

At first glance, it seems ludicrous to consider managing the quality of stormwater in arid regions where storms are such a rare and generally welcome event—sort of like selling combs at a bald convention. The urban water resources of the southwest, however, are strongly influenced by stormwater runoff and by the watershed development that increases it. Indeed, the flow of many urban streams in the southwest is generated almost entirely by human activity: by urban storm flow, irrigation return flow and wastewater effluent. Thus, the quality of both surface water and groundwater in urbanizing areas of arid and semi-arid regions of the southwest is strongly shaped by urbanization.

For purposes of this article, arid watersheds are defined as those that receive less than 15 inches of rain each year. Semi-arid watersheds get between 15 and 35 inches of rainfall, and have a distinct dry season where evaporation greatly exceeds rainfall. In contrast, humid watersheds are defined as those that get at least 35 inches of rain each year, and often much more. There are many arid and semi-arid watersheds, most of which are located in fast growing regions of the western United States (Figure 1). Low annual rainfall, extensive droughts, high intensity storms and high evaporation rates are characteristic of these watersheds, and present many challenges to the stormwater manager. [Note: in some arid and semi-arid watersheds, most precipitation falls as snow and evaporation rates are much lower. These watersheds are found in portions of Alaska and at higher elevations of the Rocky Mountains and Sierra Nevada. Guidance on stormwater strategies for these dry but cold watersheds can be found in Caraco (1997)].

This article reviews strategies for managing stormwater in regions of scarce water based on an extensive survey of 30 stormwater managers from arid and semi-arid regions. Next, the article explores how source control, better site design and stormwater practices can be adapted to meet the demanding conditions posed by arid and semi-arid climates. It begins by examining the environmental factors that make stormwater management in arid and semi-arid watersheds so unique and challenging. As a consequence, stormwater strategies for the west are often fundamentally different from those originally developed for more humid regions. Some of the fundamental differences are outlined in Table 1 and are described in detail in the following text.

Soon, thousands more smaller communities will need to develop stormwater quality programs.

Figure 1. Regions of the Continental United States With Less Than 15" of Precipitation Annually

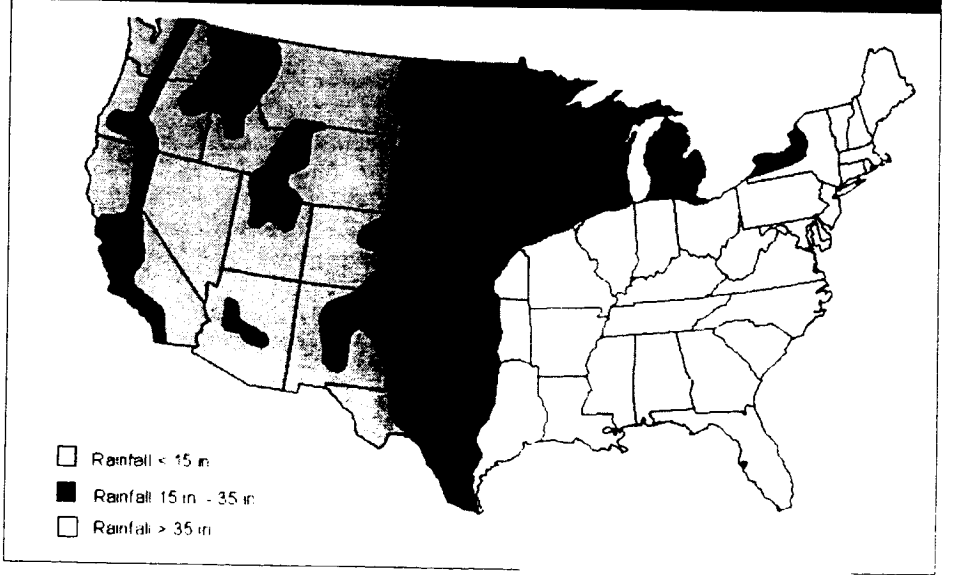


Table 1 The West Is Different: Key Considerations in Arid and Semi-Arid Watersheds
Aquatic resources and management objectives are fundamentally different
Rainfall depths are much lower
Evaporation rates are much higher
Pollutant concentrations in stormwater are much greater
Vegetative cover is sparse in the watershed
Sediment movement is great
Dry weather flow is rare, unless return flows are present

Aquatic resources and management objectives are fundamentally different

The rivers of arid regions are dramatically different from their humid counterparts. Some idea of these differences can be seen by comparing the dynamics of an arid river to a humid one (see Box 1). The differences are even more profound for the smaller urban streams in arid watersheds. In fact, it is probably appropriate to refer to them as gullies or arroyos rather than streams, since they rarely have a perennial flow of water. Many of the physical, chemical and biological indicators used to define stream quality in humid watersheds simply do not apply to the ephemeral washes and arroyos that comprise the bulk of the drainage network of arid watersheds. Without such indicators, it is difficult to define the qualities that merit protection in ephemeral streams. Clearly, the goals and purposes of stream protection need to be reinterpreted for ephemeral stream channels, and cannot be imported from humid regions.

In humid watersheds, the first objective of stormwater management is the protection of perennial streams, with goals such as maintaining pre-development flow rates, habitat conditions, water quality and biological diversity. In contrast, the objectives for stormwater management in most arid watersheds are ultimately driven either by flood control or the quality of a distant receiving water, such as a reservoir, estuary, ocean, or an underground aquifer. Witness some of the recent water quality problems in arid and semi-arid watersheds for which stormwater is suspected to be primarily responsible: beach closures along the Southern California coast, trash and floatables washed into marinas in Santa Monica, nutrient enrichment in recreational reservoirs like Cherry Creek Reservoir in Denver and Town Lake in Austin, trace metals violations in the estuarine waters of San Francisco Bay, or concerns about the quality and quantity of groundwater recharge in aquifers of San Antonio and Austin. Usually, the only local concern is preventing the loss of capacity of irrigation channels or storage reservoirs caused by sedimentation.

Groundwater is a particularly valued water resource in arid and semi-arid watersheds. Many fast-growing western communities are highly reliant on

Box 1 **An Arid River Runs Through It**

Consider, for a moment, the characteristics of the South Platte River as it runs through Denver, Colorado, as chronicled by Harris et al (1996). Flow in the South Platte river is extremely variable with a few thunderstorms and the spring snow melt causing a half dozen dramatic peaks in discharge. Normally, however, river flows quite low, falling below the average daily flow level some 354 days a year. Much of the flow in the South Platte has been spoken for: it has been estimated that river water is used and returned back to the river from three to seven times before it leaves the state (primarily due to upstream water appropriations for irrigation). Most of the time, the river's flow is sustained by municipal wastewater effluent flows, which contribute about 90% of the river's daily flow during most of the year. Indeed, without wastewater and irrigation flows, the river would frequently run dry (as it had prior to settlement). The river continues to strongly interact with groundwater, and much of the flow moves underground. The South Platte is very warm, with summer surface water temperatures exceeding 30 degrees Celsius (and fluctuating by as much as 15 degrees each day).

From a water quality standpoint, the South Platte frequently suffers from oxygen depletion, and has high concentrations of dissolved salts and nitrogen. Prior to settlement, the South Platte River was not believed to have riparian forest corridors, but in recent years, introduced species have become well established along many parts of the river. The quality of river habitat is generally regarded as poor, due to low flows, sandy, shifting substrates, and a lack of channel structure and woody debris. The river's channel continually changes in response to extreme variations in both flow and sediment supply. These extremely variable conditions are not conducive to a diverse aquatic habitat for aquatic insects or fish. For example, fewer than a dozen fish species inhabit the South Platte River, as compared to 30 or more that might be found in a humid region.

Table 2. Rainfall Statistics for Eight U.S. Cities (all units in inches)
Sources: NOAA, 1997; US DOC, 1975, CWP 1999

City	Rainfall Statistics					
	Annual Rainfall	Days of Rain per Year	90% Rainfall Event	Annual Evaporation Rate	Two Year, 24 Hour Storm	Ten Year, 24 Hour Storm
Washington, DC	38	67	1.2	48	3.2	5.2
Dallas, TX	35	32	1.1	66	4.0	6.5
Austin, TX	33	49	1.4	80	4.1	7.5
Denver, CO	15	37	0.7	60	1.2	2.5
Los Angeles, CA	12	22	1.3	60	2.5	4.0
Boise, ID	11	48	0.5	53	1.2	1.8
Phoenix, AZ	7.7	29	0.8	82	1.4	2.4
Las Vegas, NV	4	10	0.7	120	1.0	2.0

groundwater resources, and it is becoming a limiting factor for some. On a national basis, groundwater provides 39% of the public water supply. In the arid and semi-arid southwest, however, groundwater sources comprise 55% of the water supply (Maddock and Hines, 1995). Consequently, these communities have strong interest in both the recharge and protection of groundwater on which they depend.

Rainfall Depths Are Much Smaller

Table 2 compares a series of rainfall statistics for eight arid, semi-arid and humid cities and documents that it rarely rains in arid watersheds. For example, in the fast growing Las Vegas, Nevada region, rainfalls greater than a tenth of an inch occur, on average, less than ten days a year. Not only does rain seldom fall, not much falls when it does. For example, 90% of all rainfall events in a given year are usually less than 0.50 to 0.80 inches in arid watersheds, compared to 1.0 to 1.5 inches in humid watersheds. If a "90% rule" was used in many arid regions, the water quality storm would be roughly half that of most semi-arid and humid watersheds, which would greatly reduce the size, land consumption and cost of structural practices that need to be built. In many cases, the entire water quality storm could be disposed of on-site through better site design, without the need for structural practices. It should be noted that there are some significant exceptions to this rule. Los Angeles, for example, experiences higher rainfall depths due to intense coastal storms in the winter, especially in el Nino years.

While intense storms cause the flash flooding that is so characteristic of the west, it is also important to keep in mind that the depth of rainfall in these storms is smaller than that of semi-arid and humid watersheds (Table 2). For example, the rainfall depth associated with the two-year 24-hour storm in most arid watersheds ranges from 1.0 to 1.4 inches, which is roughly equal to the typical water quality storm for a humid watershed. Similarly, the rainfall depth for the ten-year 24-hour storm in most arid watersheds ranges from two to three inches, which is roughly equivalent to the depth of a two-year storm in a semi-arid or humid watershed. Consequently, stormwater managers in arid regions can fully treat the quality and quantity of stormwater with about a third to a half of the storage needed in humid or semi-arid watersheds, with all other factors being equal.

Even though the rainfall depths in arid watersheds are lower, watershed development can greatly increase peak discharge rates during rare flood events. For example, Guay (1996) examined how development had changed the frequency of floods in arid watersheds around Riverside, California. Over two decades, impervious cover increased from 9% to 22% in these fast-growing watersheds. As a direct result, Guay determined that peak flow rate at gauged stations for the two-year storm event had climbed by more than 100%, and that the average annual stormwater runoff volume had climbed by 115% to 130% over the same time span.

Watershed development can greatly increase peak discharge rates during rare flood events.

Evaporation Rates are Greater

High evaporation rates are a great challenge in arid and semi-arid watersheds. Low rainfall combined

with high evaporation usually means that stored water will be lost water. In Las Vegas, for example, annual rainfall is a scant four inches, while pan evaporation exceeds ten feet (See Table 2). Consequently, it is virtually impossible to maintain a pond or wetland in an arid watershed without a supplemental source of water (see Saunders and Gilroy, 1997; *Technical Note* 111). Evaporation also greatly exceeds rainfall for many months of the year in semi-arid watersheds, and requires special pond design techniques.

As streams urbanize, dry weather flow can actually increase.

Pollutant Concentrations in Stormwater Are Often Higher

The pollutant concentration of stormwater runoff from arid watersheds tends to be higher than that of humid watersheds. This is evident in Table 3, which compares event mean concentrations (EMCs) from five arid or semi-arid cities to the national average for several common stormwater pollutants. As can be seen, the concentration of suspended sediment, phosphorus, nitrogen, carbon and trace metals in stormwater runoff from arid and semi-arid watersheds consistently exceeds the national average, which is heavily biased toward humid watersheds. In addition, bacteria levels are often an order of magnitude higher in arid regions (Chang, 1999).

The higher pollutant concentrations in arid watersheds can be explained by several factors. First, since rain events are so rare, pollutants have more time to build up on impervious surfaces compared to humid regions. Second, pervious areas produce high sediment and organic carbon concentrations because the sparse vegetative cover does little to prevent soil erosion in uplands and along channels when it does rain. The strong effect of upland and channel erosion can be detected when stormwater samples are taken from channels, but are less pronounced in stormwater outfall pipes.

Vegetative Cover is Sparse in the Watershed

Native vegetative cover is relatively sparse in arid and semi-arid watersheds, and offers little protection against soil erosion. Irrigation is required to establish dense and vigorous cover, which may not be sensible or economical given scarce water resources. In addition, high flows released from storm drains frequently accelerate downstream erosion since channels are also sparsely vegetated. Finally, many stormwater practices require dense vegetative cover to perform properly (e.g., grass swales are often not practical in arid watersheds, given the difficulty to establish and maintain turf).

Sediment Movement Is Greater

Stream channels in arid and semi-arid watersheds move a lot of sediment when they flow. For example, Trimble (1997) found that stream channel erosion supplied more than two thirds of the annual sediment yield of an urban San Diego Creek. He concluded that the higher flows due to watershed urbanization had greatly accelerated the erosion of arroyos, over and above the increases caused by grazing, climate and riparian management. Channel erosion can be particularly severe along road ditches that experience higher stormwater flows, which not only increases sediment erosion but also creates chronic ditch maintenance problems.

Dry Weather Flows Are Rare, Unless Supplemented by Return Water

Most small streams in arid watersheds are gullies or arroyos that only flow during and shortly after infrequent storm events. As streams urbanize, however, dry weather flow can actually increase. Human sources of dry weather flow include return flows from lawn and landscape watering, car washing, and surface discharges of treated wastewater. For example,

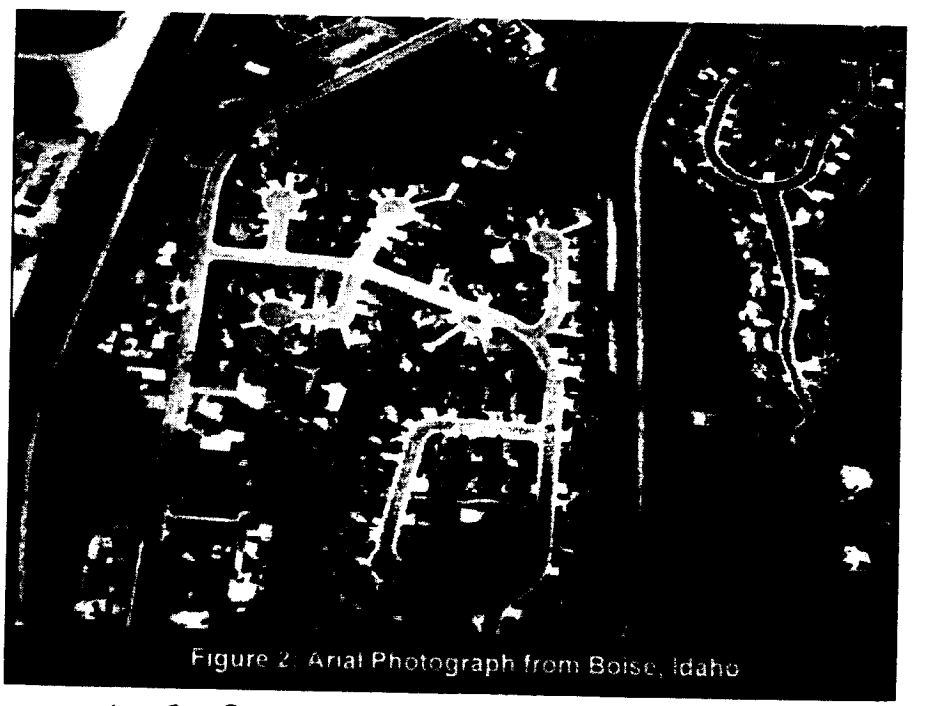


Figure 2. Arial Photograph from Boise, Idaho

Mizell and French (1995) found that excess water from residential and commercial landscape irrigation and construction site dewatering greatly increased rate and duration of dry weather flow in a Las Vegas Creek, and was sufficiently reliable to be the primary irrigation source for a downstream golf course.

Stormwater Strategies for Arid and Semi-Arid Watersheds

Watershed managers need to carefully choose stormwater practices that can meet the demanding climatic conditions and water resource objectives of arid and semi-arid watersheds. Communities can employ three broad strategies: aggressive source control, better site design, and application of "western" stormwater practices. Some of the key trends in each of these areas are described below.

Aggressive Source Control

The term "source control" encompasses a series of practices to prevent pollutants from getting into the storm drain system in the first place. The practices include pollution prevention, street sweeping, and more frequent clean outs of storm drain inlets. Each practice acts to reduce the accumulation of pollutants on impervious surfaces or within the storm drain system during dry weather, thereby reducing the supply of pollutants available for wash off when it rains.

Pollution prevention. Pollution prevention seeks to change behaviors at residential, commercial and industrial sites to reduce exposure of pollutants to rainfall. Almost all arid stormwater managers considered pollution prevention measures to be an integral element of their stormwater management program, on par with the use of structural stormwater practices (Caraco, 1997). Indeed, many western communities have pioneered innovative pollution prevention programs (see *On Watershed Education*, this issue). These programs focus on educating homeowners and businesses on how they can reduce or prevent pollutants from entering the storm drain system when it's not raining.

In recent years, western communities have been targeting their educational message to more specific groups and populations (see *On Watershed Education*, this issue). For example, Los Angeles County has identified seven priority categories for intensive employee training in industrial pollution prevention — auto scrap yards, auto repair, metal fabrication, motor freight, chemical manufacturing, car dealers, and gas stations— on the basis of their hotspot potential and their numerical dominance (Swammikannu, 1998). In the Santa Clara Valley of California, the three key priorities for intensive commercial pollution prevention training are car repair, construction, and landscaping services. Targeting is also used to reach homeowners with specific water conservation, car washing, fertilization and pesticide messages (see *On Watershed Education*).

Street sweeping. Street sweeping seeks to remove the buildup of pollutants that have been deposited along the street or curb, using vacuum assisted sweeper trucks. The pollutant removal performance of a new generation of street sweeper was recently reviewed in *Technical Note* 103. While researchers continue to debate whether street sweepers can achieve optimal performance under real-world street conditions, most concede that street sweeping should be more effective in areas that have distinct wet and dry seasons (CDM, 1993), which is a defining characteristic of arid and semi-arid watersheds.

Better site design presents a great opportunity to minimize impervious cover and stormwater impacts in the west.

Storm drain inlet clean outs. One of the last lines of defense to prevent pollutants from entering the storm drain system is to catch them in the storm drain inlet. Mineart and Singh (1994) reported that monthly or even quarterly clean outs of sediment in storm drain inlets could reduce stormwater pollutant loads to the San Francisco Bay by 5% to 10%. Currently, few communities clean out their storm drain inlets more than once a year, but a more aggressive effort by public works to clean out storm drains prior to the onset of the wet season could be a viable strategy in some communities.

Better Site Design

Better site design clearly presents great opportunities to reduce impervious cover and stormwater impacts in the west, but has not been widely implemented to date. Indeed, the "California" development style, with its wide streets, massive driveways, and huge cul-de-sacs has been copied in many western communities and arguably produces more impervious cover per home or business than any other part of the country (Figure 2). While the popularity of the California development style reflects the importance of the car in shaping communities, it is also a strong reaction against the arid and semi-arid landscape. The brown landscape is not green or pastoral, and many residents consider concrete and turf to be a more pleasing and functional land cover than the dirt and shrubs they replace.

While the techniques and benefits of better site design have been extensively profiled in the last issue of *Techniques* (3:2), it is worth discussing how these techniques can be adapted for western developments.

A key adaptation is to incorporate the concept of "stormwater harvesting" into residential and commercial development design (COT, 1996). Water harvesting is an ancient concept that involves capturing runoff from rooftops and other impervious surfaces and using it for drinking water or to irrigate plants (e.g., the cistern). In a more modern version, rooftop runoff is spread over landscaping areas or the yard, with the goal for complete disposal of runoff on the property for storm events up to the two-year storm (which ranges from one to two inches in most arid and semi-arid climates. For example, the City of Tucson recommends 55 gallons of storage per 300 to 600 square feet of rooftop for residential bioretention areas (COT, 1996). In higher density settings, it may be more practical to store water in a rain barrel or cistern for irrigation use during dry periods.

When water harvesting is aggressively pursued, stormwater runoff is produced only from the impervious surfaces that are directly connected to the roadway system. Denver has utilized a similar strategy program to disconnect impervious areas and reduce the amount of stormwater pollution (DUDFC, 1992). A useful guide on these techniques has also been produced for the San Francisco Bay area (BASMAA, 1997). Water harvesting may also prove to be a useful stormwater retrofitting strategy, particularly in regions where water conservation is also a high priority.

Better site design principles also need to be adapted for fire safety in Western communities adjacent to chaparral vegetation that are prone to periodic wildfires. In some case, vegetation setbacks must be increased in these habitats to protect developments from dangerous wildfires (CWP, 1998).

Developing Western Stormwater Practices

Given the many challenges and constraints that arid and semi-arid watersheds impose, managers need to adapt and modify stormwater practices that were originally developed in humid watersheds. In our stormwater managers survey, four recurring principles emerged on how to design "western" stormwater practices that are suited to the challenging climate and water resource problems of arid and semi-arid watersheds:

1. Carefully select and adapt stormwater practices for arid watersheds
2. Minimize irrigation needs for stormwater practices
3. Protect groundwater resources and encourage recharge

Table 3. Stormwater Pollutant Event Mean Concentrations in Arid and Semi-Arid Regions (Units: mg/l, except for metals which are in ug/l)

Pollutant	National	Phoenix, AZ	Boise, Idaho	Denver, Colorado	San Jose, California	Dallas, Texas
Source	(1)	(2)	(3)	(4)	(5)	(6)
Rainfall		7.1 inches	12 inches	13 inches	14 inches	28 inches
N	2-3000	40	15	35	67	32
TSS	78.4	227	116 *	384	258	663
BOD	14.1	109	89	nd	12.3	12
COD	52.8	239	261	227	nd	106
Total N	2.39	3.26	4.13	4.80	nd	2.70
Total P	0.32	0.41	0.75	0.80	0.83 #	0.78
Soluble P	0.13	0.17	0.47	nd	nd	nd
Copper	14	47	34	60	58	40
Lead	68	72	46	250	105	330
Zinc	162	204	342	350	500	540

References: (1): Smullen and Cave, 1998, (2) Lopes et al, 1995 (3) Kjelstrom, 1995 (computed) (4) DRCOG, 1983, (5) WCC, 1992 (computed) (6) Brush et al, 1995.
Notes: nd= no data, # = small sample size * = outfall pipe samples

4. Reduce downstream channel erosion and protect from upland sediment

1. Carefully select and adapt stormwater practices for arid watersheds

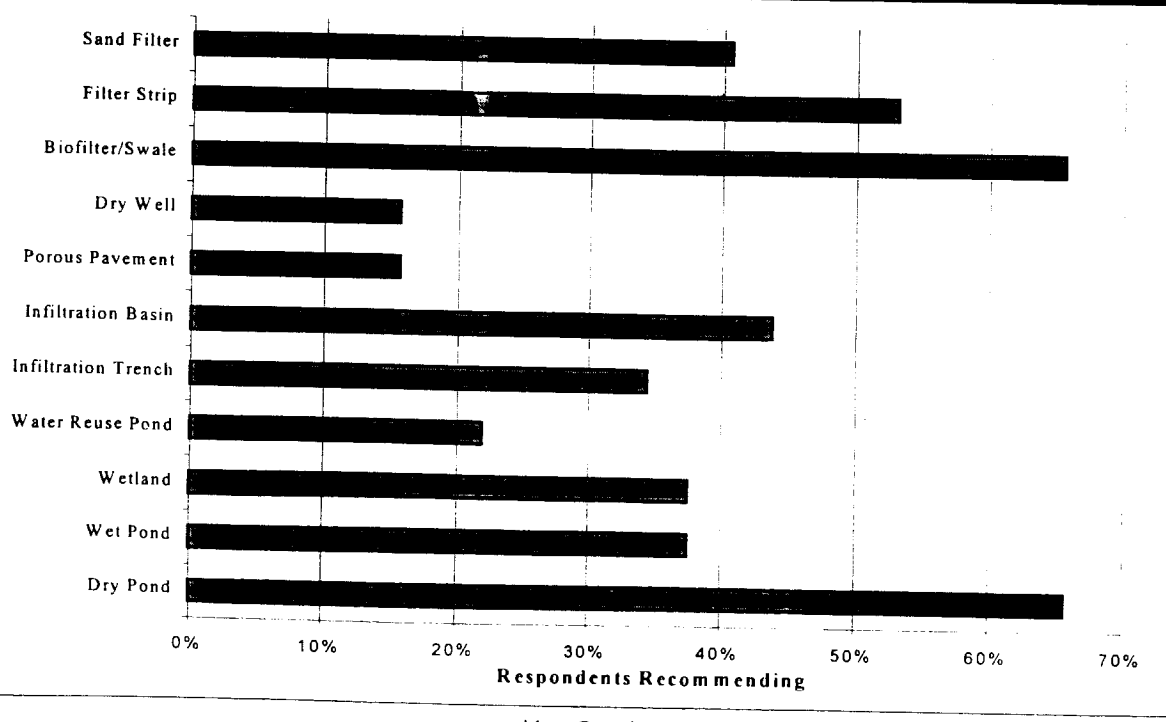
Some stormwater practices developed in humid watersheds are simply not applicable to arid watersheds, and most others require major modifications to be effective (Table 4). Even in semi-arid watersheds, design criteria for most stormwater practices need to be revised to meet performance and maintenance objectives. The following section highlights some of the major design and performance differences to consider for major stormwater practices.

Extended Detention (ED) Dry Ponds. The most widely utilized stormwater practices in arid and semi-arid watersheds were dry ponds, according to the Center's survey (Figure 3). Most were designed exclusively for flood control, but can be easily modified to provide greater treatment of stormwater quality. While dry ED ponds are not noted for their ability to remove soluble pollutants, they are reasonably effective in removing sediment and other pollutants associated with particulate matter (see *Technical Note* 95). In addition, ED ponds can play a key role in downstream channel protection, if the appropriate design storm is selected, and adequate upstream pretreatment is incorporated. Dry extended detention is the most feasible pond practice in arid watersheds, since they do not require a permanent pool of water.

Wet Ponds. Wet ponds are often impractical in arid watersheds since it is not possible to maintain a permanent pool without supplemental water, and the ponds become stagnant between storms. Wet ponds are feasible in some semi-arid watersheds, on the other hand, when carefully designed. Performance monitoring studies have demonstrated that wet ponds exhibit greater pollutant removal than other stormwater practices in Austin, Texas, at a lower cost per volume treated (COA, 1998, and *Technical Note* XX). In arid and semi-arid climates, wet ponds can require supplemental water to maintain a stable pool elevation. Saunders and Gilroy (1997) reported that 2.6 acre-feet per year of supplemental water were needed to maintain a permanent pool of only 0.29 acre-feet. Generally speaking, stormwater designers working in semi-arid watersheds should design for a variable pool level that can have as much as a three-foot draw down during the dry season. The use of wetland plants along the pond's shoreline margin can help conceal the drop in water level, but managers will need to reconcile themselves to chronic algal blooms, high densities of aquatic plants and occasional odor problems. The City of Austin has prepared useful wet pond design criteria to address these issues (COA, 1997).

Stormwater Wetlands. Few communities recommend the use of stormwater wetlands in either arid or semi-arid watersheds. Once again, the draw down rates caused by evaporation make it difficult to impossible to maintain standing water that can sustain emergent wetland plants, unless copious subsidies of supplemental water

Figure 3: BMP Preferences in Arid Climates



are supplied. One interesting exception was a gravel-based wetland that treated parking lot runoff in Phoenix, Arizona (Wass and Fox, 1995). While the wetland did require some supplemental water, evaporation was reduced by the overlying gravel bed, and the wetland achieved relatively high removal rates of oil and grease.

Sand Filters. Sand filters continue to be one of the most common practices used to treat the quality of stormwater in both arid and semi-arid watersheds. Sand filters require no supplemental water and can be used with almost any soil type. Still, the basic sand filter design continues to evolve to counter the tough design conditions found in these regions. For example, Urbonas (1997) evaluated sand filter performance in Denver, Colorado, and concluded that designs need to be modified to account for the greater sediment buildup in arid regions (*Technical Note* 100). Urbonas found that the

Table 4. Design Modifications for Stormwater Practices in Arid and Semi-Arid Watersheds

Stormwater Practice	Arid Watersheds	Semi-Arid Watersheds
ED Dry Ponds	PREFERRED multiple storm ED stable pilot channels "dry" forebay	ACCEPTABLE dry or wet forebay needed
Wet Ponds	NOT RECOMMENDED evaporation rates are too high to maintain a normal pool without extensive use of scarce water	LIMITED USE liners to prevent water loss require water balance analysis design for a variable rather than permanent normal pool use water sources such as AC condensate for pool aeration unit to prevent stagnation
Stormwater Wetlands	NOT RECOMMENDED evaporation rates too great to maintain wetland plants	LIMITED USE require supplemental water submerged gravel wetlands can help reduce water loss
Sand Filters	PREFERRED requires greater pretreatment exclude pervious areas	PREFERRED refer to COA, 1997 for design criteria
Bioretention	MAJOR MODIFICATION no irrigation better pretreatment treat no pervious area xeriscape plants or no plants replace mulch with gravel	MAJOR MODIFICATION use runoff to supplement irrigation use xeriscaping plants avoid trees replace mulch with gravel
Rooftop Infiltration	PREFERRED dry well design for recharge of residential rooftops	PREFERRED recharge rooftop runoff on-site unless the land use is a hotspot
Infiltration	MAJOR MODIFICATION no recharge for hotspot land uses treat no pervious area multiple pretreatment soil limitations	MAJOR MODIFICATION no recharge for hotspot land uses treat no pervious area multiple pretreatment
Swales	NOT RECOMMENDED not recommended for pollutant removal, but rock berms and grade control needed for open channels to prevent channel erosion	LIMITED USE limited use unless irrigated rock berms and grade control essential to prevent erosion in open channels

test sand filter quickly became clogged with sediment after just a few storms, and recommended that sand filters include a more frequent sediment clean out regime, an increase in the filter bed size, and upstream detention to provide greater sediment pretreatment. Some additional research on the performance and longevity of sand filters in the semi-arid climate of Austin, Texas can be found in *Technical Notes* 111 and 112 (this issue).

Bioretention. The use of bioretention as a stormwater treatment practice is not very common in many western communities at the present time. Clearly, this practice will require extensive modification to work in arid watersheds. This might entail xeriscape plantings, use of gravel instead of mulch as ground cover, and better pretreatment. Sprinkler irrigation of bioretention areas should be avoided.

Infiltration Practices. While a number of communities allowed the use of infiltration in arid and semi-arid watersheds, few encouraged its use. Two concerns were frequently cited as the reason for lack of enthusiasm for structural infiltration. The first concern was that infiltration practices are too susceptible to rapid clogging, given the high erosion rates that are customary in arid and semi-arid watersheds. The second concern was that untreated stormwater could potentially contaminate the aquifers that are used for groundwater recharge.

Swales. The use of grass swales for stormwater treatment was rarely reported for arid watersheds, but was much more common in semi-arid conditions. Grass swales are widely used as a stormwater practice in residential developments in Boise, Idaho, but the dense turf can only be maintained in these arid conditions through the use of sprinkler irrigation systems. The pollutant removal performance of swales in arid and semi-arid watersheds appears to be mixed (Table 5). Poor to negative pollutant removal performance was reported in a Denver swale that was not irrigated (Urbonas, 1999 -personal communication). In the semi-arid climate of Austin, Texas, Barret et al (1998) reported excellent pollutant removal in two highway swales that were vegetated but not irrigated. Similar performance was also noted in a non-irrigated swale monitored by the City of Austin (COA, 1997).

2. *Minimize irrigation needs for stormwater practices*

In arid climates, all sources of water, including stormwater runoff, need to be viewed as a resource. It seems senseless, therefore, to irrigate a practice with 50 inches of scarce water a year so that it can be ready to treat the stormwater runoff produced from 10 inches of rain a year. Still, irrigation of stormwater practices the 183 and Walnut Creek sites. In our survey of stormwater managers, 65% reported that irrigation was commonly used to establish and maintain vegetated cover for most stormwater practices.

Irrigation should be limited to practices that meet some other landscaping or recreational need in a community and would be irrigated anyway, such as landscaping islands in commercial areas and road rights of way. Irrigation may also be a useful strategy for dry ED ponds that are designed for dual use, i.e., facilities that serve as a ballfield or community park during the dry season. Even when irrigation is used, practices should be designed to "harvest" stormwater, and therefore reduce irrigation needs. Landscapers should also consider planting native drought resistant plant material to

Table 5. Performance of Vegetated Swales in Semiarid Climates
Source: Barret et al, 1997, and COA, 1998

	Highway 183 median	Walnut Creek	City of Austin Swale
Parameter	Mass Load Reduction (%)		
TSS	89	87	68
COD	68	69	33
TP	55	45	43
TKN	46	54	32
Nitrate	59	36	(-2)
Zinc	93	79	ns
Lead	52	31	ns

ns = not sampled. Fecal coliform and fecal strep removals were negative at the 183 and Walnut Creek sites.

reduce water consumption.

3. Protect groundwater resources and encourage recharge

In many arid communities, protection of groundwater resources is the primary driving force behind stormwater treatment. Ironically, early efforts to use stormwater to recharge groundwater have resulted in some groundwater quality concerns. In Arizona, for example, stormwater was traditionally injected into 10 to 40 foot deep dry wells to provide for groundwater recharge. Concerns were raised that deep injection could increase the risk of localized groundwater contamination, since untreated stormwater can be a source of pollutants, particularly if the proposed land use is classified as a stormwater hotspot.

Wilson et al (1990) evaluated the risk of dry well stormwater contamination in Pima County, Arizona, and determined that dry wells had elevated pollutant concentrations in local groundwater. The build up of pollutant levels that had occurred over several decades tended to be localized, and did not exceed drinking water standards. Still, it is important to keep in mind that dry wells and other injection recharge methods should only be used to infiltrate relatively "clean" runoff, such as residential roofs. Other surface infiltration practices, such as trenches and basins, can also potentially contaminate groundwater unless they are carefully designed for runoff pretreatment, provide a significant soil separation distance to the aquifer, and are not used on "hot spot" runoff sites.

In many arid communities, protection of groundwater resources is the primary driving force behind stormwater treatment.

4. Design to reduce channel erosion

Above all, the western stormwater practice must be designed to reduce *downstream* erosion in ephemeral channels, while at the same time protecting itself from sediment deposition from *upstream* sources. This is a daunting challenge for any engineer, but the following ideas can help.

With respect to *downstream channel erosion*, designers will need to clamp down on the storm events that produce active erosion in channels. This might entail the design of ponds or basins that can provide 12 hours of extended detention for the one-year return interval storm event (which is usually no more than an inch or two in most arid and semi-arid watersheds). Local geomorphic assessment will probably be needed to set channel protection criteria, and these hydraulic studies are probably the most critical research priority in both arid and semi-arid watersheds today. Without ED channel protection, designers must rely on clumsy and localized engineering techniques to protect ditches and channels from eroding, such as grade control, rock berms, rip-rap, or even concrete lined channels. Bioengineering options to stabilize downstream channels in arid watersheds are limited, and often require erosion control blankets to retain moisture and seeds, as well as extensive irrigation.

Upstream erosion quickly reduces the capacity of any stormwater practice in an arid or semi-arid watershed, due to sparse vegetation cover and erosion from upstream gullies, ditches, or channels. Designers have several options to deal with this problem. The most effective option is to locate the practice so that it can only accept runoff from impervious areas, particularly for infiltration, sand filters and bioretention. Even then, the practice will still be subject to sediment transported by the wind.

All stormwater practices in arid and semi-arid watersheds require greater pretreatment *than in humid watersheds.* Seventy percent of the arid stormwater managers surveys reported that sediment clogging and deposition problems were a major design and maintenance problem for nearly all of their stormwater practices.

Even though not all upstream erosion can be prevented, designers can compensate for sediment buildup within the stormwater practice itself. Pretreatment and over-sizing can prevent the loss of storage or clogging associated with sediment deposition. As noted in *Technical Note* 112, rock berms or vertical gravel filters are ideally suited as a pretreatment device.

Most stormwater managers surveyed indicated that sediment cleanout regimes for stormwater practices need to be more frequent in arid and semi-arid watersheds, with removal after major storms and at a minimum, once a year. Lastly, stormwater managers consistently emphasized the need for better upland erosion control during construction. A full 65% of the managers reported that upstream erosion and sediment control was a major emphasis during their stormwater plan review.

Summary

It is clear that stormwater managers in arid and semi-arid climates cannot simply import the stormwater programs and practices that were originally developed for humid watersheds. Instead, they will need to develop stormwater solutions that combine aggressive source control, better site design and stormwater practices in a distinctly western context. Regulators, in turn, need to recognize that western climates, terrain and water resource objectives are different, and be flexible and willing to experiment with new approaches in municipal stormwater programs. Lastly, stormwater managers from arid and semi-arid watersheds must

work more closely together to share experiences about the stormwater solutions that work and fail. It is only through this dialogue that western communities can gradually engineer stormwater practices that are rugged enough to withstand the demanding challenges of the arid and semi-arid west.

References

Barret, M., M. Keblin, P. Walsh. , J. Malina and R. Charbeneau. 1998. *Evaluation of the performance of permanent runoff controls: summary and conclusions.* Center for Transportation Research. Texas Dept of Transportation. University of Texas. Austin, TX. 37 pp.

Brush, S, M. Jennings, J. Young, and H. Mcreath. 1995. *NPDES monitoring–Dallas/Forth Worth Texas area.* pp. 115-143. In *Stormwater NPDES Monitoring Needs.* American Society of Civil Engineers.

Camp Dresser and McKee (CDM), Larry Walker Associates, and Uribe and Associates, and Resources Planning Associates. 1993. *California stormwater best management practices handbook.* Prepared for: California Water Quality Control Board. Sacramento, CA

Caraco, D. 1997. *BMP supplement for cold climates.* U.S. Environmental Protection Agency. Center for Watershed Protection. Ellicott City, MD. 112 pp.

Center for Watershed Protection (CWP). 1997. *Survey of stormwater managers in arid and semi-arid climates.* Ellicott City, MD, Unpublished data.

City of Austin (COA). 1994. *Environmental criteria manual: guidelines for BMP design.* City of Austin Drainage Utility. Austin, TX.

City of Austin, (COA) 1997. Wet Ponds. Section 1.6.6.C of *Environmental Criteria Manual.* City of Austin, TX Drainage Utility.

City of Tucson (COT) Stormwater Quality Program. 1996. *Water harvesting fact sheets.* Tucson, AZ.

Claytor, R. and T. Schueler. 1997. *Design of stormwater filtering systems.* Prepared for: Chesapeake Research Consortium. Center for Watershed Protection. Ellicott City, MD.

Denver Regional Council of Governments (DRCOG). 1983. *Urban runoff quality in the Denver region.* Prepared for US EPA NURP Program. Denver, CO. 240 pp.

Glick, R., G. Chang and M. Barret. 1998. *Monitoring and evaluation of stormwater quality control basins.* Water Environment Federation Speciality Conference. Proceedings Watershed Management: Moving from Theory to Implementation. Denver, CO. May 3-6, 1998.

Guay, J. 1996. *Effects of increased urbanization from 1970's to 1990's on storm runoff characteristics in Perris Valley, California.* USGS Water Resources Investigations Report. 95-4273.

Harris, T., J. Saunders, and. W. Lewis. 1997. *Urban rivers in arid environments–unique ecosystems.* Pp. 421-438 In *Effects of Watershed Development and Management of Aquatic Ecosystems.* L. Roesner, editor. American Society of Civil Engineers. New York, NY.

Kjelstrom, L. 1995. *Data for and adjusted regional regression models of volume and quality of urban stormwater runoff in Boise and Garden City, Idaho, 1993-94.* United States Geological Survey Water Resources Investigations Report 95-4228.

Lopes, T, K. Fossum, J. Phillips and J. Marical. 1995. *Statistical summary of selected physical, chemical, and microbial contaminants and estimates of constituent loads in urban stormwater in Maricopa County, Arizona.* USGS Water Resources Investigations Report 94-4240.

Maddock, T. and W. Hines. 1995. *Meeting future public water supply needs: a Southwest perspective.* Water Resources Bulletin, 31(2): 317-329

Mizell, S. and R. French. 1995. *Beneficial use of dry weather flow in the Las Vegas Valley, Nevada. Water Resources Bulletin.* 31(3): 447-461.

National Oceanographic and Atmospheric Administration (NOAA). 1997. *NCDC Summary of the day weather records.* Silver Spring, MD.

Saunders and Gilroy. 1997. *Treatment of nonpoint source pollution with wetland/aquatic ecosystem best management practices.* Texas Water Development Board. Lower Colorado River Authority. Austin, TX

Smullen, J, and K. Cave. 1998. *Updating the U.S. nationwide urban runoff quality database pp 202-218 in Conference Proceedings.* Third International Conference on Diffuse Pollution. International Association of Water Quality. Edinburgh, Scotland.

NEWHALL LAND

January 14, 2000

Mr. Dennis A. Dickerson
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Re: Proposed Standard Urban Storm Water Mitigation Plan
and Regional Board Meeting of January 26, 2000

Dear Mr. Dickerson:

We are writing this letter in response to your request for written comments in advance of your upcoming Board Meeting of January 26, 2000.

As we have previously communicated to you, we strongly oppose the numerical standards proposed in the new Standard Urban Stormwater Mitigation Plan (SUSMP) guidelines. We also object to the most recent modifications which have been made to the previously submitted SUSMP's, specifically the addition of new categories and the additional restrictions defininig "hillside development", the addition of a category for parking lots containing 25 or more spaces, and the additional category concerning projects discharging into an "environmentally sensitive" area.

The SUSMP guidelines you are proposing to adopt at the January 26, 2000, Regional Water Quality Control Board are totally unacceptable. These new SUSMP guidelines as written, will create significant cost increases for the entire development industry. This increased cost will directly affect our ability to provide affordable housing, and will have a negative impact on the profitability of commercial and industrial business as well.

We are all concerned with the environment, and we fully understand the importance of clean water, however, the development industry should not be singled out and unjustly accused of being the major cause of water pollution.

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R0068550

Forcing our industry to design expensive, possibly ineffective structures which could create a serious maintenance liability over time, in order to meet a numerical standard that will not have a beneficial effect on the water, will certainly not benefit the general public.

Our industry has made a great deal of progress towards pollution prevention in recent years. We have made great strides in implementing various design features to minimize potential pollution, and we have continued to educate the contractors who work for us about the importance of applying best management practices during the construction process. These efforts have made a significant contribution towards prevention of pollution.

We are committed to continue our pollution prevention efforts, and have already agreed to the SUSMP guidelines which were originally submitted to the Regional Water Quality Control Board. The implementation of the original SUSMP guidelines without the numerical guidelines will further minimize any impacts that our industry may have on the environment.

As you know, the County of Los Angeles recently agreed to the 0.75 numerical standard in the unincorporated areas of Los Angeles in an effort to resolve a lawsuit filed by the Natural Resource Defense Council, without the input of our industry. To date, the projects submitted to them incorporating this requirement have not been consistent in the application of their design criteria. They have each specified a different way to meet this 0.75 numerical standard, and the costs for installation, the effectiveness of each method, and the complexity and costs for maintenance are still unknown. These projects should be studied over time and evaluated.

In closing, we would like to request that any new policies which are adopted by the Board become effective only on projects which have not received Tentative Map approval from the governing agency. We hope that the Board will invest the time it will take to study some of the projects which have been submitted through the County of Los Angeles to more fully understand the .075 requirement, the various types of Best Management Practices that will be cost effective to install and maintain, and that will have the desired results before adding additional requirements which may have no benefit to the environment, at a great cost to several industries.

We hope that the Board will understand our position, and will work with us towards finding a logical, scientifically based approach to this issue.

Sincerely,

Ross Pistone

Ross Pistone
Vice-President of Operations

VIA FACSIMILE

January 14, 2000

Mr. Dennis Dickerson, Executive Director
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: Building Industry Comments on the Standard Urban Stormwater Mitigation Plan (SUSMP)

Dear Mr. Dickerson:

On behalf of the 1,850 members of the Building Industry Association of Southern California, we would like to reiterate our concerns expressed to you in our September 1999 letter and our September 16, 1999 presentation before your Board on the SUSMP issue.

While our industry continues to support the goals of clean water, we remain opposed to the plan as written. The inclusion of a numerical mitigation standard whose benefits have not been proven and whose cost effectiveness has not been studied makes it impossible for us to support the December 7, 1999 staff proposal.

Let us be clear that the building industry is committed to the goal of cleaning our stormwater run off. Further, our industry is committed to participating in a process that truly seeks to achieve this goal. Such a process should include the testing and study of various best management practices with a focus on pilot programs which have proven to be effective. This process should involve all affected parties (the regulated community, the municipalities and the environmental community) and should be based on sound science.

Because the December 7, 1999 proposal does not provide for any of the process outlined above, we sincerely doubt that it will achieve its stated objective. As the industry principally impacted by this proposal, we would like to be part of a process that has a chance of actual, measured, scientifically proven success

We respectfully request that you and the Board reject the concept of a numerical mitigation standard. We look forward to making a thorough presentation outlining all of our thoughts and concerns on these issues during your January 26, 2000 public hearing.

Sincerely,

Richard J. Lambros
Executive Vice President

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Antelope Valley Chapter
Beldy View Chapter
Desert Chapter
Greater L.A./Ventura Chapter
Imperial Valley Chapter
Los Angeles County East Chapter
Orange County Chapter
Riverside County Chapter

TOTAL P.02

Greg Sweel
1920 6th Street #343
Santa Monica, CA 90405

January 13, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt reasonable design standards for sizing treatment control Best Management Practices at specified new and redevelopments: Ensure that these developments mitigate, through treatment or infiltration, 100% of the runoff generated by up to and including a three quarter-inch storm, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Greg Sweel

11-316

MALIBU BAY COMPANY

January 18, 2000

Mr. Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Support for Standards to Reduce Runoff from New Development and Redevelopment

Dear Mr. Dickerson:

I am writing to you as a commercial property owner, developer, environmentalist, water sport activist (surfer, swimmer, paddler, skindiver and sailor) and concerned California citizen.

On January 26, 2000 you have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. I urge you to adopt a Standard Urban Stormwater Mitigation Plan (the "Plan") for the Cities in Los Angeles County, reducing urban runoff from new development and redevelopment. By adopting the Plan, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

As a property owner and developer in Malibu, we have self-imposed runoff regulations on two proposals we currently have pending. Both of these projects will retain and treat runoff from the new development. While it would be ideal if every property developer would volunteer this, the reality of the economics is that most do not. For this reason, I urge you to not only require retention and treatment of runoff, but to make the Plan's regulations (including the definitions and standards) specific and clear so that it can be properly planned and implemented. In addition it is critical that the exemptions from the definition of runoff as contained in the December RWQCB draft of the Plan be eliminated, particularly, the exemption of rooftop runoff (which is ludicrous).

Requiring treatment makes economic sense. While it is a significant cost to the developer to provide treatment, addressing the problems in the planning phase of construction is the most cost-effective way to solve the runoff problems (versus trying to fix problems after the fact). Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business.

In a region that is constantly being built and rebuilt, adoption of new standards will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt standards to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

John Perenchio

23705 WEST MALIBU ROAD SUITE D-2 MALIBU, CA 90265 (310) 456-6555 FAX (310) 456-9462

January 19, 2000

Mr. Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

I am a member of the Board of Directors of TreePeople, and I wanted you to know that after five years of research, TreePeople has demonstrated the benefits and feasibility of capturing rainwater and recycling it. TreePeople brought together leading experts to develop best management practices, and then showed how easily they could be implemented.

Now, you have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt reasonable design standards for sizing treatment control Best Management Practices at specified new and redevelopments: Ensure that these developments mitigate, through treatment or infiltration, 100% of the runoff generated by up to and including a three quarter-inch storm, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

We've shown that it is feasible. Now it is up to you to ensure that it actually happens. Thank you for your consideration.

Sincerely,

Jan B. King
Member of the Board of TreePeople

11-318

January 18, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

I wanted you to know that after five years of research, the Los Angeles based environmental organization TreePeople has demonstrated the benefits and feasibility of capturing rainwater and recycling it. TreePeople brought together leading experts to develop best management practices, and then showed how easily they could be implemented.

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We've shown that it is feasible. Now it is up to you to ensure that it actually happens.

Thank you for your consideration.

Sincerely,

Mark Bachmann

11-319

January 18, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

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We've shown that it is feasible. Now it is up to you to ensure that it actually happens.

Thank you for your consideration.

Sincerely,

January 14, 2000

Mr. Dennis A. Dickerson
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Re: Proposed Standard Urban Storm Water Mitigation Plan
and Regional Board Meeting of January 26, 2000

Dear Mr. Dickerson:

We are writing this letter in response to your request for written comments in advance of your upcoming Board Meeting of January 26, 2000.

As we have previously communicated to you, we strongly oppose the numerical standards proposed in the new Standard Urban Stormwater Mitigation Plan (SUSMP) guidelines. We also object to the most recent modifications which have been made to the previously submitted SUSMP's, specifically the addition of new categories and the additional restrictions defininig "hillside development", the addition of a category for parking lots containing 25 or more spaces, and the additional category concerning projects discharging into an "environmentally sensitive" area.

The SUSMP guidelines you are proposing to adopt at the January 26, 2000, Regional Water Quality Control Board are totally unacceptable. These new SUSMP guidelines as written, will create significant cost increases for the entire development industry. This increased cost will directly affect our ability to provide affordable housing, and will have a negative impact on the profitability of commercial and industrial business as well.

We are all concerned with the environment, and we fully understand the importance of clean water, however, the development industry should not be singled out and unjustly accused of being the major cause of water pollution.

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Forcing our industry to design expensive, possibly ineffective structures which could create a serious maintenance liability over time, in order to meet a numerical standard that will not have a beneficial effect on the water, will certainly not benefit the general public.

Our industry has made a great deal of progress towards pollution prevention in recent years. We have made great strides in implementing various design features to minimize potential pollution, and we have continued to educate the contractors who work for us about the importance of applying best management practices during the construction process. These efforts have made a significant contribution towards prevention of pollution.

We are committed to continue our pollution prevention efforts, and have already agreed to the SUSMP guidelines which were originally submitted to the Regional Water Quality Control Board. The implementation of the original SUSMP guidelines without the numerical guidelines will further minimize any impacts that our industry may have on the environment.

As you know, the County of Los Angeles recently agreed to the 0.75 numerical standard in the unincorporated areas of Los Angeles in an effort to resolve a lawsuit filed by the Natural Resource Defense Council, without the input of our industry. To date, the projects submitted to them incorporating this requirement have not been consistent in the application of their design criteria. They have each specified a different way to meet this 0.75 numerical standard, and the costs for installation, the effectiveness of each method, and the complexity and costs for maintenance are still unknown. These projects should be studied over time and evaluated.

In closing, we would like to request that any new policies which are adopted by the Board become effective only on projects which have not received Tentative Map approval from the governing agency. We hope that the Board will invest the time it will take to study some of the projects which have been submitted through the County of Los Angeles to more fully understand the .075 requirement, the various types of Best Management Practices that will be cost effective to install and maintain, and that will have the desired results before adding additional requirements which may have no benefit to the environment, at a great cost to several industries.

We hope that the Board will understand our position, and will work with us towards finding a logical, scientifically based approach to this issue.

Sincerely,

Ross Pistone

Ross Pistone
Vice-President of Operations

Friends of the Los Angeles River

January 17, 2000

Mr. Dennis Dickerson, Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th St., Suite 200
Los Angeles, CA 90013

RE: Standard Urban Stormwater Mitigation Permit

Dear Mr. Dickerson:

Friends of the Los Angeles River (FoLAR) fully concur with the comments submitted by NRDC on Friday, January 14, 2000.

In addition we would like to submit comments relating to our own experiences with development standards in Los Angeles.

In November of 1998, FoLAR entered into a mitigation agreement with Legacy Partners Commercial, Inc. for the development of a business park on 49 acres at the Taylor Yards. This agreement was included in the final Mitigated Negative Declaration for the property. The Taylor Yards are a riverfront property which had never been previously developed or paved. FoLAR's concerns were related to the inherent increase in runoff that standard development practices would necessarily cause to contribute to this soft bottom section of the river. Legacy's president, Bill Shubin, being an avid surfer, shared our concerns.

FoLAR's consultants worked jointly with Legacy's engineering experts to develop a drainage design plan, which would retain and detain surface water runoff and would implement surface water quality measures. The plan was designed so as not to increase peak flows of surface water runoff in a 100-year storm event.

Facilities were designed to prevent or otherwise minimize surface water runoff from the developed parcel. Efforts resulted in a parking lot and landscaping design which direct surface water runoff to bio-swales, allowing for natural percolation of rainwater to the groundwater via an 18" perforated pipe subdrain system. The final design accomplished a system that can immediately accommodate a 1/2" rain event every 24 hours. Additionally, storm drain improvements were designed to drain surface water runoff on-site during the peak period of a 100-year storm event. This latter is accommodated through detention, which then over time allows gradual percolation through the bioswales.

11-323

The innovative design has the positive result of accommodating a capital event (and detaining the additional peak flows) while eliminating the need for certain on-site storm drain improvements. Storm drain cost savings were re-allocated to construct a system for retention and percolation.

Much of the resistance within the building industry seems to stem from a fear that approvals will be too difficult to obtain or that these new standards will send development costs skyrocketing

Our experience with Legacy shows that costs are not necessarily increased, but shifted. And while initial meetings with building and safety and other agencies were challenging, a spirit of cooperation prevailed and these innovative concepts were readily approved. Moreover, it will be easier and easier with each new project. Change is possible and in this instance, necessary.

We agree with Legacy Partners' Michael Conway, project manager who says he "can point to this project as evidencing successful cooperation between private industry and public interest." And we would encourage other developers to follow their lead.

Melanie Winter
Executive Director

POST OFFICE BOX 4996
LOS ANGELES, CALIFORNIA 90049

LAW OFFICES OF
EMILY SIMON

TELEPHONE (310) 440-1046
FACSIMILE (310) 440-1056
EMAIL: ejsgypsy@email.msn.com

January 18, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

I am the vice chair of the Board of Directors of TreePeople, and I wanted you to know that after five years of research, TreePeople has demonstrated the benefits and feasibility of capturing rainwater and recycling it. TreePeople brought together leading experts to develop best management practices, and then showed how easily they could be implemented.

Now, you have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt reasonable design standards for sizing treatment control Best Management Practices at specified new and redevelopments: Ensure that these developments mitigate, through treatment or infiltration, 100% of the runoff generated by up to and including a three quarter-inch storm, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in

the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

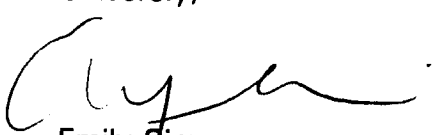
The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

We've shown that it is feasible. Now it is up to you to ensure that it actually happens.

Thank you for your consideration.

Sincerely,



Emily Simon
Vice Chair, Board of TreePeople

January 18, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

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Thank you for your consideration.

Sincerely,

Andrew Hall

2712 Cassiano Road
Los Angeles, CA 90077

R0068566

11-327

Surfrider Foundation
South Bay Chapter

Conservation • Research • Education
A Nonprofit Environmental Organization

January 19, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Dear Mr. Dickerson:

The South Bay Chapter of the Surfrider Foundation is deeply involved in protecting and improving the South Bay surf and beach experience. Our primary efforts include water quality monitoring, enhancing education and awareness, environmental activism, and ensuring continued access to our beaches and ocean.

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt reasonable design standards for sizing treatment control Best Management Practices at specified new and re-developments: Ensure that these developments mitigate, through treatment or infiltration, 100% of the runoff generated by up to and including a three quarter-inch storm, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

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The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy; Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any business owner near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

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Sincerely,

Al Miller
Executive Committee, South Bay Surfrider

11-328

R0068567

P.O. Box 3825 • Manhattan Beach, California 90266
(310) 535-3116 • www.surfrider.org/southbay

Education for Sustainable Living
1718 Wellesley Ave.
Los Angeles, CA 90025 USA
Phone: 310-826-6152
Net: ak870@lafn.org
19 January, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

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Jan. 19, 2000

3630 Kelton Ave.
Long Beach CA 90810

Dennis Dickerson, Director
L.A. Regional Water Quality Control Bd.
320 W. 4th St. LA 90013

RE: Jan. 26 hearing on storm water retention

Dear Mr. Dickerson:

I have been concerned with storm water run-off for years, since I live near the mouth of the Los Angeles River, and have seen the tremendous pollution that comes down into the Long Beach ocean waters and beaches.

I am delighted that the Federal Govt. is requiring cities to retain .75" of water on any new building development, even though I consider this too little an amount.

Please stand firm in the face of cities which do not want to comply.

Water retention on new building projects is Federal law, and costs very little to achieve, and is already being implemented in Long Beach by the River Glen Estates building 18 single family homes at 3000 San Francisco St., Long Beach 90806.

Thirty-two other cities with more rainfall have more strict water retention laws. Southern California needs water retention more than any other State!

Sincerely,

Barbara Morel

(562) 424-3168 11-330

R0068569

2000 JAN 21 P 2:57

Stephanie Balikos
29 Brooks Apt #2
Venice, CA 90291

January 19, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

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visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

It will probably be expensive but it will be worth it to me.

Sincerely,

Stephanie Balikos

R0068571

PLAYA VISTA

12555 W. JEFFERSON BLVD. # 300
LOS ANGELES, CALIFORNIA 90066

TEL: 310.822.0074
FAX: 310.821.9429

January 21, 2000

Mr. Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: **Comments on Proposal to Reduce Runoff from New and Redevelopment under the Municipal Stormwater Permit**

Dear Mr. Dickerson:

Thank you for this opportunity to provide comments on the proposed model program for stormwater management in new and redevelopment.

Background
For your information, Playa Vista is a new residential and commercial development in West Los Angeles which has recently won the Local Government Commission western United States Awahanee Award for its unique sustainable design. Incorporated into this design is a cutting edge stormwater management program. Playa Vista, for over 10 years, has been actively incorporating evolving stormwater management concepts into its development and redevelopment plans. In fact, Playa Vista, to demonstrate its leadership on this important ocean protection issue, has chosen to set a goal for itself of no increase in pollutants of concern after development of the project. This level of performance is well above your proposed standard.

However, it is important to note that Playa Vista had a unique opportunity to accomplish this objective because of the significant off-site areas that drain through the property. Most projects will not have this kind of opportunity.

Assessment of Board Proposal
We agree with the basic concept that there is a need to develop criteria for new projects to manage stormwater in a way that reduces the increase in pollution from new developments.

You and the Los Angeles municipalities do have the opportunity to significantly reduce urban runoff pollution through the adoption of criteria for controlling urban runoff, which has been cited as the number one source of pollution to our coastal and inland waters. We encourage all parties to move forward in establishing a program to improve the runoff from development and redevelopment projects. The Playa Vista project is very concerned with the health of the Santa Monica Bay in general, and specifically the Ballona Creek estuary area and Marina del Rey. Both of these water bodies are viewed

as a ecological assets to the project and our project has been designed to integrate protections for these resources into our surface water management program. The project is very concerned about the continued degradation of these waters by general urban runoff, which includes trash and debris as well as other pollutants. The long term health of our planned restoration of the Ballona wetland and the creation of a new water feature and habitat areas adjacent to the Marina del Rey is also dependent on upstream water quality.

While we support the intent of the Board's proposal, we would like to recommend some additional technical assessments that if done before adoption of the Board's proposal would provide for a strong result. These include:

The rainfall analysis performed is very limited. First, the analysis of only a couple of raingages is problematic in that there is the potential for a wide variation in storm characteristics that might lead one to develop more specific standards. Second, the rainfall analysis was performed on a 24-hour basis. Since the average storm duration is about 11 to 14 hours (Stenstrom and Strecker,1993: Assessment of Storm Drainage Sources of Contaminants to Santa Monica Bay, Volume I), this type of analysis would tend to truncate actual rain events, potentially leading to the conclusion that more stormwater would be treated than might really occur. Third, we do not believe that the use of raingage analysis alone is appropriate for setting standards. What should occur is the use of rainfall runoff models to assess other factors that can affect the performance of BMPs.

The use of a design storm (depth of rainfall) is appropriate for BMPs where the dominant treatment mechanism is resulting either directly or indirectly from storage. It is not appropriate for BMPs which are "flow-through" such a swales, filters, and infiltration. The performance of these BMPs in terms of treatment of a certain volume of runoff is much better evaluated through the investigation of rainfall intensities rather than a rainfall depth over a long time period. This could be done through the analysis of long-term hourly or, even better, 15-minute raingage data and then rainfall/runoff modeling.

The selection of design criteria should include an evaluation of actual site designs with assessment of effectiveness through the use of rainfall/runoff modeling and analysis of costs. This serves a number of important purposes. We believe than in many cases, there is the potential to save money and achieve better water quality through good site designs. Much of the opposition that the Board is facing on this issue is the perception that imposed standards will impose economic hardships. We believe that producing a number

of site examples as a part of the criteria selection work is critical to gaining the support and approval of both the municipalities and developers, as well as the public and the environmental community.

There is a need from both a technical perspective as well as a community acceptance perspective to conduct additional technical analyses as well as cost-effectiveness evaluations. This should be done with a broad group of stakeholders to help select and implement a criteria that will be accepted and successful. Playa Vista supports the efforts to develop such a standard and would be pleased to provide more detailed input on this manner. If you should have any questions, please contact Catherine Tyrrell, Environmental Affairs Director at (310) 448-4676.

Sincerely,

David A. Herbst
Vice President
Corporate Affairs

cc: Sara Wan
Peter Douglas

MIA LEHRER

+ associates

landscape architecture

+

2000 JAN 21 P 2:42

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

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tel 213 384 3844
fax 213 384 3833
The Wiltern
3780 Wilshire Blvd. ***suite*** *1*100
Los Angeles, Ca. 90010
e-mail miayassoc@aol.com

Esther Margulies
Landscape Architect Ca. 3752

11-336

R0068575

Process

We believe that a thoughtful "process driven" approach should be employed for the development of appropriate public policy regarding stormwater mitigation in Southern California. Further, we believe that the SUSMP Policy approved on January 6, 2000 by the Regional Council of the Southern California Association of Governments (SCAG) offers a quality process driven approach to SUSMPs. We support this policy, as outlined below, and would seek its inclusion in the final SUSMP resolution adopted by the LARWQCB.

The Southern California Association of Governments recommends that:

- *the Los Angeles Regional Water Quality Control Board not adopt SUSMP numeric standards until such time as the Board can validate the feasible, technical and scientific bases for numeric standards.*
- *the Board monitor pilot programs similar to those underway in Los Angeles County.*
- *the Board work closely with cities such as Calabasas, Santa Clarita and Santa Monica to assess the effectiveness of local initiatives aimed at managing runoff water flows and quality.*
- *the Board develop a Memorandum of Understanding with SCAG in which SCAG would incorporate a Best Management Practices for Preventing Storm Water Runoff Pollution in the Los Angeles Basin project in its Environmental Programs and Livable Communities work elements.*
- *the Board ask SCAG to manage a legal authorities initiative in which all of the 85 cities in the Los Angeles Basin would work to develop model language which would then be available for municipal implementation throughout the Basin.*
- *the Board invite SCAG to contribute its Section 208 authorities to a collaboration with other key organizations/stakeholders in scoping out plans for a watershed management initiative program in each watershed of the Basin.*
- *the Board evaluate the operating results of watershed (regional) mitigation programs prior to its consideration of any general retrofit mandates on existing land uses.*
- *the Board and SCAG cooperate with other stakeholders in putting best efforts into raising the new financial resources needed for planning and implementing these water quality commitments.*
- *the Board's staff be encouraged to meet with those SCAG sub-regional councils affected by the SUSMP program prior to any Board action on these matters.*

LANTEX

Landscape Architecture•Planning

January 24, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

Once again, let me reiterate that I fully support the goal of cleaning our stormwater run off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Blake Hinman ASLA
Principal

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

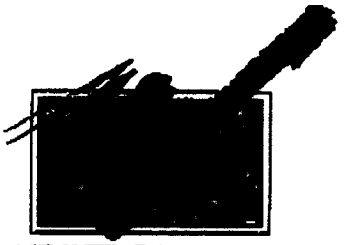
R0068577

11-349 387

31726 Rancho Viejo Road • Suite 206 San Juan Capistrano, CA 92675
Telephone 949-248-1995 • Fax 949-493-0709 • E-mail: lantex@earthlink.net • License CA #2403, FL #1052

P.2/2

JAN 24 '00 16:07 STOFF/FUL 7144930706



January 24, 2000

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California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles California 90013

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Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area" and the addition of "Parking Lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in the Los Angeles County.

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Once again, let me reiterate that I fully support the goal of cleaning our storm water run off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board delete the language outline above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,
Weston Communities Corp.

John A. Ashkar
President

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068578

11-345 388

10960 Wilshire Boulevard, Suite 1960, Los Angeles, California 90024 (310) 479-9900 Fax: (310) 477-8519

VTN West, Inc.
PLANNERS • ENGINEERS • SURVEYORS

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Van Nuys, CA 91406
818/779-8740
FAX 818/779-8750
vtnwest@aol.com

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

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Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Very truly yours,

VTN WEST, INC.

Lloyd A. Poindexter
President

LAP:sjb

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068579

11-346 389

16380 ROSCOE BOULEVARD
SUITE 200
VAN NUYS, CA 91406
(FAX) 818-830-6950

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

John Laing Homes
Hand crafted since 1848

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

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Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Dave J. McKenzie
John Laing Homes

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068580

11-347 390

coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

We've shown that it is feasible. Now it is up to you to ensure that it actually happens.

Thank you for your consideration

Sincerely,

Madeline

Member of the Board of TreePeople

Lennar Communities

January 24, 2000

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West Fourth Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Stormwater Mitigation Plans (SUSMP)
Los Angeles County Municipal Stormwater Permit (Order No. 96-054)

Dear Mr. Dickerson:

After reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the proposed plan. Namely, the attempt to define "hillside" and "Environmentally Sensitive Areas," and the addition of "parking lots" to the list of projects subject to the SUSMP requirements which would restrict development and would make implementation of the SUSMP impractical in many municipalities in Los Angeles County. Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

I support the Clean Water Initiative (a copy of which is enclosed) which makes a commitment to clean water and, perhaps more importantly, supports a process that could make clean water a reality. The process outlined in the initiative is additionally supported by the Southern California Association of Governments and would involve the regulated community, municipalities and the environmental community in a process based on science and proven techniques.

I respectfully request that you and the Board delete the language that attempts to define "Hillside" "Environmental Sensitive Area" and "Parking Lots" expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. I also ask that you support the comprehensive "Clean Water Initiative" as a way of achieving stormwater pollution reduction.

Sincerely,

Teresa Sousa
Vice President
Community Development

TS:cap
ENCL/

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068582

11-338

25129 The Old Road, Suite 316, Stevenson Ranch, California 91381 — (661) 799-1185

Organizations referencing and/or as an attachment or as their sole submittal including the Clean Water Initiative form letter.

B & E Engineers
Sun Cal Companies
Ventura Affordable Homes, Inc.
Rottman Froman Communities
Lennar Communities
Ben Anderson
Inner City Planning and Development, Inc.
Taylor Woodrow Homes, Inc.
Bill Erlich
Southern California Contractors Association, Inc.
Los Angeles County Board of Real Estate
Shea Homes
Pardee Construction Company
DeVere Anderson Enterprises
Weston Communities
Ann Romano Associates

THE CLEAN WATER INITIATIVE

The following is an alternative approach to SUSMP implementation which is supported by a variety of public and private organizations, companies and individuals. Those supporting this initiative favor enhanced water quality and improved storm water management.

The centerpiece of this initiative is a strong commitment to clean water through actual and measurable pollutant reduction. This is achieved through an inclusive process driven approach based on sound science (water quality and waste load analysis) and proven techniques (applied and tested BMPs). This is far better than simply relying on a volumetric approach (numeric standards) which is based solely on the "quantity" of water captured rather than the "quality" of the water released.

Commitments

The public and private organizations, companies and individuals supporting this initiative make the following commitments towards clean water and stormwater mitigation in Southern California:

- We commit to clean water
- We commit to implementing quality Best Management Practices (BMPs)
- We commit to doing demonstration projects and pilot programs on specific BMPs
- We commit to developing watershed management plans for each watershed in the Basin
- We commit to work cooperatively with **all** of the other stakeholders in this issue (the regulated community, the environmental community and the municipalities) to enhance water quality and improve stormwater management

Expectations

While we as public and private organizations, companies and individuals are willing to make important commitments towards clean water and stormwater mitigation, we also expect the Los Angeles Regional Water Quality Control Board (LARWQCB) to live up to its legal responsibilities regarding this issue. It is our belief that the LARWQCB can best do this by committing to support only those policies based on sound science, quality research and proven techniques. To do this it is our expectation that the LARWQCB will do the following analysis to verify the value of their policy initiatives:

- Water Quality Analysis
- Waste Load Analysis
- Cost Effectiveness Analysis

Process

We believe that a thoughtful "process driven" approach should be employed for the development of appropriate public policy regarding stormwater mitigation in Southern California. Further, we believe that the SUSMP Policy approved on January 6, 2000 by the Regional Council of the Southern California Association of Governments (SCAG) offers a quality process driven approach to SUSMPs. We support this policy, as outlined below, and would seek its inclusion in the final SUSMP resolution adopted by the LARWQCB.

The Southern California Association of Governments recommends that:

- *the Los Angeles Regional Water Quality Control Board not adopt SUSMP numeric standards until such time as the Board can validate the feasible, technical and scientific bases for numeric standards.*
- *the Board monitor pilot programs similar to those underway in Los Angeles County.*
- *the Board work closely with cities such as Calabasas, Santa Clarita and Santa Monica to assess the effectiveness of local initiatives aimed at managing runoff water flows and quality.*
- *the Board develop a Memorandum of Understanding with SCAG in which SCAG would incorporate a Best Management Practices for Preventing Storm Water Runoff Pollution in the Los Angeles Basin project in its Environmental Programs and Livable Communities work elements.*
- *the Board ask SCAG to manage a legal authorities initiative in which all of the 85 cities in the Los Angeles Basin would work to develop model language which would then be available for municipal implementation throughout the Basin.*
- *the Board invite SCAG to contribute its Section 208 authorities to a collaboration with other key organizations/stakeholders in scoping out plans for a watershed management initiative program in each watershed of the Basin.*
- *the Board evaluate the operating results of watershed (regional) mitigation programs prior to its consideration of any general retrofit mandates on existing land uses.*
- *the Board and SCAG cooperate with other stakeholders in putting best efforts into raising the new financial resources needed for planning and implementing these water quality commitments.*
- *the Board's staff be encouraged to meet with those SCAG sub-regional councils affected by the SUSMP program prior to any Board action on these matters.*

B & E ENGINEERS

CIVIL ENGINEERING SURVEYING LAND PLANNING

24 W. ST. JOSEPH STREET
ARCADIA, CA 91007

TEL 626-446-4449
FAX 626-446-6566

January 24, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Via Fax #: 213-576-6640
(4 pages)

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000. The hearing is on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054).

As a Southern California Professional Civil Engineer and a Principal in a Civil Engineering Firm of Land Development Projects, I support the goals of clean water. However, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements.

These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

As mentioned above, I fully support the goal of cleaning our stormwater run off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders.

This Initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask

that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

B & E Engineers

Ramy F. Awad, P.E
Vice President

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

SunCal Companies

Los Angeles/Ventura Division

January 21, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

I have received and reviewed the December 7, 1999 Standard Urban Stormwater Mitigation Plan (SUSMP) that will be discussed by the California Water Quality Control Board – Los Angeles Region (Board) on January 26, 2000. It is my understanding that the SUSMP program is called for in the National Pollutant Discharge Elimination System (NPDES) for Los Angeles County Municipal Stormwater Permit (Order #96-054).

As a Southern California resident and home building professional, I support the Board's efforts in developing and implementing policies and programs that will reduce pollution resulting from stormwater run-off and achieve clean water in the Los Angeles region. However, I am concerned with the current proposed staff recommendations to the SUSMP. As mentioned before, I support the Boards efforts for achieving clean water, but as the individual who must implement the SUSMP program as I construct new homes, I must say that this program falls short in achieving our shared goal of delivering clean water to our local rivers, streams, wetlands, bays and the ocean.

ADOPT THE SUSMP WITH AMENDMENTS

Since the release of the original SUSMP in late August, 1999 and the September 16, 1999 Board hearing, there have been many changes by staff that has made the SUSMP more complex and confusing to interpret and implement.

First, the December 7, 1999 SUSMP proposal has added several new and stricter definitions. The definition for "Hillsides," "Parking Lots," and "Environmental Sensitive Areas" have been dramatically changed since the September 16, 1999 Board hearing. These new definitions have not been discussed yet in a public hearing or with the regulated communities.

Definition of Hillsides

The December 7, 1999 SUSMP has changed the definition of "Hillside" without review by the municipalities, the regulated communities or interested parties. Therefore, we suggest that the Board to modify the definition as property located in an area with known erosive soil conditions, where the development would involve regulated grading on any natural slope that is 25 percent or greater, or delegate the authority of this definition to the local municipalities (i.e., the cities or county).

Parking Lots

A new category subject to SUSMP, "Parking Lots" was added without a public hearing or input for the municipalities, the regulated communities or interested parties. It is unclear why and how the "Parking Lots" will be defined and implemented under the SUSMP. Furthermore, it is my understanding that the Long Beach municipal storm water permit includes a special study provision to characterize pollution and evaluate controls for parking lots. I suggest that the Board wait for the results of the Long Beach study on parking lots before adding this category to the SUSMP, or that "Parking Lots" be defined to apply only to commercial "stand alone" parking lots, and not Parking lots that are not associated with small commercial developments.

Environmentally Sensitive Areas

Once again, staff has added another new category of "Environmentally Sensitive Areas" to the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. This new category has many different and conflicting provisions under federal, state and local law. Furthermore, these many different provisions of law, regulation, and guidance define a variety of environmentally sensitive areas that, taken together, will result in the application of SUSMP criteria to an inherently vague definition leading to application of those criteria in situations where it was not intended. We suggest the Board work with the municipalities, the regulated communities and interested parties on developing one single definition.

DO NOT ADOPT A NUMERICAL DESIGN STANDARD

At the September 16, 1999 Board hearing on the SUSMP, the only significant difference between the staff's proposal and that of the municipalities, the regulated communities and interested parties was the inclusion of a numerical design standard for the sizing of Best Management Practices. The staff proposal includes a specific design standard in the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. Additionally, the continued inclusion of a numerical design standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

"CLEAN WATER INITIATIVE"

Once again, let me reiterate that I fully support the goal of reducing pollution caused by stormwater run-off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board correct the above-mentioned problems to the SUSMP. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Very truly yours;

William R. Rattazzi
Principal
SunCal Companies

cc: Mr. Hami Nahani, Chair
California Regional Water Quality Control Board, Los Angeles Region

VENTURA AFFORDABLE HOMES, INC.

208 East Main Street
Ventura CA 93001
(805) 643-8269

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

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Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

LYNN L. JACOBS
PRESIDENT

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

11-346

RFC

January 24, 2000

California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

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Sincerely,

Maury Froman
President

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

11500 West Olympic Boulevard, Suite 630 • Los Angeles, California 90064 • 310.444.9670 Fax 310.444.7941

HARVEY STEINBERG, AICP
PRESIDENT

January 24, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th St., Ste. 200
Los Angeles, CA 90013

Dear Mr. Dickerson:

RE: Standard Urban Storm Water Mitigation Plan

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INNER CITY PLANNING AND DEVELOPMENT, INC. (213) 665-8133
2023 KENILWORTH AVENUE, LOS ANGELES, CALIFORNIA 90039

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Respectfully,

Harvey Steinberg
INNER CITY PLANNING and DEVELOPMENT, Inc.

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board
Los Angeles Region

Taylor Woodrow
Homes, Inc.
24461 Ridge Route Drive
Laguna Hills, CA 92653-1686
Telephone 714 581-2626
Facsimile 714 581-2727

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

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that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

TAYLOR WOODROW HOMES, INC.
Rick Bianchi
Development Manager

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

BILL EHRLICH
9630 Oak Pass Road
Beverly Hills, CA 90210-1232
(310) 276-5952 FAX (310) 275-5646
e-mail: ehrlichb@aol.com

January 24, 2000

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 3
To D. DICKERSON	From B. EHRLICH
Co.	Co.
Dept.	Phone #
Fax # 213-596-6625	Fax #

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Re: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

On January 26, 2000, the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California homebuilder I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

The continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

Please understand that I fully support the goal of cleaning our stormwater run off, that is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Very truly yours,

Bill Ehrlich

Enclosure as noted

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

11-352

SunCal Companies

January 24, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Broad
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Dear Mr. Dickerson:

I have received and reviewed the December 7, 1999 Standard Urban Stormwater Mitigation Plan (SUSMP) that will be discussed by the California Water Quality Control Board – Los Angeles Region (Board) on January 26, 2000. It is my understanding that the SUSMP program is called for in the National Pollutant Discharge Elimination System (NPDES) for Los Angeles County Municipal Stormwater Permit (Order #96-054).

As a Southern California resident and home building professional, I support the Board's efforts in developing and implementing policies and programs that will reduce pollution resulting from stormwater run-off and achieve clean water in the Los Angeles region. However, I am concerned with the current proposed staff recommendations to the SUSMP. As mentioned before, I support the Boards efforts for achieving clean water, but as the individual who must implement the SUSMP program as I construct new homes, I must say that this program falls short in achieving our shared goal of delivering clean water to lour local rivers, streams, wetlands, bays and ocean.

ADOPT THE SUSMP WITH AMENDMENTS

Since the release of the original SUSMP in late August, 1999 and the September 16, 1999 Board hearing, there have been many changes by staff that has made the SUSMP more complex and confusing to interpret and implement.

First, the December 7, 1999 SUSMP proposal has added several new and stricter definitions. The definition for "Hillsides," "Parking Lots," and "Environmental Sensitive Areas" have been dramatically changed since the September 16, 1999 Board hearing. These new definitions have not been discussed yet in a public hearing or with the regulated communities.

11-353

R0068598

Definition of Hillsides

The December 7, 1999 SUSMP has changed the definition of "Hillside" without review by the municipalities, the regulated communities or interested parties. Therefore, we suggest that the Board to modify the definition as property located in an area with known erosive soil conditions, where the development would involve regulated grading on any natural slope that is 25 percent or greater, or delegate the authority of this definition to the local municipalities (i.e., the cities or county).

Parking Lots

A new category subject to SUSMP, "Parking Lots" was added without a public hearing or input for the municipalities, the regulated communities or interested parties. It is unclear why and how the "Parking Lots" will be defined and implemented under the SUSMP. Furthermore, it is my understanding that the Long Beach municipal storm water permit includes a special study provision to characterize pollution and evaluate controls for parking lots. I suggest that the Board wait for the results of the Long Beach study on parking lots before adding this category to the SUSMP, or that "Parking Lots" be defined to apply only to commercial "stand alone" parking lots, and not Parking lots that are not associated with small commercial developments.

Environmentally Sensitive Areas

Once again, staff added another new category of "Environmentally Sensitive Areas" to the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. This new category has many different and conflicting provisions under federal, state and local law. Furthermore, these many different provisions of law, regulation, and guidance define a variety of environmentally sensitive areas that, taken together, will result in the application of SUSMP criteria to an inherently vague definition leading to application of those criteria in situations where it was not intended. We suggest the Board work with the municipalities, the regulated communities and interested parties on developing one single definition.

DO NOT ADOPT A NUMERICAL DESIGN STANDARD

At the September 16, 1999 Board hearing on the SUSMP, the only significant difference between the staff's proposal and that of the municipalities, the regulated communities and interested parties was the inclusion of a numerical design standard for the sizing of Best Management Practices. The staff proposal includes a specific design standard in the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. Additionally, the continued inclusion of a numerical design standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

"CLEAN WATER INITATIVE"

Once again, let me reiterate that I fully support the goal of reducing pollution cased by stormwater run-off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based job sound science and proven techniques.

Therefore, I respectfully request that you and the Board correct the above-mentioned problems to the SUSMP. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Ben C. Anderson
Senior Vice President
SunCal Companies

Cc: Mr. Hami Nahani, Chair
California Regional Water Quality Control Board, Los Angeles Region

11-355

Southern California Contractors Association, Inc.

6055 E. Washington Blvd., Suite 200
(323) 726-3511

Los Angeles, California 90040
FAX: (323) 726-2366

Mobile Crane Operators Group, Inc.

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is our understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054).

The Southern California Contractors Association supports the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, we are opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, we are concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for SCCA to support the proposed SUSMP.

Once again, we reiterate that we fully support the goal of cleaning our stormwater run off. That is why we support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, we respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

James F. Burton
Executive Vice President

cc: Mr. Harold Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

11-356

R0068601

LOS ANGELES COUNTY BOARD of REALESTATE

The Voice of Real Estate representing private property rights in Los Angeles County

1330 South Valley Vista Drive, Diamond Bar, Ca. 91765
Phone: (909)612-5707 • Fax: (909)612-5715
Email: lewisco@cyberg8t.com • Website: http://www.lacbor.org

VIA FACSIMILE

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

Once again, let me reiterate that I fully support the goal of cleaning our stormwater run off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Michael Lewis

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

11-358

W. Scott Norton, Attorney at Law
1857 N. Kingsley Dr.
Los Angeles, California 90027

January 21, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt a Standard Urban Stormwater Mitigation Plan for the Cities in Los Angeles County that requires mitigation, by specified new and redevelopments, through treatment or infiltration, of 100% of the runoff generated by the first three quarters of an inch of rain, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

I know this is a form letter but wanted you to get this. WSN

As a surfer, I can personally attest to the damage to local water safety in the aftermath of any kind of significant rainfall. I, and many of my friends, have become ill while surfing immediately after a significant storm. Trust me when I say the problem is not imaginary.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and few measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

11-359

R0068604

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Regards.

W. Scott Norton, Attorney at Law

SheaHomes

Los Angeles/Ventura Area Office

January 24, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

I have received and reviewed the December 7, 1999 Standard Urban Stormwater Mitigation Plan (SUSMP) that will be discussed by the California Water Quality Control Board – Los Angeles Region (Board) on January 26, 2000. It is my understanding that the SUSMP program is called for in the National Pollutant Discharge Elimination System (NPDES) for Los Angeles County Municipal Stormwater Permit (Order #96-054).

As a Southern California resident and home building professional, I support the Board's efforts in developing and implementing policies and programs that will reduce pollution resulting from stormwater run-off and achieve clean water in the Los Angeles region. However, I am concerned with the current proposed staff recommendations to the SUSMP. As mentioned before, I support the Board's efforts for achieving clean water, but as the individual who must implement the SUSMP program as I construct new homes, I must say that this program falls short in achieving our shared goal of delivering clean water to our local rivers, streams, wetlands, bays and the ocean.

ADOPT THE SUSMP WITH AMENDMENTS

Since the release of the original SUSMP in late August, 1999 and the September 16, 1999 Board hearing, there have been many changes by staff that has made the SUSMP more complex and confusing to interpret and implement.

First, the December 7, 1999 SUSMP proposal has added several new and stricter definitions. The definition for "Hillsides," "Parking Lots," and "Environmental Sensitive Areas" have been dramatically changed since the September 16, 1999 Board hearing. These new definitions have not been discussed yet in a public hearing or with the regulated communities.

Definition of Hillsides R0068606

The December 7, 1999 SUSMP has changed the definition of "Hillside" without review by the municipalities, the regulated communities or interested parties. Therefore, we suggest that the Board modify the definition as property located in an area with known erosive soil conditions, where the development would involve regulated grading on any natural slope that is 25 percent

555 Saint Charles Drive, Suite 205, Thousand Oaks, California 91360 tel: 805-557-2100 fax: 805-557-2139

or greater, or delegate the authority of this definition to the local municipalities (i.e., the cities or county).

Parking Lots

A new category subject to SUSMP, "Parking Lots" was added without a public hearing or input for the municipalities, the regulated communities or interested parties. It is unclear why and how the "Parking Lots" will be defined and implemented under the SUSMP. Furthermore, it is my understanding that the Long Beach municipal storm water permit includes a special study provision to characterize pollution and evaluate controls for parking lots. I suggest that the Board wait for the results of the Long Beach study on parking lots before adding this category to the SUSMP, or that "Parking Lots" be defined to apply only to commercial "stand alone" parking lots, and not parking lots that are not associated with small commercial developments.

Environmentally Sensitive Areas

Once again, staff has added another new category of "Environmentally Sensitive Areas" to the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. This new category has many different and conflicting provisions under federal, state and local law. Furthermore, these many different provisions of law, regulation, and guidance define a variety of environmentally sensitive areas that, taken together, will result in the application of SUSMP criteria to an inherently vague definition leading to application of those criteria in situations where it was not intended. We suggest the Board work with the municipalities, the regulated communities and interested parties on developing one single definition.

DO NOT ADOPT A NUMERICAL DESIGN STANDARD

At the September 16, 1999 Board hearing on the SUSMP, the only significant difference between the staff's proposal and that of the municipalities, the regulated communities and interested parties was the inclusion of a numerical design standard for the sizing of Best Management Practices. The staff proposal includes a specific design standard in the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. Additionally, the continued inclusion of a numerical design standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

"CLEAN WATER INITIATIVE"

Once again, let me reiterate that I fully support the goal of reducing pollution caused by stormwater run-off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a

commitment to clean water and supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board correct the above-mentioned problems to the SUSMP. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,
SHEA HOMES

John Franklin
Vice President/Regional Manager

cc: Mr. Hami Nahani, Chair
California Regional Water Quality Control Board, Los Angeles Region

COALITION FOR
CLEAN AIR
10780 Santa Monica Blvd., Suite 210 • Los Angeles, CA 90025
(310) 441-1544 • FAX (310) 446-4362 • E-mail airclean@igc.org

January 20, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

re: Stormwater Runoff Standards

Dear Mr. Dickerson,

As you know, on January 26th the Los Angeles Regional Water Quality Control Board will be considering a staff proposal to require new and redevelopments to treat or infiltrate 100% of the runoff from up to and including a .75 inch storm. This three quarter-inch, 24-hour storm standard is a reasonable and necessary step toward clean coastal and inland waters. Unfortunately, the proposal is also riddled with unnecessary and crippling exemptions. As Executive Director of the Coalition for Clean Air, I am writing in order to urge you to adopt this proposal, but only after eliminating exemptions such as the rooftop, small restaurant, local practices, and impracticability exceptions.

Urban storm water runoff, as a non-point source of water pollution, is a serious environmental threat. Your proposal should be guided throughout by the goal of reducing storm water pollution loads to the maximum extent practicable, and should seek to minimize the amount of stormwater directed to impermeable areas and to maximize the percentage of permeable surface in all categories of development and redevelopment.

While adoption of a three quarter-inch, 24-hour storm standard is the right way to move forward, it will only be effective if a host of unnecessary exemptions are eliminated from the proposal. One of the worst of the exemptions included in the current proposal is the Rooftop Exclusion, which could actually have the effect of encouraging larger rooftops, and therefore less permeable surface areas per site. Furthermore, rooftop runoff is allowed to bypass mitigation measures and may pass directly into street gutters and storm drains, despite the fact that rooftops collect aerial pollutants. There is no justification of this exemption within the context of efforts to achieve water quality improvements.

Other exemptions further weaken the proposed rule. All restaurants, regardless of size, are potential sources of polluted runoff, and should be included within the rule's provisions. Furthermore, you should adopt a proposal that allows for effective, even-handed enforcement of SUSMP requirements. We are concerned that effective enforcement will be compromised by current language which gives deference to existing local practices and which allows for "so-called" impracticability waivers. Finally, we would like to see regulation of runoff from parking lots of all types, including a list of BMPs applicable to all parking lots.

11-364

R0068609

As a recent L.A. Times series made clear, toxic pollution of Santa Monica Bay, and other coastal areas is a worsening problem, and the solutions available to solve this problem are limited and often expensive. Besides endangering public health, polluted stormwater runoff endangers aquatic life, in streams and rivers, as well as offshore. Luckily, you have the opportunity to adopt a proposal that is both effective, and practical.

Clean beaches and streams are important not only for public health and aquatic wildlife, but for our economy as well. Coastal tourism and recreation supports many Southern California businesses, and as our coastline becomes polluted their business declines – and our entire regional economy is affected. Reducing stormwater pollution at the construction phase is in fact the most cost-effective way to tackle this complex problem.

Of course this solution is not cost-free, but it is critical that we anticipate the effects of new developments, and their costs to the public, so that those problems can be mitigated at the outset, and anticipated as one of the costs of new development. This is not only the most cost-effective way to address the problem, but it is consistent with the principles of a market economy, which, to function well, requires that the costs of a product be reflected in its price. Since new developments increase the problem of polluted stormwater runoff, we must ask that the costs of minimizing these effects be included in the planning process, and not shifted to the public at-large, after the fact, at much greater expense.

In sum, I ask you to please support the three-quarter inch standard, with no exceptions, to mitigate the effects of storm water runoff from new and redevelopment. It is the right thing to do, for the public health, for our economy, for aquatic wildlife.

Sincerely,

Tim Carmichael

Tim Carmichael
Executive Director

11-365

Pardee Construction Company
A Weyerhaeusar Company

10880 Wilshire Blvd., Suite 1900
Los Angeles, California 90024
Tel (310) 475-3525
Fax (310) 446-1290
www.pardee-homes.com

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

I understand that the Los Angeles Region Board of the California Regional Water Quality Control Board will hold a public hearing on January 26, 2000 regarding the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California homebuilder I support the goals of clean water. However, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions of the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. More specifically, I am concerned with the definitions of "Hillside" and "Environmental Sensitive Area," and the addition of "Parking Lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many communities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, forces me to oppose the proposed SUSMP as it is presently drafted.

Again, I fully support the goal of properly cleaning stormwater run-off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality.

The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

In review of the concerns noted above, I request that the Board delete language expanding the scope of the SUSMP, and reject the implementation of a numerical mitigation standard. In addition, I ask that the Board support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Leonard S. Frank
Pardee Construction Company

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068611

11-366

WESTON
COMMUNITIES

January 24, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Loa Angeles Region
320 West 4th Street, Suite 200
Loa Angeles California 90013

Re: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Storm Water Mitigation Plans (SUSMP) as required under the the Los Angeles County Municipal Storm Water Permit (Order No. 96-054). As a Southern California businessperson I support the goals of the clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area" and the addition of "Parking Lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in the Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

Once again, let me reiterate that I fully support the goal of cleaning our storm water run off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board delete the language outline above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,
Weston Communities Corp.

John A. Ashkar
President

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068612

10960 Wilshire Boulevard, Suite 1960, Los Angeles, California 90024 (310) 479-9900 Fax: (310) 477-8519

January 24, 2000

ANN ROMANO
ASSOCIATES
COMMUNICATIONS STRATEGIES
PUBLIC RELATIONS

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

Once again, let me reiterate that I fully support the goal of cleaning our stormwater run off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Ann Romano

Ann Romano
Principal

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068613

34611 Camino Capistrano ▲ Capistrano Beach, California 92624 ▲ (949) 496 1076 ▲ (949) 496 0941 FAX

11-308

California Native Plant Society

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Copy

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the *number one source of pollution to our coastal and inland waters*. In January 2000, I urge you to adopt the reasonable proposal set forth by your own staff to curb urban runoff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to and including a three quarter-inch storm. By adopting this proposal, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our

Copy

regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Halli Mason, Vice President
Los Angeles-Santa Monica Mountains Chapter
California Native Plant Society

KUDO & DANIELS, LLP
ATTORNEYS AT LAW

12400 WILSHIRE BOULEVARD, SUITE 400
LOS ANGELES, CALIFORNIA 90025-1023
TELEPHONE (310) 442-7900
FACSIMILE (310) 442-7999

RICHARD K. KUDO
PAULA A. DANIELS
JUDY C. MA
NICOLE M. FOOS

November 8, 1999

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

On January 6, 2000, you and the Board have the opportunity to change our course toward worsening water pollution by adopting the proposal, set forth by your own staff, to require that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to a three quarter-inch storm (i.e., 85% of all storms in this region).

The Los Angeles Region already suffers from some of the worst water quality in the nation. Your staff proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem." The recent disastrous experience with beach closures in the city of Huntington Beach underscores the need for these measures.

In a region that is constantly being built and rebuilt, adoption of your staff proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more

livable Los Angeles, please support your staff proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Paula A. Daniels

PD:db

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bcc: Lisa Boyle

Julia Louis-Dreyfus
2029 Century Park East #500
Los Angeles, CA 90067

30 November 1999

Mr. Dennis Dickerson
Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street #200
Los Angeles, CA 90013

RE: Support for Staff Proposal to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

Los Angeles stands at a critical juncture in its environmental history. Brought to this point by extensive development, with a complete disregard for the quality and quantity of runoff generated. Today, approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs, untreated, into the ocean. With the most infamous urban runoff problem in the nation, and little measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming, creeks and streams with water that is unsafe to drink, and inland and coastal waters that pose health risks to aquatic life.

On January 6, 2000, you and the Board have the opportunity to change our course toward worsening water pollution by adopting the reasonable proposal set forth by your own staff: Ensure that specified new and redevelopments capture, treat or infiltrate 100% of the runoff generated by up to a three quarter-inch storm. The Los Angeles Region already suffers from some of the worst water quality in the nation. Your staff's proposal is supported by the *Los Angeles Times* in its October 6th editorial as a "promising new approach...[that] could well keep ocean pollution from worsening and help prevent beach closing," and a "good start in dealing with a tough problem."

The proposed standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) – and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of your staff's proposal will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please support your staff's proposal to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Julia Louis-Dreyfus

11-373

R0068618

DeVere Anderson Enterprises

January 24, 2000

Via Fax: 213.576.6625
5 Pages

Dennis Dickerson, Exec. Officer
California Regional Water Quality
Control Board - Los Angeles Region
320 W. Fourth St., #200
Los Angeles, CA 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

I have received and reviewed the December 7, 1999 Standard Urban Storm Water Mitigation Plan ("SUSMP") That will be discussed by the California Water Quality Control Board – Los Angeles Region ("Board") on January 26, 2000. It is my understanding that the SUSMP program is called for in the National Pollutant Discharge Elimination System ("NPDES") for Los Angeles County Municipal Storm Water Permit (Order #96-054).

As a Southern California resident and home building professional, I support the Board's efforts in developing and implementing policies and programs that will reduce pollution resulting from storm water run-off and achieve clean water in the Los Angeles region. However, I am concerned with the current proposed staff recommendations to the SUSMP. As mentioned before, I support the Board's efforts for achieving clean water, but as the individual who must implement the SUSMP program as I construct new homes, I must say that this program falls short in achieving our shared goal of delivering clean water to our local rivers, streams wetlands, bays and the ocean.

ADOPT THE SUSMP WITH AMENDMENTS

Since the release of the original SUSMP in late August, 1999 and the September 16, 1999 Board hearing, there have been many changes by staff that have made the SUSMP more complex and confusing to interpret and implement.

First, the December 7, 1999 SUSMP proposal has added several new and stricter definitions. The definitions for "Hillsides," "Parking Lots" and "Environmental Sensitive Areas" have been dramatically changed since the September 16, 1999 Board hearing. These new definitions have not been discussed yet in a public hearing or with the regulated communities.

Definition of Hillsides

The December 7, 1999 SUSMP has changed the definition of "Hillside" without review by the municipalities, the regulated communities or interested parties. Therefore, I suggest that the

R0068619

15760 Ventura Boulevard, Suite 1727, Encino, California 91436 (818) 905-0406 FAX (818) 905-9849

11-374

Board modify the definition as "property located in an area with known erosive soil conditions, where the development would involve regulated grading on any natural slope that is 25 percent or greater," or delegate the authority of this definition to the local municipalities (i.e., the cities or county).

Parking Lots

A new category subject to SUSMP, "Parking Lots" was added without a public hearing or input from the municipalities, the regulated communities or interested parties. It is unclear why and how the "Parking Lots" will be defined and implemented under the SUSMP. Furthermore, it is my understanding that the Long Beach municipal storm water permit includes a special study provision to characterize pollution and evaluate controls for parking lots. I suggest that the Board wait for the results of the Long Beach study on parking lots before adding this category to the SUSMP, or that "Parking Lots" be defined to apply only to commercial "stand alone" parking lots, and not parking lots that are not associated with small commercial developments.

Environmentally Sensitive Areas

Once again, staff has added another new category of "Environmentally Sensitive Areas" to the SUSMP without a public hearing or input from the municipalities, the regulated communities or interested parties. This new category has many different and conflicting provisions under federal, state and local law. Furthermore, these many different provisions of law, regulation and guidance define a variety of environmentally sensitive areas that, taken together, will result in the application of SUSMP criteria to an inherently vague definition leading to application of those criteria in situations where it was not intended. I suggest the Board work with the municipalities, the regulated communities and interested parties on developing one single definition.

DO NOT ADOPT A NUMERICAL DESIGN STANDARD

At the September 16, 1999 Board hearing on the SUSMP, the only significant difference between the staff's proposal and that of the municipalities, the regulated communities and interested parties was the inclusion of a numerical design standard for the sizing of Best Management Practices. The staff proposal includes a specific design standard in the SUSMP without a public hearing or input from the municipalities, the regulated communities or interested parties. Additionally, the continued inclusion of a numerical design standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

"CLEAN WATER INITIATIVE"

Once again, let me reiterate that I fully support the goal of reducing pollution caused by storm Water run-off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and supports a process by which clean water can become a realty. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board correct the above-cited problems to the SUSMP. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving storm Water pollution reduction.

Sincerely,

DeVere Anderson Enterprises

DeVere H. Anderson
President

DHA:ko

cc: Hamid Nahai, Chair
California Regional Water Quality Control Board – Los Angeles Region

Charles Gale
BIA/SC (via fax: 909.396.1571)

FILE: [illegible]

11-376

Malibu Creek Watershed Management Committee

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
Regional Water Quality Control Board, Los Angeles Region
320 W. 4th St. Suite 200
Los Angeles CA 90013

SUBJECT: SUSMP Policy and Implementation

Dear Mr. Dickerson:

The Malibu Creek Watershed Management Committee (WMC) decided the following on its January 13, 2000 meeting:

1) The Malibu Creek WMC supports the revised SUSMP that had been worked on by several parties but was removed from discussion this week. This version provides flexibility, but also requires specific water quality actions that will result in restored beneficial uses of our waterways.

2) The Malibu Creek WMC supports the policy statement approved by Southern California Association of Governments (SCAG) as the implementation counterpart of the SUSMPs, including the idea of using a Total Maximum Daily Load (TMDL) driven numeric standard rather than a volume based numeric standard. We also encourage the Regional Board to make the SCAG policy more formal by adopting a revised resolution, commit and coordinate resources as outlined in the policy, and direct staff to use TMDLs for developing the numeric standard.

3) The Malibu Creek WMC wishes to express its concern over the letter dated December 22, 1999 from Rutan and Tucker regarding objections to the SUSMPs. The Executive Advisory Committee (EAC) did vote to have a formal presentation on three aspects of the SUSMP issue to the Regional Board members during the SUSMP agenda item, the legal aspect being one of the three. However, the EAC did not review the contents of the letter prior to Rutan and Tucker sending it to you. The Malibu Creek WMC believes it inappropriate for that firm to say it is acting on behalf of the EAC

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when the contents and tone of the letter were not made available to the group to discuss, edit as appropriate, and vote upon.

Thank you for your time and consideration.

Sincerely,

for Tim Plasky

Tim Plasky, Chair
Malibu Creek Watershed Committee

cc: Honorable Regional Board Members
City of Agoura Hills, Jedediah Ireland
City of Calabasas, Heather Lea Merenda
City of Malibu, Richard Morgan
City of Westlake Village, Jim Taylor
Chair, Ballona Creek Watershed
Chair, Los Angeles River Watershed
Chair, Dominguez Channel Watershed
Chair, San Gabriel River Watershed
Chair, Santa Clara River Watershed
Chair, Executive Advisory Committee

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To: Regional Council

From: Daniel E. Griset, Sr. Planner (213.236.1985), email: griset@scag.ca.gov

Date: December 15, 1999

RE: Proposed Standard Urban Storm Water Mitigation Plan

RECOMMENDED ACTION:

Adopt the following statement of policy on storm water runoff mitigation.

The Southern California Association of Governments recommends:

- *that the Regional Board encourage pilot programs similar to those underway by Los Angeles County in which the implementation of a numeric standard for runoff volumes produced by new developments can be monitored and evaluated in a various watershed settings.*
- *that the Board work closely with cities such as Calabasas, Santa Clarita and Santa Monica to assess the effectiveness of local initiatives aimed at managing runoff water flows and quality.*
- *that the Board develop a Memorandum of Understanding with SCAG in which SCAG would incorporate a Best Management Practices for Preventing Storm Water Runoff Pollution in the Los Angeles Basin project in its Environmental Programs and Livable Communities work elements.*
- *that the Board ask SCAG to manage a legal authorities initiative in which all of the 85 cities in the Los Angeles Basin would work to develop model language which would then be available for municipal implementation throughout the Basin.*
- *that the Board invite SCAG to contribute its Section 208 authorities to a collaboration with other key organizations/stakeholders in scoping out plans for a watershed management initiative program in each watershed of the Basin.*
- *that the Board evaluate the operating results of watershed (regional) mitigation programs prior to its consideration of any general retrofit mandates on existing land uses.*
- *that the Board and SCAG cooperate with other stakeholders in putting best efforts into raising the new financial resources needed for planning and implementing these water quality commitments.*
- *that the Board's staff be encouraged to meet with those SCAG sub-regional councils affected by the SUSMP program prior to any Board action on these matters.*

SUMMARY:

At its January 26, 2000 meeting the Regional Board will consider new provisions for a storm water runoff mitigation plan with a numeric standard requiring retention and treatment of up to ¾ of an inch of runoff on a specific site. The proposed plan would be inserted into both the new Long Beach storm water permit as well as the existing Los Angeles County permit. The

plan would materially impact many new development and redevelopment sites in Los Angeles County. The EEC is scheduled to consider this same item at its meeting also on January 6.

BACKGROUND:

The current Los Angeles County Storm Water Permit that was issued in 1996 (as well as the City of Long Beach Storm Water Permit issued earlier this year) called for various programs to be developed by the permittees. Among these programs was one for addressing storm water pollution issues that may result from development planning for private projects. In August the Executive Officer of the Los Angeles Regional Board announced a new proposed rule for managing pollution carried by urban storm water runoff from certain new development sites. This rule required that these sites would need to retain and possibly treat up to the first ¾ of an inch of storm water collected on these sites from a 24 hour storm event. At a public hearing on September 16, 1999 local government and private industry responses to this proposal raised many questions and objections to the implementation of a "numeric standard" as an appropriate way to manage pollutants associated with urban storm water runoff. These responses suggested that a numeric standard was a "volume" strategy, not a water quality strategy. A numeric standard dealt with quantities of water rather than with specific pollution problems associated with a given location and general hydrology.

Following the September hearing the Water Policy Task Force scheduled two months of testimony on this issue. A wide cross section of interested parties appeared before the Task Force to give comments and suggestions on the proposed new policy. These parties included local governments in the region who have different approaches for managing this pollution, Caltrans, the storm water specialist from the Regional Board, the building industry association, the National Resources Defense Council, automobile recycling and gasoline station representatives, and a fast food restaurant representative.

In response to this testimony the Task Force instructed staff to pursue informal discussions among the various parties to search for new ideas for improving runoff water quality and preventing more runoff pollution. These discussions were convened and were helpful in highlighting the importance of looking at this runoff pollution problem as a regional or watershed problem (rather than just a problem for specific development sites) and as a problem requiring much better identification (rather than just retaining urban runoff everywhere).

These concerns were presented by Mark Pisano to Dennis Dickerson, Executive Officer of the Regional Board, at a meeting in mid-November. Following that meeting a SCAG memorandum (attached) was sent to the Executive Officer, urging him to implement a watershed management approach with BMP development and monitoring in various locations. From these efforts and with SCAG's assistance the use of a numeric standard could be used as a "backup" policy, not a "front-end" policy, when identified priority pollution problems are not mitigated. This approach would allow solutions to be tailored to actual, identified pollution occurring in specific reaches of waterbodies throughout the County. Similarly this approach would feature larger-scale solutions (not just site-by-site runoff

VIA FACSIMILE

January 14, 2000

Mr. Dennis Dickerson, Executive Director
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: Building Industry Comments on the Standard Urban Stormwater Mitigation Plan (SUSMP)

Dear Mr. Dickerson:

On behalf of the 1,850 members of the Building Industry Association of Southern California, we would like to reiterate our concerns expressed to you in our September 1999 letter and our September 16, 1999 presentation before your Board on the SUSMP issue.

While our industry continues to support the goals of clean water, we remain opposed to the plan as written. The inclusion of a numerical mitigation standard whose benefits have not been proven and whose cost effectiveness has not been studied makes it impossible for us to support the December 7, 1999 staff proposal.

Let us be clear that the building industry is committed to the goal of cleaning our stormwater run off. Further, our industry is committed to participating in a process that truly seeks to achieve this goal. Such a process should include the testing and study of various best management practices with a focus on pilot programs which have proven to be effective. This process should involve all affected parties (the regulated community, the municipalities and the environmental community) and should be based on sound science.

Because the December 7, 1999 proposal does not provide for any of the process outlined above, we sincerely doubt that it will achieve its stated objective. As the industry principally impacted by this proposal, we would like to be part of a process that has a chance of actual, measured, scientifically proven success.

We respectfully request that you and the Board reject the concept of a numerical mitigation standard. We look forward to making a thorough presentation outlining all of our thoughts and concerns on these issues during your January 26, 2000 public hearing.

Sincerely,

Richard J. Lambros
Executive Vice President

R0068626

1-338381

BIA
Building Industry Association of Southern California
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Diamond Bar, California 91765
909.396.9993
fax 909.396.9846
http://www.biasc.org

Building Industry Association of Southern California

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fax 909.396.9846
http://www.biasc.org

January 21, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

On behalf of the 1,850 members of the Building Industry Association of Southern California (BIA/SC), I have received and reviewed the December 7, 1999 Standard Urban Stormwater Mitigation Plan (SUSMP) that will be discussed by the California Water Quality Control Board – Los Angeles Region (Board) on January 26, 2000. It is my understanding that the SUSMP program is called for in the National Pollutant Discharge Elimination System (NPDES) for Los Angeles County Municipal Stormwater Permit (Order #96-054).

I support the Board's efforts in developing and implementing policies and programs that will reduce pollution resulting from stormwater run-off and achieve clean water in the Los Angeles region. However, I am concerned with the current proposed staff recommendations to the SUSMP. As mentioned before, I support the Boards efforts for achieving clean water, but as the individual who must implement the SUSMP program as I construct new homes, I must say that this program falls short in achieving our shared goal of delivering clean water to our local rivers, streams, wetlands, bays and the ocean.

ADOPT THE SUSMP WITH AMENDMENTS

Since the release of the original SUSMP in late August, 1999 and the September 16, 1999 Board hearing, there have been many changes by staff that has made the SUSMP more complex and confusing to interpret and implement.

First, the December 7, 1999 SUSMP proposal has added several new and stricter definitions. The definition for "Hillsides," "Parking Lots," and "Environmental Sensitive Areas" have been dramatically changed since the September 16, 1999 Board hearing. These new definitions have not been discussed yet in a public hearing or with the regulated communities.

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Definition of Hillsides

The December 7, 1999 SUSMP has changed the definition of "Hillside" without review by the municipalities, the regulated communities or interested parties. Therefore, we suggest that the Board to modify the definition as property located in an area with known erosive soil conditions, where the development would involve regulated grading on any natural slope that is 25 percent or greater, or delegate the authority of this definition to the local municipalities (i.e., the cities or county).

Parking Lots

A new category subject to SUSMP, "Parking Lots" was added without a public hearing or input for the municipalities, the regulated communities or interested parties. It is unclear why and how the "Parking Lots" will be defined and implemented under the SUSMP. Furthermore, it is my understanding that the Long Beach municipal storm water permit includes a special study provision to characterize pollution and evaluate controls for parking lots. I suggest that the Board wait for the results of the Long Beach study on parking lots before adding this category to the SUSMP, or that "Parking Lots" be defined to apply only to commercial "stand alone" parking lots, and not Parking lots that are not associated with small commercial developments.

Environmentally Sensitive Areas

Once again, staff has added another new category of "Environmentally Sensitive Areas" to the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. This new category has many different and conflicting provisions under federal, state and local law. Furthermore, these many different provisions of law, regulation, and guidance define a variety of environmentally sensitive areas that, taken together, will result in the application of SUSMP criteria to an inherently vague definition leading to application of those criteria in situations where it was not intended. We suggest the Board work with the municipalities, the regulated communities and interested parties on developing one single definition.

DO NOT ADOPT A NUMERICAL DESIGN STANDARD

At the September 16, 1999 Board hearing on the SUSMP, the only significant difference between the staff's proposal and that of the municipalities, the regulated communities and interested parties was the inclusion of a numerical design standard for the sizing of Best Management Practices. The staff proposal includes a specific design standard in the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. Additionally, the continued inclusion of a numerical design standard in the SUSMP, whose

benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

"CLEAN WATER INITIATIVE"

Once again, let me reiterate that I fully support the goal of reducing pollution caused by stormwater run-off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board correct the above-mentioned problems to the SUSMP. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Richard J. Lambros
Executive Vice President

cc: Mr. Hami Nahani, Chair
California Regional Water Quality Control Board, Los Angeles Region

11- 341 384

THE CLEAN WATER INITIATIVE

The following is an alternative approach to SUSMP implementation which is supported by a variety of public and private organizations, companies and individuals. Those supporting this initiative favor enhanced water quality and improved storm water management.

The centerpiece of this initiative is a strong commitment to clean water through actual and measurable pollutant reduction. This is achieved through an inclusive process driven approach based on sound science (water quality and waste load analysis) and proven techniques (applied and tested BMPs). This is far better than simply relying on a volumetric approach (numeric standards) which is based solely on the "quantity" of water captured rather than the "quality" of the water released.

Commitments

The public and private organizations, companies and individuals supporting this initiative make the following commitments towards clean water and stormwater mitigation in Southern California:

- We commit to clean water
- We commit to implementing quality Best Management Practices (BMPs)
- We commit to doing demonstration projects and pilot programs on specific BMPs
- We commit to developing watershed management plans for each watershed in the Basin
- We commit to work cooperatively with **all** of the other stakeholders in this issue (the regulated community, the environmental community and the municipalities) to enhance water quality and improve stormwater management

Expectations

While we as public and private organizations, companies and individuals are willing to make important commitments towards clean water and stormwater mitigation, we also expect the Los Angeles Regional Water Quality Control Board (LARWQCB) to live up to its legal responsibilities regarding this issue. It is our belief that the LARWQCB can best do this by committing to support only those policies based on sound science, quality research and proven techniques. To do this it is our expectation that the LARWQCB will do the following analysis to verify the value of their policy initiatives:

- Water Quality Analysis
- Waste Load Analysis
- Cost Effectiveness Analysis

Process

We believe that a thoughtful "process driven" approach should be employed for the development of appropriate public policy regarding stormwater mitigation in Southern California. Further, we believe that the SUSMP Policy approved on January 6, 2000 by the Regional Council of the Southern California Association of Governments (SCAG) offers a quality process driven approach to SUSMPs. We support this policy, as outlined below, and would seek its inclusion in the final SUSMP resolution adopted by the LARWQCB.

The Southern California Association of Governments recommends that:

- *the Los Angeles Regional Water Quality Control Board not adopt SUSMP numeric standards until such time as the Board can validate the feasible, technical and scientific bases for numeric standards.*
- *the Board monitor pilot programs similar to those underway in Los Angeles County.*
- *the Board work closely with cities such as Calabasas, Santa Clarita and Santa Monica to assess the effectiveness of local initiatives aimed at managing runoff water flows and quality.*
- *the Board develop a Memorandum of Understanding with SCAG in which SCAG would incorporate a Best Management Practices for Preventing Storm Water Runoff Pollution in the Los Angeles Basin project in its Environmental Programs and Livable Communities work elements.*
- *the Board ask SCAG to manage a legal authorities initiative in which all of the 85 cities in the Los Angeles Basin would work to develop model language which would then be available for municipal implementation throughout the Basin.*
- *the Board invite SCAG to contribute its Section 208 authorities to a collaboration with other key organizations/stakeholders in scoping out plans for a watershed management initiative program in each watershed of the Basin.*
- *the Board evaluate the operating results of watershed (regional) mitigation programs prior to its consideration of any general retrofit mandates on existing land uses.*
- *the Board and SCAG cooperate with other stakeholders in putting best efforts into raising the new financial resources needed for planning and implementing these water quality commitments.*
- *the Board's staff be encouraged to meet with those SCAG sub-regional councils affected by the SUSMP program prior to any Board action on these matters.*

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LANTEX
Landscape Architecture-Planning

January 24, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

Once again, let me reiterate that I fully support the goal of cleaning our stormwater run off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Blake Hinman ASLA
Principal

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068632

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January 24, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Loa Angeles Region
320 West 4th Street, Suite 200
Loa Angeles California 90013

Re: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

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Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

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Therefore, I respectfully request that you and the Board delete the language outline above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,
Weston Communities Corp.

John A. Ashkar
President

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068633

11-345 388

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(FAX) 818-830-6950

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

John Laing Homes
Hand crafted since 1848

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

Once again, let me reiterate that I fully support the goal of cleaning our stormwater run off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Dave J. McKinzie
John Laing Homes

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068634

11-347 390

Dear Dennis Dickerson,

Please pass the plans requiring new and redevelopment projects to design their projects to reduce and minimize water runoff - This is so important to reduce runoff going down the storm drains & to the beach and into the ocean.

Thankyou

Sincerely,

Liz Provenzano
12207 Rochester Ave #8
L.A., CA
90025

Color Design Art
Interior Design and Merchandising for the Housing Industry

17315 Sunset Boulevard
Pacific Palisades, California 90272
(310) 459-7844 FAX (310) 459-4835

January 21, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

I have received and reviewed the December 7, 1999 Standard Urban Stormwater Mitigation Plan (SUSMP) that will be discussed by the California Water Quality Control Board – Los Angeles Region (Board) on January 26, 2000. It is my understanding that the SUSMP program is called for in the National Pollutant Discharge Elimination System (NPDES) for Los Angeles County Municipal Stormwater Permit (Order #96-054).

As a Southern California resident and home building professional, I support the Board's efforts in developing and implementing policies and programs that will reduce pollution resulting from stormwater run-off and achieve clean water in the Los Angeles region. However, I am concerned with the current proposed staff recommendations to the SUSMP. As mentioned before, I support the Boards efforts for achieving clean water, but as the individual who must implement the SUSMP program as I construct new homes, I must say that this program falls short in achieving our shared goal of delivering clean water to our local rivers, streams, wetlands, bays and the ocean.

ADOPT THE SUSMP WITH AMENDMENTS

Since the release of the original SUSMP in late August, 1999 and the September 16, 1999 Board hearing, there have been many changes by staff that has made the SUSMP more complex and confusing to interpret and implement.

First, the December 7, 1999 SUSMP proposal has added several new and stricter definitions. The definition for "Hillsides," "Parking Lots," and "Environmental Sensitive Areas" have been dramatically changed since the September 16, 1999 Board hearing. These new definitions have not been discussed yet in a public hearing or with the regulated communities.

Definition of Hillsides

The December 7, 1999 SUSMP has changed the definition of "Hillside" without review by the municipalities, the regulated communities or interested parties. Therefore, we suggest that the Board to modify the definition as property located in an area with known erosive soil conditions, where the development would involve regulated grading on any natural slope that is 25 percent or greater, or delegate the authority of this definition to the local municipalities (i.e., the cities or county).

Parking Lots

A new category subject to SUSMP, "Parking Lots" was added without a public hearing or input for the municipalities, the regulated communities or interested parties. It is unclear why and how the "Parking Lots" will be defined and implemented under the SUSMP. Furthermore, it is my understanding that the Long Beach municipal storm water permit includes a special study provision to characterize pollution and evaluate controls for parking lots. I suggest that the Board wait for the results of the Long Beach study on parking lots before adding this category to the SUSMP, or that "Parking Lots" be defined to apply only to commercial "stand alone" parking lots, and not Parking lots that are not associated with small commercial developments.

Environmentally Sensitive Areas

Once again, staff has added another new category of "Environmentally Sensitive Areas" to the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. This new category has many different and conflicting provisions under federal, state and local law. Furthermore, these many different provisions of law, regulation, and guidance define a variety of environmentally sensitive areas that, taken together, will result in the application of SUSMP criteria to an inherently vague definition leading to application of those criteria in situations where it was not intended. We suggest the Board work with the municipalities, the regulated communities and interested parties on developing one single definition.

DO NOT ADOPT A NUMERICAL DESIGN STANDARD

At the September 16, 1999 Board hearing on the SUSMP, the only significant difference between the staff's proposal and that of the municipalities, the regulated communities and interested parties was the inclusion of a numerical design standard for the sizing of Best Management Practices. The staff proposal includes a specific design standard in the SUSMP without a public hearing or input for the municipalities, the regulated communities or interested parties. Additionally, the continued inclusion of a numerical design standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

"CLEAN WATER INITIATIVE"

Once again, let me reiterate that I fully support the goal of reducing pollution caused by stormwater run-off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board correct the above-mentioned problems to the SUSMP. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Don Anderson
Color Design Art

cc: Mr. Hami Nahani, Chair
California Regional Water Quality Control Board, Los Angeles Region

PREMIER

January 20, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson.

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

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Sincerely,

Frederick W Farr
Vice President

cc. Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

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R0068639

11-395

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January 25, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the Los Angeles Regional Water Quality Control Board (Board) will be considering the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as part of the January 26, 2000 meeting agenda. As a provider of housing for very-low, low- and middle-income residents in Southern California, I am very concerned that certain requirements in the proposal will have serious impacts on housing affordability.

First, let me voice my strong support for the efforts of the Board in attempting to address the problem of water pollution caused by storm water runoff. After years of progress in cleaning our waterways by addressing point source pollution, it makes sense to continue that progress by turning our attention to non-point source pollution contained in runoff from urban areas. After reviewing your proposal, however, I have serious doubts that it will do anything to clean the water that flows to our beaches and oceans while adding to construction costs, thereby making an already unaffordable market even worse.

Currently in the Los Angeles metropolitan area, only 43 percent of households earning the median income can afford to own a home. That is 20 percentage points below the national average and one of the worst affordability rates in the nation. In my efforts to provide affordable housing I must rely on building a product that efficiently uses land to minimize the cost to the consumer. I fear that your proposal, especially the numeric design standard, will require me to use an inordinate amount of land to meet the numeric standard and unnecessarily increase costs to those who can least afford it.

R0068640

11-396

I am particularly concerned with the fact that this costly, burdensome proposal was put forward without any rational scientific basis for pollution reduction. Nowhere in the December 7th proposal is there a discussion of the goals or timetables for pollution reduction, or, more importantly, any mention of the pollutants that this proposal is trying to mitigate. It seems extremely premature to implement such a wide-ranging and potentially damaging proposal that will deny housing to very-low, low- and middle-income families without having any idea of its ability to reduce water pollution.

I have had the opportunity to review the "Clean Water Initiative", supported by the Southern California Association of Governments and a number of groups and government professionals. This initiative takes a common sense approach to clean water by first, identifying what is polluting our water and then designing a program that seeks to reduce the pollutants. I respectfully request that you and the Board adopt the "Clean Water Initiative" as an alternative to the current proposal.

Sincerely,

Bernardo M. Perez, Project Manager

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board,
Los Angeles Region

11-397

pacific bay
HOMES

January 24, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

I have received and reviewed the December 7, 1999 Standard Urban Stormwater Mitigation Plan (SUSMP) that will be discussed by the California Water Quality Control Board – Los Angeles Region (Board) on January 26, 2000. It is my understanding that the SUSMP program is called for in the National Pollutant Discharge Elimination System (NPDES) for Los Angeles County Municipal Stormwater Permit (Order #96-054).

As a Southern California resident and home building professional, I support the Board's efforts in developing and implementing policies and programs that will reduce pollution resulting from stormwater run-off and achieve clean water in the Los Angeles region. However, I am concerned with the current proposed staff recommendations to the SUSMP. As mentioned before, I support the Boards efforts for achieving clean water, but as the individual who must implement the SUSMP program as I construct new homes, I must say that this program falls short in achieving our shared goal of delivering clean water to our local rivers, streams, wetlands, bays and the ocean.

ADOPT THE SUSMP WITH AMENDMENTS

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First, the December 7, 1999 SUSMP proposal has added several new and stricter definitions. The definition for "Hillsides," "Parking Lots," and "Environmental Sensitive Areas" have been dramatically changed since the September 16, 1999 Board hearing. These new definitions have not been discussed yet in a public hearing or with the regulated communities.

Definition of Hillsides

The December 7, 1999 SUSMP has changed the definition of "Hillside" without review by the municipalities, the regulated communities or interested parties. Therefore, we suggest that the

11-398

R0068642

23770 Valencia Blvd., Suite 200, Santa Clarita, CA 91355
(805) 260-1700 · Fax (805) 260-1778

Board to modify the definition as property located in an area with known erosive soil conditions, where the development would involve regulated grading on any natural slope that is 25 percent or greater, or delegate the authority of this definition to the local municipalities (i.e., the cities or county). This definition has been studied extensively in many municipalities, such as Santa Clarita, and specific guidelines have been adopted.

Parking Lots

A new category subject to SUSMP, "Parking Lots" was added without a public hearing or input for the municipalities, the regulated communities or interested parties. It is unclear why and how the "Parking Lots" will be defined and implemented under the SUSMP. Furthermore, it is my understanding that the Long Beach municipal storm water permit includes a special study provision to characterize pollution and evaluate controls for parking lots. I suggest that the Board wait for the results of the Long Beach study on parking lots before adding this category to the SUSMP, or that "Parking Lots" be defined to apply only to commercial "stand alone" parking lots, and not Parking lots that are not associated with small commercial developments.

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Therefore, I respectfully request that you and the Board correct the above-mentioned problems to the SUSMP. In addition, I ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Very truly yours,

Glen K. Yamamoto

GLEN K. YAMAMOTO
Pacific Bay Homes

cc: Mr. Hami Nahani, Chair
California Regional Water Quality Control Board, Los Angeles Region

11-400

Cheri Toomey Uno
4803 Glenalbyn Drive
Los Angeles, CA 90065-4001

January 20, 2000

Dennis Dickerson, Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Support for Three Quarter-Inch Standard to Reduce Runoff from New and Redevelopment

Dear Mr. Dickerson:

You have the opportunity to significantly reduce urban runoff, the number one source of pollution to our coastal and inland waters. On January 26, 2000, we urge you to adopt a Standard Urban Stormwater Mitigation Plan for the Cities in Los Angeles County that requires mitigation, by specified new and redevelopments, through treatment or infiltration, of 100% of the runoff generated by the first three quarters of an inch of rain, with no exceptions. By adopting this standard, you and the Regional Board have the opportunity to alter our current course towards worsening water pollution.

Today approximately 50% of our rainfall is converted into runoff that builds in toxicity as it crosses parking lots, building sites, industrial sites, automotive repair garages, and gas stations before it is channeled and runs untreated into the ocean. With the most infamous urban runoff problem in the nation, and few measurable requirements in the municipal storm water permits, we have countless beaches that are frequently unsafe for swimming; creeks and streams with water that is unsafe to drink; and inland and coastal waters that pose health risks to aquatic life.

The three quarter-inch standard was supported by the Los Angeles Times in its October 6th editorial as a "promising new approach . . . [that] could well keep ocean pollution from worsening and help prevent beach closings," and a "good start in dealing with a tough problem."

The three quarter-inch standard also makes economic sense. First, reducing storm water pollution in the planning phase of construction is the most cost-effective way to solve the runoff problem. Second, urban runoff is bad for our regional economy. Los Angeles County coastal tourism and recreation businesses generate over two billion dollars annually, but these businesses are largely dependent on the health of the coastal resources to attract their customers. As the health of the coastline declines, so does business (just ask any businessperson near Huntington Beach) - and with billions of dollars at stake, the health of our entire regional economy is impacted.

In a region that is constantly being built and rebuilt, adoption of the three quarter-inch standard will soon have a transformative impact on the amount of polluted runoff that invades our streams, rivers and coastal waters. For the health of local aquatic life, for the health of the 60 million people who visit Los Angeles County beaches annually, for the health of our regional economy, and for a more livable Los Angeles, please adopt the three quarter-inch standard, with no exceptions, to mitigate the effects of urban runoff from new and redevelopment.

Sincerely,

Cheri Toomey Uno

11-401

R0068645

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VENTURA COUNTY OFFICE
2310 EAST PONDEROSA DRIVE, SUITE 25
CAMARILLO, CALIFORNIA 93010-4747
Tel: (805) 987-3468
Fax: (805) 482-9834

OUR FILE NO.:

January 25, 2000

VIA FACSIMILE & U. S. MAIL
(213) 576-6600

Mr. Dennis Dickerson
Executive Officer
Regional Water Quality Control
Board/Los Angeles
320 W. 4th Street
Suite 200
Los Angeles, CA 90013

Dear Mr. Dickerson:

This is submitted on behalf of the Cities of Alhambra, Compton, El Segundo, Lomita, Hawthorne, Torrance, Industry and Santa Clarita. Those Cities appreciate what appears on initial review of the January 18, 2000, Staff Report and Record of Decision to be continued improvements and refinements. However, please note the language "what appears on initial review...." This language was used to make the point that time has permitted only a most preliminary review. There has been insufficient time for Cities, to say nothing of those who will be affected by the SUSMP, to make any kind of detailed analysis, much less to prepare comments for the Board's consideration and your staff's evaluation.

Of course there has been no opportunity to evaluate the "Change Sheet" and the impact of "clarifications" in that document which, to my knowledge, is not yet available for public review. It is for these reasons, as a matter of procedural due process, that I am constrained to now ask you and the Board to delay this item until March, 2000, at the earliest. Recitals of the notice provided for earlier versions of the SUSMP are interesting, but they are no substitute for adequate notice of the latest changes. We must make the point that the adequacy of

notice is not determined by averaging the notice given to all prior versions of the SUSMP, it depends on how much notice was provided as to the version which is to be adopted, with all modifications, including those in the January 18, 2000, Staff Report and Record of Decision and the yet-to-be promulgated Change Sheet.

Please print this Facsimile and include it, in its entirety (and not just as a summary), in the administrative record of this matter as comments by the Cities of Alhambra, Compton, El Segundo, Lomita, Hawthorne, Torrance, Industry and Santa Clarita, and each of them.

In addition, the Cities of Alhambra, Compton, El Segundo, Lomita, Hawthorne, Torrance, Industry and Santa Clarita, and each of them, reserve the right to address the Board at the Meeting and Hearing on January 26, 2000, or any adjourned or continued meeting and hearing.

Sincerely,

STEPHEN R. ONSTOT
OF BURKE, WILLIAMS & SORENSEN, LLP

Cc: Affected City Attorneys

SIKAND

Engineering
Planning
Surveying

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Van Nuys, CA 91411-3586

Tel: 818/787-8550
Fax: 818/901-7451
E-mail: info@sikand.com

January 21, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. Fourth Street, Suite 200
Los Angeles, California 90013

Reference: **STANDARD URBAN STORMWATER MITIGATION PLAN**

Via Fax #: (213) 576-6625

Dear Mr. Dickerson:

The California Regional Water Quality Control Board – Los Angeles Region (Board) is scheduled to hold a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California engineer and businessperson, I support the goals of clean water; however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area", and the addition of "parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

I fully support the goal of cleaning our stormwater runoff and the attached "Clean Water Initiative" which is also supported by a number of regulated industries and business leaders. This initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. I understand that the process outlined in the initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities, and the environmental community) in a thoughtful process based on scund science and proven techniques.

11-404

R0068648

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. Also, I request that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

SIKAND ENGINEERING ASSOCIATES

Ronald R. Horn
Executive Vice President

RRH:jm
Attachment

cc: Mr. Hamid Nahai, Chair – FAX #: (213) 576-6625
California Regional Water Quality Control Board–Los Angeles Region – FAX #: (213) 576-6640

11-405

CENTEX HOMES

27200 Tourney Rd., Suite #200
Valencia, California 91355

Phone: 661 288-5777
Fax: 661 288-5770

January 25, 2000

VIA FAX 213/576-6625

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

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Sincerely,

Frank Faye
Vice-President, Land

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

11-406

R0068650

January 25, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

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Sincerely,

Harry C. Crowell,
President and CEO

HCC/dks

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11.407

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...x (949) 752-2469

January 25, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

Once, again, let me reiterate that I fully support the goal of cleaning our stormwater run off. That is why I support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and, perhaps more importantly, additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standards. In addition, I ask that you support the comprehensive "Clean Water Initiative' as a way of truly achieving stormwater pollution reduction.

Sincerely,

Rob Sawyer, ASLA
Principal
Landscape Architect #1283
Land Concern, LTD.

Principals:

ROBERT M. SAWYER
California Registration No. 1283
Texas Registration No. 1172
Arizona Registration No. 16010

MICHAEL T. IMLAY
California Registration No. 1494
Arizona Registration No. 16009

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

11-408

...ND CONCERN, LTD.
...scape Architecture/Planning

...50 East Deere Avenue
...nta Ana, CA 92705
...49) 250-4822
...x (949) 752-2469

January 25, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

It is my understanding that the California Regional Water Quality Control Board - Los Angeles Region (Board) will be holding a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California businessperson I support the goals of clean water, however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

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Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standards. In addition, I ask that you support the comprehensive "Clean Water Initiative' as a way of truly achieving stormwater pollution reduction.

Sincerely,

Michael T. Imlay, ASLA
Principal
Landscape Architect #1494
Land Concern, LTD.

cc: Mr. Hamid Nahai, Chair
California Regional Water Quality Control Board, Los Angeles Region

11-409

CALIFORNIA SOUTHERN CITIES, INC.

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January 25, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Ste 200
Los Angeles, California 90013

RE: Standard Urban Storm Water Mitigation Plan

Dear Mr. Dickerson:

The Apartment Association, California Southern Cities, represents 3,000 owners and operators of rental properties in Southern Los Angeles County and we support the goals of clean water; however, we are strongly opposed to certain provisions of the revised Standard Urban Water Mitigation Plan (SUSMP). As a partner with government for 75 years, we are concerned about any regulation or procedure that will negatively affect the development of housing in our region. Los Angeles County is approaching a near crisis situation in housing at this time without additional restraints.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, we are concerned with the attempt to define "Hillside" and "Environmental Sensitive Area," and the addition of "Parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for us to support the proposed SUSMP.

Once again, let me reiterate that we fully support the goal of cleaning our stormwater run off. That is why we support the attached "Clean Water Initiative," which is also supported by a number of regulated industries and business leaders. This Initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. The process outlined in the Initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities and the environmental community) in a thoughtful process based on sound science and proven techniques.

Therefore, the Apartment Association, California Southern Cities, respectfully requests that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. In addition, we ask that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

Nancy J. Ahlswede
Executive Director

cc: Mr. Hamid Mehal, Chair
California Regional Water Quality Control Board, Los Angeles Region

R0068654

4-410

Building Industry Association of Southern California

1330 South Valley Vista Drive
Diamond Bar, California 91765
909.396.9993
fax 909.396.9846
http://www.biasc.org

January 25, 2000

Chairman H. David Nahai
and Members of the Board
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Dear Chairman Nahai and Members of the Board:

On behalf of the Building Industry Association of Southern California (BIA/SC), I must express strong concern with the way the SUSMP issue has been handled by Board Staff. The lack of a set process for addressing this very important issue, coupled with last minute and seemingly arbitrary changes in the facts involved with this hearing, concern our industry greatly and leave us with a sense of "foul play." What is most disturbing is that the handling of this issue to date has most certainly limited informed public access to the decision making process.

Specific Concerns

As you will recall, at your September 16th Hearing on SUSMP several individuals noted for the Board their concerns over a lack of proper notification and other problems with how the issue had been handled. Also, our industry and others raised specific concerns over, what appeared to be, favorable treatment to the environmental community as to the rules governing their testimony and presentation to the Board.

Since the September hearing things have not gotten better and in fact have gotten even worse. Several specific actions by Board Staff continue to concern us. First of all, the meeting location for the hearing was changed late Friday afternoon, long after we (and other organizations) had already sent out numerous notices asking our members to attend and giving them the original meeting location.

Second, in a memo from Xavier Swamikannu of Board Staff dated December 17, 1999, we were told to coordinate all of the individuals speaking on behalf of our industry into one comprehensive presentation on SUSMPs. We were specifically asked to give Board staff a list of the individuals that would be speaking and the amount of time required. After complying with this request and believing that this is how the hearing would be handled, we were told just last Friday afternoon (only 3 business days before the hearing) that the hearing would be handled in a completely different fashion. We now learn that we will have only three minutes per individual and no opportunity for a comprehensive presentation from our

1-41

R0068655

industry. We are concerned, not only over the late nature of this change in plans, but also over the fact that the procedure the Board is now planning to use is in no way sufficient to cohesively convey our industry's concerns, especially considering the highly technical nature of some of our issues.

Third, we are concerned that we were given a December Draft of the SUSMP proposal to comment on. Then in the January 18th staff report we were told that a "Change Sheet" would be issued later which would make changes to the Draft SUSMP document. After regular business hours last Friday, a very hard to follow list of changes (Change Sheet) was sent out from the Board Staff. Most people did not even receive this document until Monday morning, just two days before the hearing. Even after reviewing the Change Sheet it is difficult to understand what is the exact language being proposed in the revised SUSMP that will be before the Board on Wednesday.

To give Board Staff insight into our industry's position and to gain clarification on a number of issues within the Change Sheet, we met with your Executive Officer, Dennis Dickerson yesterday. While we appreciate Mr. Dickerson's time, there were several questions that he could not answer regarding what the final language submitted to the Board would include. He referred us to Xavier Swamikannu of the Board Staff as the person writing the final language and the individual that could answer our questions. We asked to talk with Mr. Swamikannu yesterday but he was in San Diego at a meeting. This morning (Tuesday) we finally did reach Mr. Swamikannu at the Board Office and after reviewing with him the questions which Mr. Dickerson could not answer, we were still unable to confirm what would be in the specific language in the final SUSMP proposal before the Board. He further informed us that an additional Change Sheet would be issued later today or tomorrow morning before the hearing.

Our concern here is that once again the Board Staff has engaged in last minute changes that will make it difficult for our industry and all other concerned parties to provide truly informed testimony during tomorrow's hearing. The "ever-changing" nature of the staff's proposal has limited informed public access to the process and has created an environment that is not conducive to the formation of sound public policy.

Finally, after meeting with Mr. Dickerson yesterday we asked Board Staff for a copy of the full comment binder that was sent to you as Board Members. Staff was kind enough to provide us a copy, however, after we went through the binder we could not locate the January 12, 2000 request letter or the January 14, 2000 comment letter submitted to the Board by BIA/SC. Also missing from the binder was a January 14, 2000 comment letter from one of our BIA members. When we pressed Board Staff for a reason why these letter were not included we were told that Mr. Dickerson had chosen which letters went into the binder and which did not. Board Staff assured us that all letters, even those not included in the binder, were eventually sent out to the

Board Members through supplemental packages. When we asked if they had copies of the supplemental letters that had been sent or if they could just verify for us that our letters were indeed sent to the Board Members, they could not. They also could not locate the file which contains all of the original comment letters received by the Board on the SUSMP issue because Mr. Swamikannu had taken the file with him to San Diego. (This struck us as a risky policy for original documents which are part of the public record.) Since Board Staff could not confirm that our January 14, 2000 comment letter ever got to you, the voting Board Members, they did agree to send it out in yesterday's supplemental package.

This incident causes us great concern, both because we wonder what other information may not have made it to Board Members and also because of the arbitrary approach that Board Staff has used in determining what was included in your binder. For example, your binder included two old letters from our association, but not the most relevant one, our January 14th comment letter. Also, while our letter somehow didn't make the comment binder, Board Staff took the time to send all Board Members an additional binder completely dedicated to the NRDC position paper and support material. Lacking a consistent process, the staff's actions appear arbitrary and unfair.

Summary of Concerns

Taken together – and within three business days before the hearing – the Board has changed meeting locations, changed the way we will be allowed to address the Board during the hearing, and (up to the last minute) has changed the actual language of the policy being considered at the Hearing. This is hardly a professional way to do business. Further, it is hard to argue that these activities invite informed participation from the public and concerned organizations.

Please also consider that those of us wishing to address you, the Board Members, are not allowed to do so independently because of your ex parte communication policy. This means that our only opportunity to address you directly on this important issue will occur during Wednesday's hearing. This makes these proceedings extremely important to us. Yet, we are forced to try to communicate our numerous concerns on complex and technical issues in the context of a three-minute presentation to the Board. If that weren't hard enough, please consider that we have had less than three business days to prepare for this restrictive format and that we have still not even seen the final SUSMP language that will be before the Board. Add to this that we are now forced to question whether you, the Board Members, are receiving all of the valuable information that we and other interested parties are sending to you in advance on this critically important SUSMP issue.

Because of these concerns, our industry strongly objects to the way the SUSMP issue has been handled to date. We are happy to participate in a fair process, but the one that we have been subjected to is not such a process. Further, we believe that you, as Board Members,

need to know that your staff has created an environment that is not conducive to the creation of sound public policy.

Request for Time

One means by which the Board could rectify some of the concerns we have raised is by allowing for an additional half-hour presentation during tomorrow's hearing. The process you have outlined for the hearing includes two 30-minute segments of time, one segment in support of and one segment in opposition to the SUSMP proposal. The Board's memo describing this process states that, "The Board will accept, at the beginning of the meeting, a list of 10 speakers from those in favor and a list of 10 speakers from those in opposition who will use this time." While this sounds fair and impartial, the fact is that Board Staff has allowed David Beckman from NRDC to coordinate the 10 speakers (30 minutes) in support and Desi Alvarez from EAC to coordinate the 10 speakers (30 minutes) in opposition. This means that the Board will hear a 30-minute presentation from the environmental community in support of the SUSMP proposal and a 30-minute presentation from the municipalities (permitees) in opposition to the SUSMP proposal. (It should be noted that the environmental community does not completely support, nor do the municipalities completely oppose what has been presented in the SUSMP proposal.)

What is missing from this plan is a presentation from another very important group – the regulated community. Board Members should have the benefit of hearing a comprehensive presentation from those who will ultimately be asked to implement and comply with the SUSMP proposal. Failure to include the regulated community in the initial presentations is tantamount to receiving only part of the story.

With this in mind, the Building Industry Association of Southern California requests that the Board amend the procedure for public comment to include a third 30-minute presentation from the regulated community. We hope that your desire for an informative and inclusive public hearing on the SUSMP proposal will justify this request

Thank you for your attention in this important matter and for your consideration of our request.

Sincerely,

Richard J. Lambros
Executive Vice President

cc: Dennis Dickerson, Executive Officer

11-414

Los Angeles
Area Chamber of Commerce

January 25, 2000

Mr. Dennis Dickerson
Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th Street, #200
Los Angeles, CA 90013

RE: Standard Urban Storm Water Mitigation Plans (SUSMPs) Submitted For Approval To The Executive Officer Under The Los Angeles County Municipal Storm Water Permit (Public Notice No. 99-047)

Dear Mr. Dickerson:

The Los Angeles Area Chamber of Commerce (LAACC) has reviewed the Regional Water Quality Control Board's proposal to incorporate numeric mitigation measures (the first 0.75 inches of rainfall within a 24-hour storm event) into the SUSMPs. While the Chamber fully supports stormwater pollution reduction programs, we must express our concerns with numeric mitigation measures and offer an alternative prior to the adoption of the SUSMPs.

The Chamber supports the attached "Clean Water Initiative", which is supported by a number of regulated industries, business leaders and SCAG.

We urge the Board to reject your current proposal and, instead, adopt the "Clean Water Initiative".

Sincerely,

Ezunial Burts
President

R0068659

11-405

THE CLEAN WATER INITIATIVE

The following is an alternative approach to SUSMP implementation which is supported by a variety of public and private organizations, companies and individuals. Those supporting this initiative favor enhanced water quality and improved storm water management.

The centerpiece of this initiative is a strong commitment to clean water through actual and measurable pollutant reduction. This is achieved through an inclusive process driven approach based on sound science (water quality and waste load analysis) and proven techniques (applied and tested BMPs). This is far better than simply relying on a volumetric approach (numeric standards) which is based solely on the "quantity" of water captured rather than the "quality" of the water released.

Commitments

The public and private organizations, companies and individuals supporting this initiative make the following commitments towards clean water and stormwater mitigation in Southern California:

- We commit to clean water
- We commit to implementing quality Best Management Practices (BMPs)
- We commit to doing demonstration projects and pilot programs on specific BMPs
- We commit to developing watershed management plans for each watershed in the Basin
- We commit to work cooperatively with **all** of the other stakeholders in this issue (the regulated community, the environmental community and the municipalities) to enhance water quality and improve stormwater management

Expectations

While we as public and private organizations, companies and individuals are willing to make important commitments towards clean water and stormwater mitigation, we also expect the Los Angeles Regional Water Quality Control Board (LARWQCB) to live up to its legal responsibilities regarding this issue. It is our belief that the LARWQCB can best do this by committing to support only those policies based on sound science, quality research and proven techniques. To do this it is our expectation that the LARWQCB will do the following analysis to verify the value of their policy initiatives:

- Water Quality Analysis
- Waste Load Analysis
- Cost Effectiveness Analysis

11-416

Process

We believe that a thoughtful "process driven" approach should be employed for the development of appropriate public policy regarding stormwater mitigation in Southern California. Further, we believe that the SUSMP Policy approved on January 6, 2000 by the Regional Council of the Southern California Association of Governments (SCAG) offers a quality process driven approach to SUSMPs. We support this policy, as outlined below, and would seek its inclusion in the final SUSMP resolution adopted by the LARWQCB.

The Southern California Association of Governments recommends that:

- *the Los Angeles Regional Water Quality Control Board not adopt SUSMP numeric standards until such time as the Board can validate the feasible, technical and scientific bases for numeric standards.*
- *the Board monitor pilot programs similar to those underway in Los Angeles County.*
- *the Board work closely with cities such as Calabasas, Santa Clarita and Santa Monica to assess the effectiveness of local initiatives aimed at managing runoff water flows and quality.*
- *the Board develop a Memorandum of Understanding with SCAG in which SCAG would incorporate a Best Management Practices for Preventing Storm Water Runoff Pollution in the Los Angeles Basin project in its Environmental Programs and Livable Communities work elements.*
- *the Board ask SCAG to manage a legal authorities initiative in which all of the 85 cities in the Los Angeles Basin would work to develop model language which would then be available for municipal implementation throughout the Basin.*
- *the Board invite SCAG to contribute its Section 208 authorities to a collaboration with other key organizations/stakeholders in scoping out plans for a watershed management initiative program in each watershed of the Basin.*
- *the Board evaluate the operating results of watershed (regional) mitigation programs prior to its consideration of any general retrofit mandates on existing land uses.*
- *the Board and SCAG cooperate with other stakeholders in putting best efforts into raising the new financial resources needed for planning and implementing these water quality commitments.*
- *the Board's staff be encouraged to meet with those SCAG sub-regional councils affected by the SUSMP program prior to any Board action on these matters.*

SIKAND

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Fax: 818/901-7451
E-mail: info@sikand.com

January 21, 2000

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. Fourth Street, Suite 200
Los Angeles, California 90013

Reference: **STANDARD URBAN STORMWATER MITIGATION PLAN**

Via Fax #: (213) 576-6625

Dear Mr. Dickerson:

The California Regional Water Quality Control Board – Los Angeles Region (Board) is scheduled to hold a public hearing on January 26, 2000 on the adoption of the proposed Standard Urban Stormwater Mitigation Plans (SUSMP) as required under the Los Angeles County Municipal Stormwater Permit (Order No. 96-054). As a Southern California engineer and businessperson, I support the goals of clean water; however, after reviewing the December 7, 1999 revision of the SUSMP, I am opposed to certain provisions within the plan.

Included in the revised SUSMP are several new and modified definitions that restrict development activity. Specifically, I am concerned with the attempt to define "Hillside" and "Environmental Sensitive Area", and the addition of "parking lots" to the list of projects subject to the SUSMP requirements. These requirements make the implementation of the SUSMP completely impractical in many municipalities in Los Angeles County.

Additionally, the continued inclusion of a numerical mitigation standard in the SUSMP, whose benefits have not been proven and whose cost effectiveness has not been studied, makes it impossible for me to support the proposed SUSMP.

I fully support the goal of cleaning our stormwater runoff and the attached "Clean Water Initiative" which is also supported by a number of regulated industries and business leaders. This initiative makes a commitment to clean water and, perhaps more importantly, it supports a process by which clean water can become a reality. I understand that the process outlined in the initiative is additionally supported by the Southern California Association of Governments and would involve all affected parties (the regulated community, municipalities, and the environmental community) in a thoughtful process based on sound science and proven techniques.

11-418

Therefore, I respectfully request that you and the Board delete the language outlined above expanding the scope of the SUSMP and reject the implementation of a numerical mitigation standard. Also, I request that you support the comprehensive "Clean Water Initiative" as a way of truly achieving stormwater pollution reduction.

Sincerely,

SIKAND ENGINEERING ASSOCIATES

Ronald R. Horn
Executive Vice President

RRH:jm
Attachment

cc: Mr. Hamid Nahai, Chair – FAX #: (213) 576-6625
California Regional Water Quality Control Board–Los Angeles Region – FAX #: (213) 576-6640

11-419

From: "Rufus Young" <rufusyoung@email.msn.com>
To: "Dennis Dickerson" <DDICKERS@rb4.swrcb.ca.gov>
Date: 1/25/00 9:24AM
Subject: SUSMP, as Amended by Staff Report and "Change Sheet" Request for Continuance

Dear Mr. Dickerson:

This is submitted on behalf of the Cities of Alhambra, Compton, El Segundo, Lomita, Hawthorne, Torrance, Industry and Santa Clarita. Those Cities appreciate what appears on initial review of the January 18, 2000, Staff Report and Record of Decision to be continued improvements and refinements. However, please note the language "what appears on initial review...." This language was used to make the point that time has permitted only a most preliminary review. There has been insufficient time for Cities, to say nothing of those who will be affected by the SUSMP, to make any kind of detailed analysis, much less to prepare comments for the Board's consideration and your staff's evaluation.

Of course there has been no opportunity to evaluate the "Change Sheet" and the impact of "clarifications" in that document which, to my knowledge, is not yet available for public review. It is for these reasons, as a matter of procedural due process, that I am constrained to now ask you and the Board to delay this item until March, 2000, at the earliest. Recitals of the notice provided for earlier versions of the SUSMP are interesting, but they are no substitute for adequate notice of the latest changes. We must make the point that the adequacy of notice is not determined by averaging the notice given to all prior versions of the SUSMP, it depends on how much notice was provided as to the version which is to be adopted, with all modifications, including those in the January 18, 2000, Staff Report and Record of Decision and the yet-to-be promulgated Change Sheet.

Please print this email and include it, in its entirety (and not just as a summary), in the administrative record of this matter as comments by the Cities of Alhambra, Compton, El Segundo, Lomita, Hawthorne, Torrance, Industry and Santa Clarita, and each of them.

In addition, the Cities of Alhambra, Compton, El Segundo, Lomita, Hawthorne, Torrance, Industry and Santa Clarita, and each of them, reserve the right to address the Board at the Meeting and Hearing on January 26, 2000, or any adjourned or continued meeting and hearing.

****
Rufus Calhoun Young, Jr., Esq.
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611 West Sixth Street, 25th Floor
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****

CC: "Xavier Swamikannu" <XSWAMI.RB4Post.Region4@rb4.swrcb.ca.gov>

From: Jorge Leon
To: Xavier Swamikannu
Date: 1/25/00 2:58PM
Subject: Re: SUSMP

1. It's my belief that, since the Permit says "discretionary," we're stuck. It simply does not include nondiscretionary activities. To include them in this proposal by the EO is beyond the scope of the Permit authority. It would take an act of the Board to amend the Permit to include non-discretionary activities.

2. I would recommend reading this liberally. I.e., the enumerated categories are inclusive of all types of development, including nondiscretionary activities. The enumerated categories are included are the list because there is sound evidence showing the need to control those discharges. These are within the EO's authority to control regardless of whether they are discretionary or not.

3, 4 and 5. I don't know enough about the remaining three issues yet, but will try to be conversant by tomorrow a.m.
>>> Dennis Dickerson 01/24/00 06:19PM >>>
Need a quick check on three issues:

1) The 1996 permit talks about discretionary projects. Can SUSMPs be applied to non-discretionary projects as well as discretionary or is the board limited in this instance. See Page 4 of the NRDC letter.

2) Are the enumerated categories comprehensive of all types of development?
Or are non-discretionary projects in a specified category included?

3) We are concerned about a single family home on a hillside but not, apparently, if the runoff is to an ESA. Is this distinction appropriate.

4) Xavier: is the change sheet definition for an ESA clear or what we discussed?

5) Xavier, there are some glitches with the change sheet that must be fixed tomorrow, i.e., references to pages in the change sheet don't match the Dec 7th version.

CC: Dennis Dickerson

From: Karen Caesar
To: RB4-All Staff
Date: 12/22/99 12:12PM
Subject: LA Times: EDIT ON RUNOFF CONTROL

Los Angeles Times
Wednesday, December 22, 1999

EDITORIAL
The Hard Part in Water Cleanup

The cleanup of California waters is progressing much the way air pollution control has in the state: The easy stuff gets done first, the most difficult and costly is put off. The first big smog control efforts were aimed at developing cleaner-burning motor vehicles and controls on major industrial sites. Now, the effort is down to hard, big issues like diesel trucks and smaller sources including paint solvents, dry cleaners and even barbecue charcoal starter.

In similar fashion, we first had sewage treatment projects, then controls on waste discharges from industrial plants and other major sources of pollution. Now comes the hard part, the polluted runoff from "nonpoint" sources--streets, freeways, parking lots, construction sites and farmland, to name a few.

Approval of a California plan against nonpoint pollution was held up for four years because the **state Water Resources Control Board** and the California Coastal Commission failed to agree on the elements of an effective control program. But now the two agencies have reconciled their differences and the water board has adopted an ambitious 61-point program, to be implemented in stages over the next 15 years. The Coastal Commission is expected to ratify the plan next month. The program is of special importance to Southern California because this form of toxic runoff is a major cause of the closure of beaches to swimmers.

Significantly, the **water board's** plan extends to the entire state and not just the coastal region as currently required by the U.S. Environmental Protection Agency. Officials said it makes sense to cover all of the state because much of what reaches the ocean originates in the inland mountains and foothills. Cleanup proposals would include purifying street and freeway runoff from storm sewers before it empties into the ocean and establishing catch basins to filter sediments from hillside runoff. The cost over the next decade, to be borne mainly by taxpayers and affected businesses, has been estimated at up to $14 billion. Some money could come from a water bond issue on the March 7 primary election ballot, and approval of the project by federal authorities would trigger an increase in aid available from Washington.

State officials are concerned about the reaction of developers to the new plan, which although voluntary to begin with could lead to sanctions for defiant polluters. Existing rules require builders to control runoff from specific projects. The new plan seeks to curb discharges on a broader basis to cover entire drainage areas and watersheds.

State Resources Secretary Mary Nichols did not exaggerate when she said approval of the program is "a great success." The key now is to rally public and political support.

From: Karen Caesar
To: RB4-All Staff
Date: 12/16/99 12:47PM
Subject: AP: Runoff Plan OK'd By SWRCB

Regulators seek to reduce pollution from urban runoff
Thursday, December 16, 1999
Sacramento Bee

LOS ANGELES **(AP)** -- A plan aimed at cleaning up rainwater that flows from city streets into the ocean was approved by the state **Water Resources Control Board.**

The panel approved regulations Tuesday that call for strict monitoring of coastal water quality and would require state and local government to prevent pollutants such as pesticides, motor oil, restaurant grease and farm effluent from washing into the sea.

The plan will go to the California Coastal Commission next month, where it is expected to be approved, and then to two federal agencies for final review.

If a decision is stalled for long, however, more than $5 million in federal funds to jump-start the effort would be jeopardized, water board officials said.

"Polluted runoff is the major environmental pollution problem we're facing in this state," said Mary Nichols, the governor's secretary of resources. "This is definitely a step forward."

Among the changes being studied are catch basins for runoff, improved procedures for scrubbing drainage from highways and stricter rules for businesses that seep pollutants and generate large amounts of garbage.

Under the statewide plan, voluntary rules would first be developed. If the pollution problem failed to improve, concrete regulations would be set in place.

If that does not produce results, authorities could take tough enforcement steps against violators, including legal action.

A few environmentalists called the plan short on specifics and in need of strengthening before the Coastal Commission meeting next month.

"We still don't see that the state water board really wants to make it work," said Mark Gold, executive director of the environmental group Heal the Bay.

From: Dennis Dickerson
To: Dennis Dickerson
Date: 11/19/99 8:26AM
Subject: Fertilizer Article

Fertilizers turning back yards and farms into toxic dumps, study shows
Thursday, November 18, 1999
SACRAMENTO BEE
By Mary Ann Lickteig, Associated Press Writer

SAN FRANCISCO (AP) -- Fertilizers are turning California back yards and farm fields into toxic waste dumps and the state is doing too little to stop it, two advocacy groups said in a report released today.

State officials are considering adopting regulations that would allow toxic elements to remain in fertilizer at levels that are higher than federal hazardous waste standards, said Bill Walker, the California director of Environmental Working Group.

That means that a bag of fertilizer would be treated -- or disposed of -- as hazardous waste, Walker said.

"It's more toxic than toxic waste," he said.

In their report, the Environmental Working Group and California Public Interest Research Group say fertilizer manufacturers use industrial toxic waste as a cheap source of plant nutrients and fail to remove contaminants that cause cancer, as well as reproductive, developmental and other health problems.

A spokeswoman for the California Fertilizer Association defended the Department of Food and Agriculture, which proposed the regulations.

Jennifer Lombardi said the rules are based on "sound science," and that comparing levels of contaminants allowed in fertilizers with the levels allowed in hazardous waste is unfair, akin to comparing apples with oranges.

The report singles out Ironite, saying that ingestion of less than half a teaspoon of the fertilizer could be toxic to small children.

Proposed state regulations are not tough enough, the groups say. The state is considering regulating the amount of arsenic, cadmium and lead in fertilizer sold for commercial use.

Authors of the report say the proposed acceptable levels are too high.

They criticize the department for ignoring other dangerous elements, for failing to regulate fertilizer sold for home use and for failing to require manufacturers to label their bags with a list of the contaminants inside -- even though the state requires them to list the nutrients.

"State law requires them to list what's good in fertilizer, but they don't have to list what's bad," said Jonathan Kaplan, toxics program director for CALPIRG. He was also in the group organized by the Department of Food and Agriculture to study the health risks posed by fertilizer.

The report points out that most commercial and home-use fertilizers are "relatively uncontaminated, demonstrating the availability and economic viability of safer alternatives."

Calls to the Department of Food and Agriculture were not returned Wednesday.

Lombardi said the proposed regulations are based on an assessment of the health risks fertilizers pose to people.

From: Karen Caesar
To: RB4-All Staff
Date: 1/26/00 11:17AM
Subject: LA Times: OP-ED on RWQCB & SUSMP

Los Angeles Times
Wednesday, January 26, 2000
By David S. Beckman, Steven Fleischli,
Mark Gold

Message to Water Board: Seize the Day
The regional agency has a chance to curb polluted runoff. It must not flub a decision crucial to all of L.A.

Today, the Los Angeles Regional Water Quality Control Board is expected to make one of the most important decisions in its 50-year history, and its most significant decision ever, on the issue of polluted urban runoff. Is the board serious about creating a more livable Los Angeles by taking steps toward solving the region's urban runoff problem, now regarded as one of the nation's worst? The board is about to provide the answer.

The board, whose members are appointed by Gov. Gray Davis, will vote on an important new approach that goes to the heart of the urban runoff problem. Experts agree that polluted runoff, which in Los Angeles is often acutely toxic and loaded with pathogens that make people sick, is tied to the ever-increasing hardscape that comes with urban development. In short, more pavement equals more pollution. Because most of the region's watersheds are paved over, and because the water board until now has refused to take any meaningful action to solve the problem, the runoff problem in L.A. is especially severe.

The proposal before the board is based on one developed by the Natural Resources Defense Council and Los Angeles County to address the "pavement equals pollution" reality. By requiring large new developments, such as shopping centers, to install devices that clean up polluted runoff, the proposal targets the largest new sources of water pollution. Low-tech, inexpensive and highly effective, the devices required by the plan have a proven track record across the nation. If the board gives the go-ahead, then large new development projects in Los Angeles would have to take reasonable steps to actually clean up polluted runoff--just as their counterparts already do in cities as diverse as Denver, Austin and Portland, Ore.

Although Los Angeles County showed leadership by implementing the plan on its own last year, the proposal predictably has triggered an avalanche of opposition from many city governments that have not followed the county's lead. Yet the lack of factual and technical objections to the plan provides some optimism that, for the first time, the water board actually may be about to do something significant to help solve the polluted runoff problem. That would mean old polluting habits would have to change.

There is cause for concern, however. Perhaps recognizing that the plan has a real chance of passing, many cities and some developers succeeded recently in convincing the board's executive officer to add a multitude of eleventh-hour loopholes to the proposal. These exemptions, inserted over the objections of environmentalists and the federal Environmental Protection Agency, would rob the proposal of most of its effectiveness. By choosing to make Swiss cheese out of a proposal that might actually improve water quality, the board would revert to its old approach of appeasing virtually any objection by entrenched development interests, no matter how baseless.

By removing the exemptions and then approving the plan, however, the water board can send one of the most important messages in its history: its intention to tackle our region's most serious water pollution problem. By seizing the moment, the board can take a decisive step toward cleaner beaches and a more livable Los Angeles.

If it backs down, the future for water quality in Los Angeles looks ominous indeed.

David S. Beckman Is a Senior Attorney at the Natural Resources Defense Council. Steven Fleischli Is the Executive Director of the Santa Monica Baykeeper. Mark Gold Is the Executive Director of Heal the Bay

From: Karen Caesar
To: RB4-All Staff
Date: 1/28/00 11:35AM
Subject: LA Times: Editorial on RWQCB SUSMP Decision

Los Angeles Times
Friday, January 28, 2000

EDITORIAL
Cleaner Beaches, Drop by Drop

Los Angeles County took a major step Wednesday toward cleaner beaches when the region's water quality board adopted tough standards to reduce urban runoff. The county now joins a handful of localities nationwide taking such aggressive steps against this pervasive pollution issue. Enforcing the new rules is the next challenge.

The culprits behind this knotty problem are oily wastes, metal residues, pet feces, pesticides and a thousand other things that wash off streets, roofs and parking lots into storm drains and out to the ocean. Runoff travels almost everywhere, and that's what makes cleaning it up so hard. In addition to fouling beaches, it contains viruses and bacteria that can infect swimmers.

Runoff pollution is particularly severe in the crowded Los Angeles Basin--so many people, so much gunk. The cleanup will be hard for the county's cities, but the responsibility for preventing runoff lies with municipalities under the federal Clean Water Act, which says they must prevent it "to the maximum extent practicable."

One set of measures approved by the **Los Angeles Regional Water Quality Control Board**, a state agency, will require new building projects across the county to limit the runoff they generate. The rules apply to new parking lots with 25 or more spaces and commercial projects of more than 100,000 square feet, as well as gas stations, auto repair garages, restaurants of more than 5,000 square feet and subdivisions with at least 10 houses.

Each project must collect or filter runoff from the first three-quarters of an inch of rainfall in a 24-hour period because that's when most pollutants are washed off. Developers can build retention ponds and trenches to collect storm water and install filters in curbside drains or leave grassed-over low spots. The water quality board puts the cost of these options for a typical five-acre, $6.5-million commercial project at between $1,500 and $28,800.

Since they will be required only on new projects, these remedies won't cut existing runoff; however, they should keep it from worsening. That would be a major accomplishment--but one that private developers and many smaller cities in the county have long resisted. Los Angeles, Santa Monica and West Hollywood were among the few cities endorsing the new standards.

Now, with the board's vote, all cities will be required to adopt ordinances within six months to implement the standards and ensure compliance by developers. From Malibu to Long Beach, these rules will lead to cleaner coastal waters.

CC: Internet:hnahai@nahailaw.com

From: Karen Caesar
To: RB4-All Staff
Date: 1/26/00 11:22AM
Subject: LB PT: SUSMP Matters....

Long Beach Press-Telegram
Wednesday, January 26, 2000
By Joshua Lowe, Staff writer

Storm runoff targeted

Did you notice an oily sheen atop the murky rain water running through gutters, storm drains and eventually San Pedro Bay on Tuesday?

That is what the **Los Angeles Regional Water Quality Control Board** would like to stop when it considers a set of new urban storm water runoff regulations at its meeting today.

It is estimated that more than 90 percent of the pollution in local waterways comes from urban runoff oil, pesticides, litter and other toxins washing from the cities into local waters.

The new regulations would require cities to step up their efforts to prevent polluted runoff from reaching waterways.

One part of the proposal is generating some controversy, though. Owners of new development, or redeveloped property, would have to trap and treat runoff from their sites under the new regulations.

Specifically, the property owners would have to catch and treat runoff during any storm that dumps less than .75 inches of rain, which is roughly 85 percent of the storms in Southern California.

"All we're saying is that when you rebuild or construct new development, apply some foresight and have some modicum of pollution control," said **Dennis Dickerson,** executive director of the water board.

Several cities, including Long Beach, have some doubts about the plan, though.

Rose Collins, the Long Beach Clean Water Program officer, said city officials are not necessarily against the standards, but are unconvinced the board did enough investigation of the problem and alternative solutions.

"There is a lot of anger among the building community," she said. "They feel like they are being singled out."

For instance, she said, instead of having parking lot builders create traps and holding ponds, why not do more to ensure cars are not leaking fluids and make it a smog-test like protocol.

Collins did not say that was a definitive solution, but said she would at least like to see it considered. She said the city also had a responsibility to ensure it spends money wisely, and when it asks others to spend money, they do so appropriately.

"We're not against the environment," she said. "This is not to drag our feet, but to study this to make sure. Is this the best way?"

Dickerson disagreed, saying the board does have enough data to support the order.

"This is not only just common sense demonstrated by what you see being washed down the street, but also from years of our storm water monitoring programs," he said. "And of all the communities, Long Beach has the most to gain from this."

The board and Los Angeles County have conducted tests of runoff and the sediments that get washed into local rivers and into San Pedro Bay, and have found pollutants that in some cases exceed clean water standards more than 100 times over.

Besides bacteria and pesticides, there are also heavy metals found in the Los Angeles River, **Dickerson** said.

During the 1997-98 rain season, water quality scientists measured 2,670 pounds of cadmium, 56,000 pounds of copper, 103,000 pounds of lead and 336,000 pounds of zinc, Dickerson said..

"This material dissolves in a very small concentration, usually in parts-per-billion, but the volume of water you are talking about means you are talking about very large loadings of these materials," he said.

Dickerson also said the effect of the standard would be minimal on cities like Long Beach that are already highly developed. The big difference, he said, would be in the long run as some buildings get torn down and then rebuilt or the last parcels of open space are developed.

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PERSPECTIVE ON THE ENVIRONMENT

Message to Water Board: Seize the Day

The regional agency has a chance to curb polluted runoff. It must not flub a decision crucial to all of L.A.

By DAVID S. BECKMAN, STEVEN FLEISCHLI and MARK GOLD

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The board, whose members are appointed by Gov. Gray Davis, will vote on an important new approach that goes to the heart of the urban runoff problem. Experts agree that polluted runoff, which in Los Angeles is often acutely toxic and loaded with pathogens that make people sick, is tied to the ever-increasing hardscape that comes with urban development. In short, more pavement equals more pollution. Because most of the region's watersheds are paved over, and because the water board until now has refused to take any meaningful action to solve the problem, the runoff problem in L.A. is especially severe.

The proposal before the board is based on one developed by the Natural Resources Defense Council and Los Angeles County to address the "pavement equals pollution" reality. By requiring large new developments, such as shopping centers, to install devices that clean up polluted runoff, the proposal targets the largest new sources of water pollution. Low-tech, inexpensive and highly effective, the devices required by the plan have a proven track record across the nation. If the board gives the go-ahead, then large new development projects in Los Angeles would have to take reasonable steps to actually clean up polluted runoff—just as their counterparts already do in cities as diverse as Denver, Austin and Portland, Ore.

Although Los Angeles County showed leadership by implementing the plan on its own last year, the proposal predictably has triggered an avalanche of opposition from many city governments that have not followed the county's lead. Yet the lack of factual and technical objections to the plan provides some optimism that, for the first time, the water board actually may be about to do something significant to help solve the polluted runoff problem. That would mean old polluting habits would have to change.

There is cause for concern, however. Perhaps recognizing that the plan has a real chance of passing, many cities and some developers succeeded recently in convincing the board's executive officer to add a multitude of eleventh-hour loopholes to the proposal. These exemptions, inserted over the objections of environmentalists and the federal Environmental Protection Agency, would rob the proposal of most of its effectiveness. By choosing to make Swiss cheese out of a proposal that might actually improve water quality, the board would revert to its old approach of appeasing virtually any objection by entrenched development interests, no matter how baseless.

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If it backs down, the future for water quality in Los Angeles looks ominous indeed.

David S. Beckman is a senior attorney at the Natural Resources Defense Council. Steven Fleischli is the executive director of the Santa Monica BayKeeper. Mark Gold is the executive director of Heal the Bay.

'Goldilocks' Policy for

Western communities have pioneered innovative pollution prevention programs (see On Watershed Education, this issue). These programs focus on educating homeowners and businesses on how they can reduce prevent pollutants from entering the storm drain system when its not raining.

In recent years, Western communities have been targeting their educational message to more specific target groups and populations (see On Watershed Education, this issue). For example, Los Angeles County has identified seven priority categories for intensive employee training in industrial pollution prevention -- auto scrap yards, auto repair, metal fabrication, motor freight, chemical manufacturing, car dealers, and gas stations-- on the basis of their hotspot potential and their numerical dominance (Swammikannu, 1998). In the Santa Clara Valley of California, the three key priorities for intensive commercial pollution prevention training are car repair, construction, and landscaping services. Targeting is also used to reach homeowners with specific water conservation, car washing, fertilization and pesticide messages (see On Watershed Education).

Street sweeping. Street sweeping seeks to remove the buildup of pollutants that have been deposited along the street or curb, using vacuum assisted sweeper trucks. The pollutant removal performance of new generation of street sweeper was recently reviewed in Technical Note 103. While researchers continue to debate whether street sweepers can achieve optimal performance under real world street conditions, most concede that street sweeping should be more effective in areas that have distinct wet and dry seasons, which is, of course, a defining characteristic of arid and semiarid watersheds (CDM, 1993).

Storm drain inlet clean outs. The last line of defense to prevent pollutants from entering the storm drain system is to catch them in the storm drain inlet. Mineart and Singh (1994) reported that monthly or even quarterly clean outs of sediment in storm drain inlets could reduce stormwater pollutant loads to San Francisco Bay by five to 10%. Currently, few communities clean out their storm drain inlets more than once a year, but a more aggressive efforts by public works to clean out storm drains prior to the onset of the wet season could be a viable strategy in some communities.

Better Site Design

Better site design clearly presents great opportunities to reduce impervious cover and stormwater impacts in the West, but has not been widely implemented to date. Indeed, the "California" development style, with its wide streets, massive driveways, and huge cul-de-sacs, has been copied in many Western communities and arguably produces more impervious cover per home or business than any other part of the country (Figure 1). While the popularity of the California development style reflects the importance of the car in shaping communities, it is also a strong reaction against the arid and semiarid landscape. The brown landscape is not green or pastoral, and many residents consider concrete and turf to be a more pleasing and functional land cover than the dirt and shrubs they replace.

While the techniques and benefits of better site design have been extensively profiled in the last issue of Techniques (3:2), it is worth discussing how it can be adapted for Western developments. The key adaptation is to incorporate the concept of "stormwater harvesting" into the design residential and commercial development design (COT, 1996). Water harvesting is an ancient concept, and involves capturing runoff from rooftops and other impervious surfaces and using it for drinking water or to irrigate plants (e.g. the cistern). In a more modern version, rooftop runoff is spread over landscaping areas or the yard, with the goal for complete disposal of runoff on the property for storm events up to the two-year storm (which ranges from one to 2 inches in most arid and semiarid climates. For example, the City of Tucson recommends 55 gallons of storage per 300 to 600 square feet of rooftop for residential bioretention areas (COT, 1996). In higher density settings, it may be to store water in a rain barrel or cistern, for irrigation use during dry periods.

When water harvesting is aggressively pursued, stormwater runoff is produced only from the impervious surfaces that are directly connected to the roadway system. Denver has utilized a similar strategy program to disconnect impervious areas and reduce the amount of stormwater pollution (DUDFC, 1992). A useful guidance on these techniques has also been produced for the San Francisco Bay area (BASMAA, 1997). Water harvesting may also prove to be a useful stormwater retrofitting strategy, particularly in regions where water conservation is also a high priority.

The better site design principles also need to be adapted for fire safety in Western communities adjacent to chaparral vegetation that is prone to periodic wildfires. In some case, vegetation setbacks must be increased in these habitat to protect developments from dangerous wildfires (CWP, 1998).

Developing Western Stormwater Practices

Given the many challenges and constraints that arid and semiarid watersheds impose, managers need to adapt and modify stormwater practices that were originally developed in humid watersheds. In our stormwater managers survey, four recurring principles emerged on how to design "Western" stormwater practices that are suited to the challenging climate and water resource problems of arid and semiarid watersheds. These four principles include:

1. *Carefully select and adapt stormwater practices for arid watersheds*
2. *Minimize irrigation needs for stormwater practices*
3. *Protect groundwater resources and encourage recharge*
4. *Reduce downstream channel erosion and protect from upland sediment*

1. Carefully Select and Adapt Stormwater Practices for Arid Watersheds

Some stormwater practices developed in humid watersheds are simply not applicable to arid watersheds, and most others require major modifications to be effective (Table 4). Even in semiarid watersheds, design criteria for most stormwater practices need to be revised to meet performance and

maintenance objectives. The following section highlights some of the major design and performance differences to consider for major stormwater practices.

Extended Detention Dry Ponds. The most widely utilized stormwater practices in arid and semiarid watersheds were dry ponds, according to the Center's survey (Figure 3). Most were designed exclusively for flood control but most can be easily modified to provide greater treatment of stormwater quality. While Dry ED ponds are not noted for their ability to remove soluble pollutants, they are reasonably effective in removing sediment and other pollutants associated with particulate matter (see Technical Note 95). In addition, ED ponds can play a key role in downstream channel protection, if the appropriate design storm is selected, and adequate upstream pretreatment is incorporated. Dry extended detention is the most feasible pond practice in arid watersheds, since they do not require a permanent pool of water.

Wet Ponds. Wet ponds are often impractical in arid watersheds since they cannot maintain a permanent pool without supplemental water, and they become stagnant in between storms. Wet ponds, on the other hand, are feasible in some semiarid watersheds, when carefully designed. Performance monitoring studies have demonstrated that wet ponds exhibit greater pollutant removal than other stormwater practices in Austin, Texas, at a lower cost per volume treated (COA, 1998, and Technical Note XX). In some instances, wet ponds can require supplemental water to maintain a stable pool elevation. Saunders and Gilroy (1997) reported that 2.6 acre-feet per year of supplemental water were needed to maintain a permanent pool of only 0.29 acre-foot. Generally speaking, stormwater designers working in semiarid watersheds should design for a variable pool level that can have as much as a three-foot draw down during the dry season. The use of wetland plants along the pond's shoreline margin can help conceal the drop in water level, but managers will need to reconcile themselves to chronic algal blooms, high densities of aquatic plants and the occasional episode of odor problems. The City of Austin has prepared useful wet pond design criteria to address these issues (COA, 1997).

Stormwater Wetlands. Few communities recommend the use of stormwater wetlands in either arid or semiarid watersheds. Once again, the draw down rates caused by evaporation makes it difficult too impossible to maintain standing water that can sustain emergent wetland plants, unless copious subsidies of supplemental water are supplied. One interesting exception was a gravel-based wetland that treated parking lot runoff in Phoenix, Arizona (Wass and Fox, 1995). While the wetland did require some supplemental water, evaporation was reduced by the overlying gravel bed, and it achieved relatively high removal oil and grease.

Sand Filters. Sand filters continue to be one of the most common practices used to treat the quality of stormwater in both arid and semiarid watersheds. Still, the basic sand filter design continues to evolve to counter the tough design conditions found in this region. For example, Urbonas (1997) evaluated sand filter performance in Denver, Colorado, and concluded that designs need to be modified to account for the greater sediment build-up in arid regions. Urbonas found that the test sand filter quickly became clogged with sediment after just a few storms, and recommended that

sand filters include a more frequent sediment clean out regime, an increase in the filter bed size, and upstream detention to provide greater sediment pretreatment. Some additional research on the performance and longevity of sand filters in the semiarid climate of Austin, Texas can be found in Technical Notes 111 and 112 (this issue).

Bioretention. The use of bioretention as a stormwater treatment practice is not very common in many Western communities at the present time. Clearly, this practice will require extensive modification to work in arid watersheds. This might entail xeriscape plantings, use of gravel instead of mulch as the ground cover, and better pretreatment. Sprinkler irrigation of bioretention areas should be avoided at most sites, unless intensive landscaping is already planned for the area.

Table 4. Design Modifications for Stormwater Practices in Arid and Semi-Arid Watersheds

Stormwater Practice	Arid Watersheds	Semi-Arid Watersheds
ED Dry Ponds	PREFERRED. Multiple storm ED Stable Pilot Channels "Dry"Forebay	ACCEPTABLE Dry or Wet Forebay Needed
Wet Ponds	NOT RECOMMENDED evaporation rates are too high to maintain a normal pool without extensive use of scarce water	LIMITED USE liners to prevent water loss. Require water balance analysis Design for a variable rather than permanent normal pool. Use water sources such as AC condensate for pool. Aeration unit to prevent stagnation
Stormwater Wetlands	NOT RECOMMENDED evaporation rates too great to maintain wetland plants	LIMITED USE, require supplemental water submerged gravel wetlands can help reduce water loss
Sand Filters	PREFERRED Requires Greater Pretreatment Exclude Pervious Areas	PREFERRED Refer to COA, 1997 for design criteria
Bioretention	MAJOR MODIFICATION No Irrigation	MAJOR MODIFICATION Use Runoff to Supplement

	Better Pretreatment Treat no Pervious Area Xeriscape Plants or No Plants Replace Mulch with Gravel	Irrigation Use Xeriscaping Plants Avoid Trees Replace Mulch with Gravel
Rooftop Infiltration	PREFERRED dry well design for recharge of residential rooftops	PREFERRED, recharge rooftop runoff on-site unless the land use is a hotspot.
Infiltration	MAJOR MODIFICATION No Recharge for Hotspot Land Uses Treat no Pervious Area Multiple Pretreatment Soil Limitations	MAJOR MODIFICATION No Recharge for Hotspot Land Uses Treat no Pervious Area Multiple Pretreatment
Swales	NOT RECOMMENDED for pollutant removal, but rock berms and grade control needed for open channels to prevent channel erosion	LIMITED USE, unless they are irrigated. Rock berms and grade control essential to prevent erosion in open channels

Infiltration Practices. While a number of communities allowed the use of infiltration in arid and semiarid watersheds, few really encouraged its use. Two concerns were frequently cited for their lack of enthusiasm for structural infiltration. The first concern was that infiltration practices were too susceptible to rapid clogging given the high erosion rates that are customary in arid and semiarid watersheds. The second concern was that untreated stormwater could potentially contaminate the aquifers that are used for groundwater recharge.

Swales. The use of grass swales for stormwater treatment was rarely reported for arid watersheds, but was much more common in semiarid conditions. Grass swales are widely used as a stormwater practice in residential developments in Boise, Idaho, but the dense turf can only be maintained in these arid conditions through the use of sprinkler irrigation systems. The pollutant removal performance of swales in arid and semiarid watersheds appears to be mixed (Table 5). Poor to negative pollutant removal performance was reported in a Denver swale that was not irrigated (Urbonas, 1999 -personal communication). In the semi-arid climate of Austin, Texas, Barret et al (1998) reported excellent pollutant removal in two highway swales that were vegetated but not irrigated. Similar performance was also noted in a non-irrigated swale monitored by the City of Austin (COA, 1997).

2. Minimize irrigation needs for stormwater practices

In arid climates, all sources of water, including stormwater runoff, need to be viewed as a resource. It seems senseless, therefore, to irrigate a practice with 50 inches of scarce water a year so that it can be ready to treat the stormwater runoff produced from ten inches of rain a year. Still, irrigation of stormwater practices is very common in many arid and semiarid communities. In our survey of stormwater managers, 65% of reported that irrigation was commonly used to establish and maintain vegetated cover for most stormwater practices.

Table 5. Performance of Vegetated Swales in Semiarid Climates
Source: Barrett et al, 1997, and COA, 1998.

	Highway 183 median	Walnut Creek	City of Austin Swale
Parameter	Mass Load Reduction (%)		
TSS	89	87	68
COD	68	69	33
TP	55	45	43
TKN	46	54	32
Nitrate	59	36	(-2)
Zinc	93	79	ns
Lead	52	31	ns
ns = not sampled. Fecal coliform and fecal strep removals were negative at the 183 and Walnut Creek sites.			

Irrigation should be limited by to practices that meet some other landscaping or recreational need in a community, and would be irrigated anyway, such as landscaping islands in commercial areas, road right of ways, and bioretention lawns. Irrigation may also be a useful strategy for dry ED ponds that are designed for dual use, i.e. facilities that serve as a ballfield or community park during the dry season. Even when irrigation is used, practices should be designed to "harvest" stormwater, and therefore reduce irrigation needs. Landscapers should also consider planting native drought resistant plants material to reduce water consumption.

3. Protect groundwater resources and encourage recharge

In many arid communities, protection of groundwater resources is the primary driving force behind stormwater treatment. Ironically, early efforts to use stormwater to recharge groundwater have

resulted in some groundwater quality concerns. In Arizona, for example, stormwater was traditionally injected into 10 to 40 foot deep dry wells to provide for groundwater recharge. Concerns were raised that deep injection could increase the risk of localized groundwater contamination, since untreated stormwater can be a source of pollutants, particular if the proposed land use is classified as a stormwater hotspot.

Wilson et al (1990) evaluated the risk of dry well stormwater contamination in Pima County, Arizona, and determined that dry wells had elevated pollutant concentrations in local groundwater. The build up of pollutant levels that had occurred over several decades tended to be localized, and did not exceed drinking water standards. Still, it is important to keep in mind that dry wells and other deep recharge methods should only be used to infiltrate relatively "clean" runoff, such as residential roofs. Other surface infiltration practices, such as trenches and basins, can also potentially contaminate groundwater, unless they are carefully designed for runoff pretreatment, provide a significant soil separation distance to the aquifer, and avoid "hot spot" runoff sites.

4. Design to reduce channel erosion.

Above all, the Western stormwater practice must be designed to reduce *downstream* erosion in ephemeral channels, while at the same time protecting itself from sediment deposition from *upstream* sources. This is a daunting challenge for any engineer, but the following ideas can help.

With respect to *downstream channel erosion*, designers will need to clamp down on the storm events that produce active erosion in channels. This might entail the design of ponds or basins that can provide 12 hours of extended detention for the one year return interval storm event (which is usually no more than an inch or two in most arid and semiarid watersheds) Local geomorphic assessment will probably be needed to set channel protection criteria, and these hydraulic studies are probably the most critical research priority in both arid and semiarid watersheds today. Without ED channel protection, designers must rely on clumsy and localized engineering techniques to protect ditches and channels from eroding, such as grade control, rock berms, rip-rap, or even concrete lined channels. Bioengineering options to stabilize downstream channels in arid watersheds are limited, and often require erosion control blankets to retain moisture and seeds, as well as extensive irrigation.

Upstream erosion quickly reduces the capacity of any stormwater practice in an arid or semiarid watershed, due to sparse vegetation cover and erosion from upstream gullies, ditches, or channels. Designers have several options to deal with this problem. The most effective option is to grade the practice so that it can only accept runoff from impervious areas, particularly for infiltration, sand filters and bioretention. Even then, the practice will still be subject sediments transported by the wind.

All stormwater practices in arid and semiarid watersheds require greater pretreatment *than in humid watersheds*. Seventy percent of the arid stormwater managers surveys reported that sediment

clogging or deposition problems was a major design and maintenance problem for nearly all of their stormwater practices.

Even though not all upstream erosion can be prevented, designers can compensate for sediment build-up within the stormwater practice itself. Pretreatment and over-sizing can prevent the loss of storage or clogging associated with sediment deposition. As noted in Technical Note 112, rock berms or vertical gravel filters are ideally suited as a pretreatment device

Most stormwater managers surveyed indicated that sediment clean out regimes for stormwater practices need to be more frequent in arid and semiarid watersheds, with removal after major storms, and at a minimum, at once a year. Lastly, stormwater managers consistently emphasized the need for better upland erosion control during construction. 65% of the managers reported that upstream erosion and sediment control was a major emphasis during their stormwater plan review.

Summary

It is clear that stormwater managers in arid and semiarid climates cannot simply import the stormwater programs and practices that were originally developed for humid watersheds. Instead, they will need to develop stormwater solutions that combine aggressive source control, better site design and stormwater practices in a distinctly western context. Regulators, in turn, need to recognize that western climate, terrain and water resource objectives are different, and be flexible and willing to experiment with new approaches in municipal stormwater programs. Lastly, stormwater managers from arid and semiarid watersheds work more closely together to share experiences about the stormwater solutions that work and fail. It is only through this dialogue that western communities can gradually engineer stormwater practices that are rugged enough to withstand the demanding challenges of the arid and semiarid west.

References

Barret, M., M. Keblin, P. Walsh. , J. Malina and R. Charbeneau. 1998. Evaluation of the performance of permanent runoff controls: summary and conclusions. Center for Transportation Research. Texas Dept of Transportation. University of Texas. Austin, TX. 37 pp.

Brush, S, M. Jennings, J. Young, and H. Mcreath. 1995. NPDES monitoring–Dallas/Forth Worth Texas area. pp. 115-143. In Stormwater NPDES Monitoring Needs. American Society of Civil Engineers.

Camp Dresser and McKee (CDM), Larry Walker Associates, and Uribe and Associates, and Resources Planning Associates. 1993. California stormwater best management practices handbook. Prepared for: California Water Quality Control Board. Sacramento, CA

Caraco, D. 1997. BMP supplement for cold climates. U.S. Environmental Protection Agency. Center for Watershed Protection. Ellicott City, MD. 112 pp.

Center for Watershed Protection (CWP). 1997. Survey of stormwater managers in arid and semi-arid climates. Ellicott City, MD, Unpublished data.

City of Austin (COA). 1994. Environmental criteria manual: guidelines for BMP design. City of Austin Drainage Utility. Austin, TX.

City of Austin, (COA) 1997. Wet Ponds. Section 1.6.6.C of Environmental Criteria Manual. City of Austin, TX Drainage Utility.

City of Tucson (COT) Stormwater Quality Program. 1996. Water harvesting fact sheets. Tucson, AZ.

Claytor, R. and T. Schueler. 1997. Design of stormwater filtering systems. Prepared for: Chesapeake Research Consortium. Center for Watershed Protection. Ellicott City, MD.

Denver Regional Council of Governments (DRCOG). 1983. Urban runoff quality in the Denver region. Prepared for US EPA NURP Program. Denver, CO. 240 pp.

Glick, R., G. Chang and M. Barret. 1998. Monitoring and evaluation of stormwater quality control basins. Water Environment Federation Speciality Conference. Proceedings Watershed Management: Moving from Theory to Implementation. Denver, CO. May 3-6, 1998.

Guay, J. 1996. Effects of increased urbanization from 1970's to 1990's on storm runoff characteristics in Perris Valley, California. USGS Water Resources Investigations Report. 95-4273.

Harris, T., J. Saunders, and. W. Lewis. 1997. Urban rivers in arid environments–unique ecosystems. Pp. 421-438 In Effects of Watershed Development and Management of Aquatic Ecosystems. L. Roesner, editor. American Society of Civil Engineers. New York, NY.

Kjelstrom, L. 1995. Data for and adjusted regional regression models of volume and quality of urban stormwater runoff in Boise and Garden City, Idaho, 1993-94. United States Geological Survey Water Resources Investigations Report 95-4228.

Lopes, T, K. Fossum, J. Phillips and J. Marical. 1995. Statistical summary of selected physical, c chemical, and microbial contaminants and estimates of constituent loads in urban stormwater in Maricopa County, Arizona. USGS Water Resources Investigations Report 94-4240.

Maddock, T. and W. Hines. 1995. Meeting future public water supply needs: a Southwest perspective. Water Resources Bulletin, 31(2): 317-329

Mizell, S. and R. French. 1995. Beneficial use of dry weather flow in the Las Vegas Valley, Nevada. Water Resources Bulletin. 31(3): 447-461.

National Oceanographic and Atmospheric Administration (NOAA). 1997. NCDC Summary of the day weather records. Silver Spring, MD.

Saunders and Gilroy. 1997. Treatment of nonpoint source pollution with wetland/aquatic ecosystem best management practices. Texas Water Development Board. Lower Colorado River Authority. Austin, TX

Smullen, J, and K. Cave. 1998. Updating the U.S. nationwide urban runoff quality database pp 202-218 in Conference Proceedings. 3rd International Conference on Diffuse Pollution. International Association of Water Quality. Edinburgh, Scotland.

Swamikannu, X. 1998. An integrated strategy for managing urban runoff pollution in Los Angeles County pp. 876-887 *in* Stormwater Runoff into Santa Monica Bay: Sources and Impacts. California and the World Ocean. University of Southern California Sea Grant (USCSG-R-01-98)

Trimble, S. 1997. Contribution of stream channel erosion to sediment yield from and urbanizing watershed. Science. 278:1442-1444,

United States Department of Commerce (US DOC). 1975. Weather atlas of the United States. Gale Research Company. Detroit, MI.

Urbonas, B. 1997. Field evaluation of a stormwater filter. Watershed Protection Techniques, 2(4): 536-538

Urbonas, B. L. Roesner, and C. Guo. 1996. Hydrology for optimal sizing of urban runoff treatment systems. Water Quality International. January/February 1996. London, England. pp. 30-33.

Wass, R. and P. Fox. 1995. Constructed wetlands enhances stormwater quality in Arizona. Industrial Wastewater, March/April: 43-46

Wilson, L., M. Osborn, K. Olson, S. Maida and L. Katz. 1990. The ground water recharge and pollution potential of dry wells in Pima County, Arizona. Ground Water Management Research, Summer, 1990

Woodward-Clyde Consultants, Inc. 1992. Annual monitoring report. Santa Clara Valley Nonpoint Source Pollution Control Program.

EMBARGOED UNTIL WEDNESDAY, JANUARY 19, 2000

CALIFORNIA SECRETARY FOR RESOURCES CALLS FOR OVERHAUL OF MANAGEMENT SCHEME FOR MARINE RESOURCES

FOR RELEASE ON January 19, 2000

CONTACT: Stanley Young (916) 653-5792

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Sacramento - A groundbreaking new report issued by the Resources Agency today offers a new, simpler and more efficient approach to protecting, preserving and managing California's magnificent coastal resources. Entitled, *Improving California's System of Marine Managed Areas (MMAs)*, the new report provides the first-ever comprehensive analysis of protective classifications that were developed over the last 50 years for State ocean waters. "This report marks a major step forward in protecting our coast," said Secretary of Resources Mary Nichols. "The reforms in this report will benefit everyone who uses and values our coastal resources, from surfers and beachgoers to scientists, fishermen and State management personnel."

The report was prompted by the sheer complexity and inefficiency of the present array of classifications. Designed to address the management of the State's living marine, cultural, and recreational resources, the existing array of MMAs -- 18 separate and overlapping classifications of preserves, refuges, reserves, sanctuaries and others -- is hard to understand, implement and enforce. And with good reason. Cobbled together over half a century and through eight separate state administrations the existing system developed piecemeal as an uncoordinated complex of legislation, regulations, voter initiative processes, and guidelines.

"The current system is a regulatory crazy-quilt," noted Secretary Nichols. In place of the existing arrangement of 18 classifications, the new report presents a stripped-down and

far simpler system of only 6 different kinds of marine managed areas. "The new report," said Secretary Nichols, "wipes the slate clean by presenting a rational, effective and science-based system of classifications that is simple to understand, implement and enforce."

The report is the culmination of a year-and-a-half-long process that began when the California Resources Agency directed a task force of State management agencies to identify every law, regulation, and policy relating to these management areas off the coast. The draft report, which also included suggestions for improving the present system, was the subject of five well-attended public workshops held in coastal locations from Newport Beach to Trinidad, as well as a special session convened at the State Capitol. Support for the draft report and its conclusions has been widespread. "We believe we now have consensus to overhaul our approach to this critical aspect of ocean management and protection," said Secretary Nichols. "The spectacular marine resources off the California coast are just too important to try to make do with the status quo."

The State's marine resources are not only valued by Californians. Just last week President Clinton used the Antiquities Act to designate all rocks, islands, exposed reefs, and pinnacles under the ownership of the Bureau of Land Management as the new California Coastal National Monument. "This National Monument designation is timely, because we plan to work with BLM, other government agencies, the private sector, and the public on ways to better coordinate our management and protection of these resources. I believe that the actions in this report will go a long way to ensuring an effective and powerful partnership between all parties interested achieving this goal."

Please see the attached list of existing and proposed classifications for State MMAs.

Current Array of Marine Managed Areas (MMAs)

Eighteen Classifications

There are currently 18 classifications and sub-classifications of MMAs that can be applied to the marine or estuarine environment along the California coast. Only 16 of these classifications have actually been used; the two classifications not used to date are italicized in the list below. In some cases there are two or more state classifications that overlay one another in a particular region to achieve multiple purposes, and often there is also an overlay of a federal designation. These state classifications and sub-classifications, in alphabetical order:

1. Areas of Special Biological Significance
2. Clam Refuges (Clam Preserves)
3. *Cultural Preserves (a subunit of the State Park System)*
4. Ecological Reserves
5. Historical Units
6. Marine Resources Protection Act Ecological Reserves
7. Natural Preserves (a subunit of the State Park System)
8. Refuges
9. Reserves
10. State Coastal Sanctuary
11. State Estuaries
12. State Parks
13. State Recreation Units - State Beaches
14. State Recreation Units - State Recreation Areas
15. *State Recreation Units - Underwater Recreation Areas*
16. State Reserves
17. State Seashores
18. State Wildlife Areas

Proposed System for Marine Managed Areas

Six Classifications

The State Interagency Marine Managed Areas Workgroup has proposed a new system for state MMAs, composed of the following:

1. Marine (Estuarine) Reserve
2. Marine (Estuarine) Park
3. Marine (Estuarine) Conservation Area
4. Marine (Estuarine) Cultural Preservation Area
5. Marine (Estuarine) Recreational Management Area
6. Water Quality Protection Area

San Rafael, CA
(Marin Co.)
Marin Independent
Journal
(Cir. D. 41,100)
(Cir. S. 42,800)

JAN 28 2000

Allen's P C B Est. 1888

L.A. plan to stop pollution at source in developments

Associated Press

LOS ANGELES — Taking action to stem the tide of urban pollutants flowing into the ocean and onto beaches every time it rains, regional water quality officials voted to require that new building projects include methods to collect or filter storm runoff.

The sweeping plan applies only to Los Angeles County, but has its roots in the federal Clean Water Act and offers a glimpse at the kind of tough decisions that may face other areas on California's rapidly developing coast.

New commercial projects over 100,000 square feet, as well as new parking lots with 25 or more spaces, gas stations and housing subdivisions would be among those subject to the new regulations.

Under the plan, developers would be required to collect or filter the first .75 inch of rain that falls in a day's time. The projects could do this by using grassy areas that absorb water, detention ponds and trenches or filters in drains.

The regulations are aimed at intercepting oily waste, pesticides, metal residue, animal feces, human viruses and bacteria that flow off paved land and buildings, which prevent the absorption of storm water.

Hotly contested by developers and most of the county's 85 cities, the plan was approved Wednesday by the Los Angeles Regional Water Quality Control Board, one of nine regional boards that are part of the California Environmental Protection Agency.

The plan, designed to protect Los Angeles County beaches from increasing pollution as population grows, would require city governments to adopt ordinances within six months to implement the standards and ensure compliance by developers.

The vote was not necessarily the final word. Board staff will produce a final version for the director to approve in about a month. At that point opponents may appeal to the State Water Resources Control Board. Failing that, they may appeal in Superior Court.

Environmentalists cheered the regional board's 6-0 vote.

"This is a big step forward in addressing the runoff problem," said Alex Helperin of the Natural Resources Defense Council. "They could have gone further but it's refreshing to see the board take the first step."

However, builders maintained the measures would drive up costs.

"This policy is a shot in the dark with no chance of improving water quality," said Ray Pearl, deputy director of the Building Industry Association of Greater Los Angeles. "It's not only bad science, but bad policy."

However, the water board estimates that the cost of the runoff controls will amount to less than 0.5 percent of each new development's total cost.

Sacramento, CA
(Sacramento Co.)
Sacramento Bee
(Cir. D. 270,000)
(Cir. S. 338,000)

JAN 28 2000

Allen's P. C. B.

Water board adopts storm runoff plan

Associated Press

LOS ANGELES – Taking action to stem the tide of urban pollutants flowing into the ocean and onto beaches every time it rains, regional water quality officials voted to require that new building projects include methods to collect or filter storm runoff.

The sweeping plan applies only to Los Angeles County, but has its roots in the federal Clean Water Act and offers a glimpse at the kind of tough decisions that may face other areas on California's rapidly developing coast.

New commercial projects larger than 100,000 square feet as well as new parking lots with 25 or more spaces and housing subdivisions would be among those subject to the new regulations.

Under the plan, developers would be required to collect or filter the first three-quarters of an inch of rain that falls in a 24-hour period. The projects could do this by using grassy areas that absorb water, detention ponds and trenches or filters in drains.

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PERSPECTIVE ON THE ENVIRONMENT

Message to Water Board: Seize the Day

The regional agency has a chance to curb polluted runoff. It must not flub a decision crucial to all of L.A.

By DAVID S. BECKMAN, STEVEN FLEISCHLI and MARK GOLD

Today, the Los Angeles Regional Water Quality Control Board is expected to make one of the most important decisions in its 50-year history, and its most significant decision ever, on the issue of polluted urban runoff. Is the board serious about creating a more livable Los Angeles by taking steps toward solving the region's urban runoff problem, now regarded as one of the nation's worst? The board is about to provide the answer.

The board, whose members are appointed by Gov. Gray Davis, will vote on an important new approach that goes to the heart of the urban runoff problem. Experts agree that polluted runoff, which in Los Angeles is often acutely toxic and loaded with pathogens that make people sick, is tied to the ever-increasing hardscape that comes with urban development. In short, more pavement equals more pollution. Because most of the region's watersheds are paved over, and because the water board until now has refused to take any meaningful action to solve the problem, the runoff problem in L.A. is especially severe.

The proposal before the board is based on one developed by the Natural Resources Defense Council and Los Angeles County to address the "pavement equals pollution" reality. By requiring large new developments, such as shopping centers, to install devices that clean up polluted runoff, the proposal targets the largest new sources of water pollution. Low-tech, inexpensive and highly effective, the devices required by the plan have a proven track record across the nation. If the board gives the go-ahead, then large new development projects in Los Angeles would have to take reasonable steps to actually clean up polluted runoff—just as their counterparts already do in cities as diverse as Denver, Austin and Portland, Ore.

Although Los Angeles County showed leadership by implementing the plan on its own last year, the proposal predictably has triggered an avalanche of opposition from many city governments that have not followed the county's lead. Yet the lack of factual and technical objections to the plan provides some optimism that, for the first time, the water board actually may be about to do something significant to help solve the polluted runoff problem. That would mean old polluting habits would have to change.

There is cause for concern, however. Perhaps recognizing that the plan has a real chance of passing, many cities and some developers succeeded recently in convincing the board's executive officer to add a multitude of eleventh-hour loopholes to the proposal. These exemptions, inserted over the objections of environmentalists and the federal Environmental Protection Agency, would rob the proposal of most of its effectiveness. By choosing to make Swiss cheese out of a proposal that might actually improve water quality, the board would revert to its old approach of appeasing virtually any objection by entrenched development interests, no matter how baseless.

By removing the exemptions and then approving the plan, however, the water board can send one of the most important messages in its history: its intention to tackle our region's most serious water pollution problem. By seizing the moment, the board can take a decisive step toward cleaner beaches and a more livable Los Angeles.

If it backs down, the future for water quality in Los Angeles looks ominous indeed.

David S. Beckman is a senior attorney at the Natural Resources Defense Council. Steven Fleischli is the executive director of the Santa Monica BayKeeper. Mark Gold is the executive director of Heal the Bay.

'Goldilocks' Policy for

RUNOFF

Continued from B1

guidelines.

"Hopefully, we can craft a document that will respond to some of the concerns of the cities but also ensure a strong level of environmental protection," he said.

The Los Angeles region, with so many people and so much pavement, faces an almost insurmountable challenge in cleaning up its voluminous runoff. The debate over how to contain the pollution has dragged on for a decade.

Massive amounts of oily waste, pesticides, metal residue and other pollutants flow to the sea from streets and parking lots, even on dry summer days. Runoff also carries human viruses and bacteria from sewage that can give swimmers, especially children, diarrhea, respiratory infections and other illnesses.

Since 1986 the federal Clean Water Act has required municipalities to reduce storm water runoff "to the maximum extent practicable." But experts say Southern California lags behind many other urban areas because of the huge size of the task and resistance to land use restrictions.

In the Southland, attempts to wrest any control of development from municipalities have long been considered taboo, and the runoff measure has allied cities with developers in a fight against local environmentalists.

Mark Gold, executive director of the environmental group Heal the Bay, said the push for standards governing new development "has been our biggest fight for a decade" in the campaign to clean up runoff, the leading source of pollution in Santa Monica Bay.

David Beckman, a senior attorney with the Natural Resources Defense Council, accused the cities of "a bunch of denying and deflecting and delaying." The proposal is far from a cure-all but "shows that the water board is finally getting serious about storm water control," he said.

"It only covers new development and redevelopment, so it should not be construed as something that will magically solve the storm water problem. But it should prevent it from getting worse," Beckman said.

On even a dry summer day, polluted runoff from the county's 10 million people would fill the Rose Bowl. Year-round, it contaminates beaches within roughly 100 yards of river mouths and storm drains. On a rainy day, the runoff renders all beaches unsafe.

In Los Angeles County, most Ballona Creek, which empties into the ocean at Marina del Rey; Malibu Creek, which ends at Surfrider Beach; and the Los Angeles River, which flows into Long Beach Harbor. Smaller storm drains are sprinkled along the coastline.

The proposal is designed to sharply reduce runoff from new buildings in all but severe storms.

Developers and city planners would have a range of options for compliance. They could leave grassy swales and other open space so runoff could seep into the ground instead of flowing into storm drains. However, because land is at a premium in the county, most developers are likely to seek other options, such as building detention ponds, using permeable pavement or installing filters in curbside drains.

Xavier Swamikannu, who directs the regional board's storm water program, stresses that cities would have the flexibility to decide how each individual project must comply. The standards are not meant to slow development, he said, but rather to ensure that developments are more environmentally sound.

UCLA environmental engineer Mike Stenstrom, a nationally known expert in urban runoff, said the storm water limits are reasonable and can be achieved with relatively simple and inexpensive design changes at developments.

Builders, however, say there is insufficient scientific basis for setting a specific numerical limit for capturing storm water—and little data on the costs. Every project and piece of land is different, they say, so hard and fast standards are unreasonable.

New Projects Unfairly Targeted, Builders Say

Builders also complain that new projects are being unfairly targeted even though existing development pollutes the most.

"We are concerned that this approach will render some sites undevelopable, placing an unfair burden on property owners and developers," said John R. Burroughs, vice president of Commerce Construction Co.

Ray Pearl of the Building Industry Assn. of Southern California said providing housing is just as critical as protecting the environment. "We would ask you not to forget human habitat," he told the water board at a Sept. 16 hearing.

Azusa City Engineer Nasser Abbaszedeh said the proposal could prompt developers to move to runoff limits. "This would cause an inherent regional inequity throughout Southern California," he said.

The most vocal opposition has come from cities miles from the coast, in southeastern Los Angeles County and the San Gabriel Valley. But surprisingly, the debate has not pitted inland cities against coastal ones. Cities such as Long Beach, Manhattan Beach and Redondo Beach have shorelines contaminated with runoff flowing largely from inland areas, but even they do not support standards that tell cities how to govern development.

"How much can you foist on the developer and how much can you foist on local government? Do you impose a $20,000 or $30,000 cost on each development without knowing the benefits?" Miller of Manhattan Beach asked. "Nobody is opposed to cleaning up storm water. But to just throw a numerical limit out there and say, 'Figure out how to do it'—that's tough for engineers to accept. It just seems premature."

In unincorporated areas of Los Angeles County, builders already must control runoff from the first 0.75 of an inch of rain from each storm. County officials agreed to the requirement, which became effective in June, in a settlement of a lawsuit with local environmentalists.

Outside California, several counties and cities, especially along Chesapeake Bay, have already imposed similar runoff standards—some more stringent. The Los Angeles County program, however, would be the largest. Orange, Ventura and San Diego counties also face threats from runoff, but they have separate storm-water permits with regional boards that impose no runoff limits.

Since July 30, existing businesses and developments in L.A. County have been required to follow a set of "best management practices" outlined in a storm-water permit enforced by the regional water board. But it contains no numerical limits for the volume of runoff controlled. For example, auto repair shops are told to clean up oil leaks and cover waste storage areas, and cities have stenciled "No Dumping" on gutters and mounted multimillion-dollar public education campaigns.

Water officials, however, say public education and general guidelines will never go far enough. Instead, they say, communities must change the very way they are designed.

Swamikannu said runoff pollution is so severe in the Los Angeles area that setting firm limits on new development is "just a starting point" toward meeting federal standards, which require all waters to be

RUNOFF

Continued from B1

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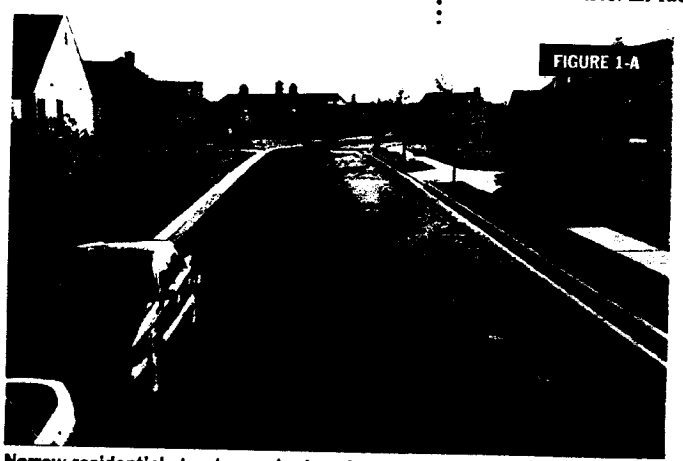
Better Site Design: Changing Development Rules to Protect the Environment

By Thomas R. Schueler and Richard A. Claytor, Jr., P.E.

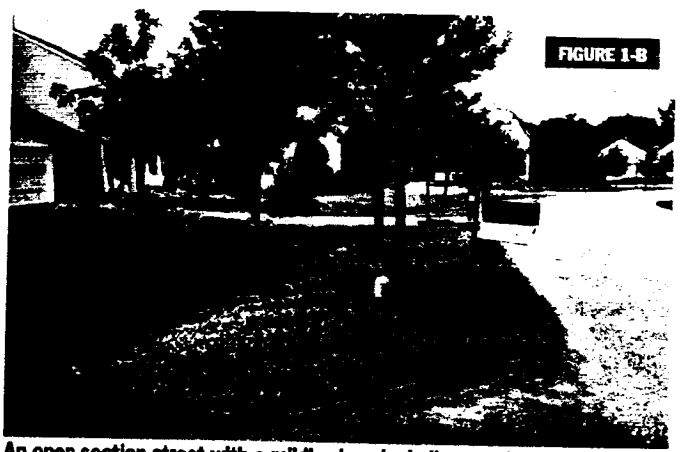
Reduced impervious surface and different drainage techniques can result in significant environmental benefits.

Few stormwater management practices simultaneously reduce pollutant loads, conserve natural areas, save money, and increase property values. Indeed, if such "wonder practices" were ever developed, they certainly would spread quickly across the nation. As it turns out, these practices have existed for years. Collectively called "better site design," the techniques employ a variety of methods to reduce total paved area, distribute and diffuse stormwater runoff, and conserve natural habitats. Despite their proven benefits, however, better site design techniques often fail to earn the endorsement of local communities. In fact, many communities simply prohibit their use.

"Better site design" describes a fundamentally different approach to the design of residential and commercial development projects. It seeks to accomplish three goals at every development site: to reduce the amount of impervious cover, to increase the amount of natural land set aside for conservation, and to use pervious areas for more effective stormwater treatment. To employ these methods, designers must scrutinize every aspect of a site plan—its streets, parking spaces, setbacks, lot sizes, driveways, and sidewalks—to see if any of these elements can be reduced in scale. At the same time, creative grading and



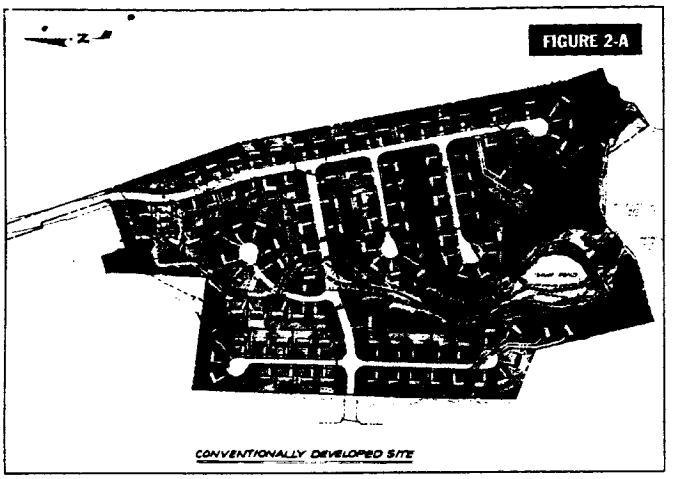
Narrow residential streets require less land and less paving materials.



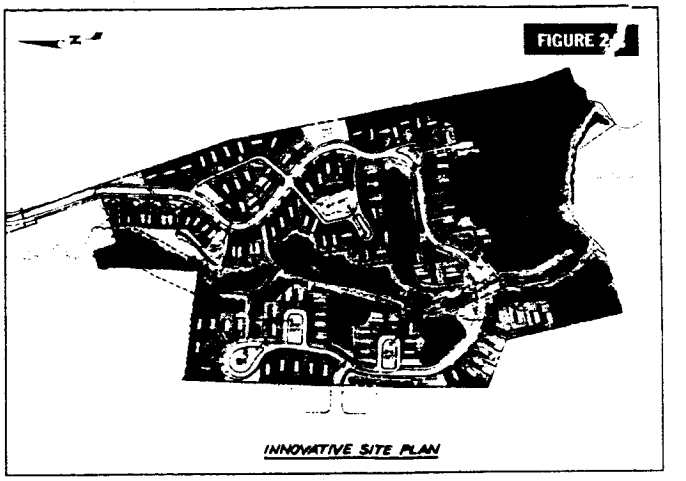
An open-section street with a mildly sloped, shallow swale eliminates the need for curbs and provides areas for stormwater runoff.

Commercial parking lots designed with low parking demand ratios and narrow drive aisles require less land.

Shared driveways for single-family residential lots use less land and less paving material.



This plan of the 108-acre Stonehill Estates in Stafford County, Virginia, demonstrates a conventionally developed site. The average lot size is 9,000 square feet; 25 percent of the site is open space; street widths are 26 and 34 feet; and the cul-de-sac radii are 45 feet.



Stonehill Estates, designed with an innovative site plan, shows that the 108 lots' average area is reduced to 6,300 square feet with 44 percent open space. The street widths are reduced to 14 feet (one-way) and 26 feet (two-way), with 14-foot-wide looping cul-de-sacs.

drainage techniques can prevent concentrations of stormwater, thereby encouraging more infiltration. Finally, undisturbed land areas conserved as forests, meadows, stream buffers, or other natural habitat areas can increase available open space, enhance property values, and reduce pollutant loads. Figures 1a through 1d illustrate some of these principles.

When all these techniques are applied simultaneously, the cumulative benefits of better site design can be impressive. For example, recent studies in Delaware, Maryland, and Virginia have demonstrated that better site design can reduce impervious cover by 25 to nearly 60 percent for a range of subdivisions. Other studies have shown that better site design reduces impervious cover by about 20 percent in shopping centers and office parks. Table 1 illustrates the potential reductions for various residential development densities. Figures 2a and 2b depict alternative designs for Stonehill Estates, a development in Virginia.

Less impervious cover translates directly into smaller pollutant loads. In fact, studies have shown that better site design produces 40 to 65 percent less phosphorous and nitrogen loads than conventional site designs—roughly the equivalent of what can be removed by a well-designed stormwater pond. The same studies have also demonstrated that better site design costs 5 to 20 percent less to build than conventional site design.

The Center for Watershed Protection recently compared the infrastructure cost of four projects that relied on standard development strategies with the same sites developed in accordance with innovative site design techniques. Table 2 illustrates these cost comparisons.

Why, then, is it so difficult to implement better site design in so many communities? The primary reason is that outdated development rules collectively govern the development process—the bewildering mix of subdivision codes, zoning regulations, parking and street standards, and other regulations that often work at cross-purposes and yield less-than-ideal results. With few developers willing to invest in something that may take years to be approved or that may never be approved at all, experiments in better site design are rare.

A new movement, however, may make better site design easier. Developers, water quality managers, and planners are taking steps to rethink land development rules in many locations across the country. For example, transportation, public works, safety, planning, and engineering organizations involved in the development industry recently participated in a national site planning roundtable and developed a nationally accepted set of model principles that foster better site development. The group embraced a total of 22 model development principles to help further better site design at the local level.

The national site planning roundtable is serving as a model for local government implementation of better site design principles. Recently, Frederick County, Maryland, initiated a local roundtable to take a critical look at its own development rules. Members of the development community in partnership with local planning and zoning and public works staff are meeting to identify and overcome impediments to better site design that are embedded in the county's codes and ordinances. The outcome of the consensus process should be development rules that encourage rather than discourage the application of better site design techniques.

Changing local development rules is not

TABLE 1. **Analysis of Residential Developments Employing Better Site Design Techniques**

Development Project	Development Density	Impervious Cover at the Site: Conventional Site	Impervious Cover at the Site: Better Site Design Site	Impervious Cover at the Site: Net Change	Percent Reduction in Stormwater Runoff
Tharpe Knoll[1]	1-acre lots	13%	7%	–46%	44%
Pleasant Hill[1]	½-acre lots	26%	11%	–58%	54%
Stonehill Estates[2]	½-acre lots	27%	21%	–22%	25%
Belle-Hall[3]	High density	35%	20%	–43%	31%

Sources: [1]Delaware Department of Natural Resources and Environmental Conservation, 1997; [2]Center for Watershed Protection, 1998; [3]South Carolina Coastal Conservation League, 1995.

TABLE 2. **Comparison of Infrastructure Costs Associated with Four Development Projects Redesigned to Incorporate Better Site Design Principles**

Site	Development Category	Cost Savings (percent) and (net dollars)	Notes
Duck Crossing	Low-density residential (8 lots of approximately 3 acres each)	12% ($17,000)	Savings mainly from reduced paving surfaces
Stone Hill Estates	Medium-density residential (108 lots at approximately 1/3-acre each)	20% ($300,000)	Savings from reduced paving, curb and gutter, sidewalk, and sanitary sewer; stormwater management slightly more costly with redesigned site
270 Corporate Center	Commercial office park (250,000 square feet)	5% ($36,000)	Savings from reduced paving, sidewalks, sanitary sewer and water; curb and gutter and stormwater management slightly more costly with redesigned site
Farm Brook	Retail shopping center (71,500 square feet)	3% ($27,700)	Savings from reduced paving, sidewalks, storm drain, water, and sanitary sewer. Stormwater management, curb and gutter more expensive with redesigned site

Source: Center for Watershed Protection, 1998

easy. Progress toward better site development will require more and more local governments to examine their current practices in the context of a broad range of concerns, such as how changes will affect development costs, local liability, property values, public safety, and a host of other factors. Advocates of better site design will have to answer some difficult questions from fire chiefs, lawyers, traffic engineers, developers, and many others in the community. Will a proposed change make it more difficult to park? Lengthen response times for emergency vehicles? Increase risks to the community's children? True change occurs only when the community addresses these and other questions to the satisfaction of all interests.

For more information, contact the Center for Watershed Protection, 8391 Main Street, Ellicott City, Maryland 21043; (410) 461–8323; fax (410) 461-8324; e-mail: mrrunoff@pipeline.com; website: www.pipeline.com/~mrrunoff/. ■

In 1997, the Center for Watershed Protection convened a national site planning roundtable. During the 18-month consensus-building process, a diverse cross-section of national planning, environmental, home builder, fire and safety, and public works organizations (as well as local planning officials) crafted 22 model development principles. Taken together, the principles can be applied to reduce impervious cover, conserve natural areas, and minimize stormwater pollution from new development—all while maintaining residents' quality of life.

The principles are presented in a consensus agreement entitled *Model Development Principles to Protect Our Streams, Lakes and Wetlands* and in a companion document *Better Site Design—A Handbook for Changing the Development Rules in Your Community.* The handbook contains a codes and ordinances worksheet to help communities assess which local development rules should be amended to promote better site design. The worksheet guides local planners, subdivision plan reviewers, and planning boards through a complete evaluation of their local development standards and ordinances. The consensus agreement is available on the center's web page at www.pipeline.com/~mrrunoff/. *Better Site Design* can be ordered from the Center for Watershed Protection by calling (410) 461-8323.

Thomas R. Schueler is executive director of the Center for Watershed Protection. He is responsible for development, research, technical support, and educational training and is the editor and major author of the center's quarterly technical journal Watershed Protection Techniques.

Richard A. Claytor, Jr., P.E., is principal engineer at the Center for Watershed Protection and has more than 15 years of experience in the field of water resource assessment and management. He is responsible for project management and research related to preparing training and guidance documents for watershed planning and restoration.

References

Center for Watershed Protection (CWP). 1998. *Nutrient Loading from Conventional and Innovative Site Development.* Prepared for Chesapeake Research Consortium. Center for Watershed Protection, Ellicott City, MD.

Delaware Department of Natural Resources and Environmental Conservation (DE-DNREC). 1997. *Conservation Design for Stormwater Management.* Delaware DNREC, Dover, DE.

South Carolina Coastal Conservation League (SCCCL). 1995. *Getting a Rein on Runoff: How Sprawl and Traditional Towns Compare.* SCCCL Land Development Bulletin, No. 7. SCCCL, Charleston, SC.

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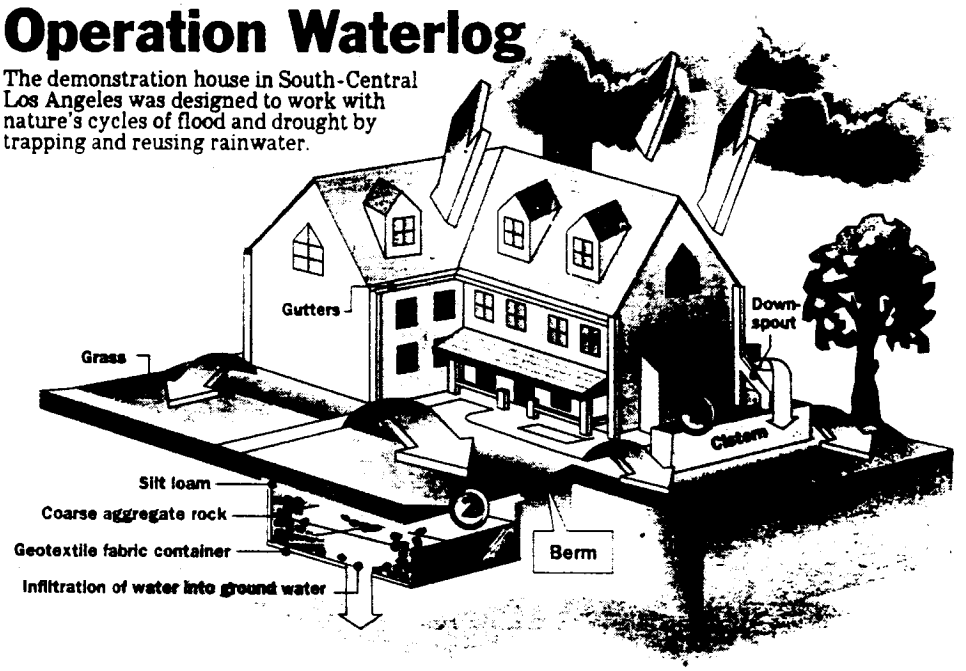

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In Australia and in several island countries, individuals routinely capture and save rainwater, so it is not a new idea, though the flood control aspects of this project are a new twist, and this is the first system I've seen that saves rainwater exclusively for the garden.

The heart of the water-storing system is two cisterns that collect water from the roof like giant rain barrels. Together they hold about 3,200 gallons.

The cisterns take up very little room in the garden because most of their bulk is underground. Above ground, each is 2 feet wide, 5 feet tall and 10 feet long. This above-ground portion could do double-duty as a garden wall. The project's designers figure that they could line up along one property line to store about 20,000 gallons.

That's far short of the 60,000 to 70,000 gallons a year used to water the typical garden in city of Los Angeles, but it would make a nice dent.

Below ground, the cisterns are 10 feet long, but each becomes 4 feet wide and extends 6 feet below ground.

The tanks are made of recycled polypropylene with a fiberglass coating. When I saw them, TreePeople had not yet figured out how to put a finish coat on the fiberglass, so the containers looked a little raw.

Before the water gets to the cisterns, it runs though an elementary filter that takes out much of the particulate matter that settles on roofs, from brake lining dust to pigeon droppings.

From the interconnected tanks, the water is pumped directly into the automatic irrigation system.

The system was completed only in May but managed to "grab 300 gallons" from the last freak storm, which dropped about two inches of rain on May 12 and 13, according to Lipkis.

For the pilot project, the two tanks drain only a quarter of the roof (about 250 square feet). The water can also be pumped to the street if the cisterns are too full and a big storm is approaching.

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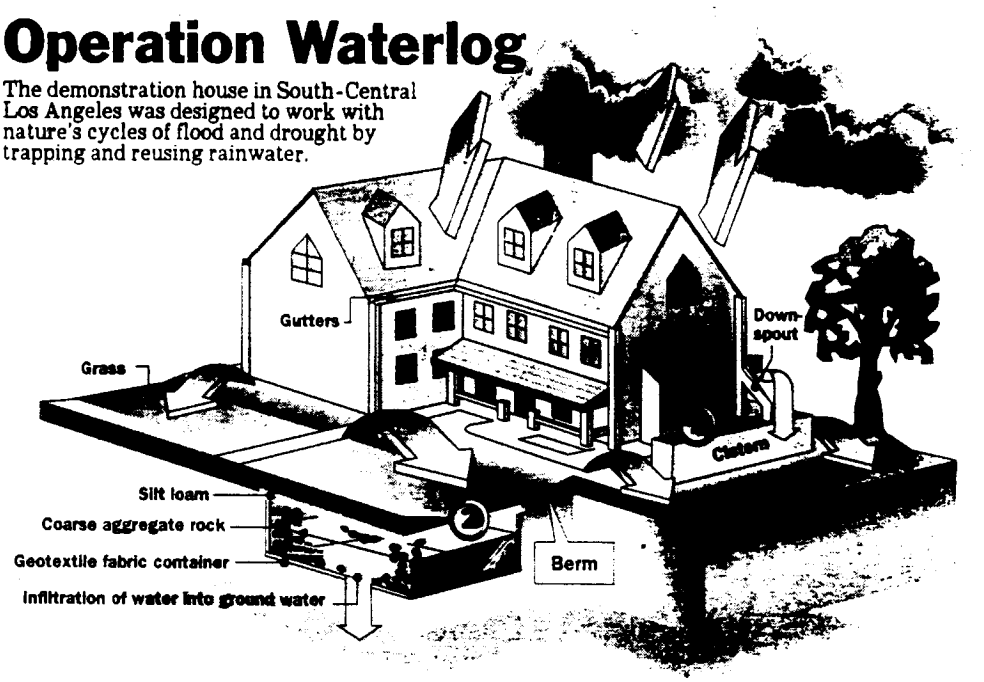

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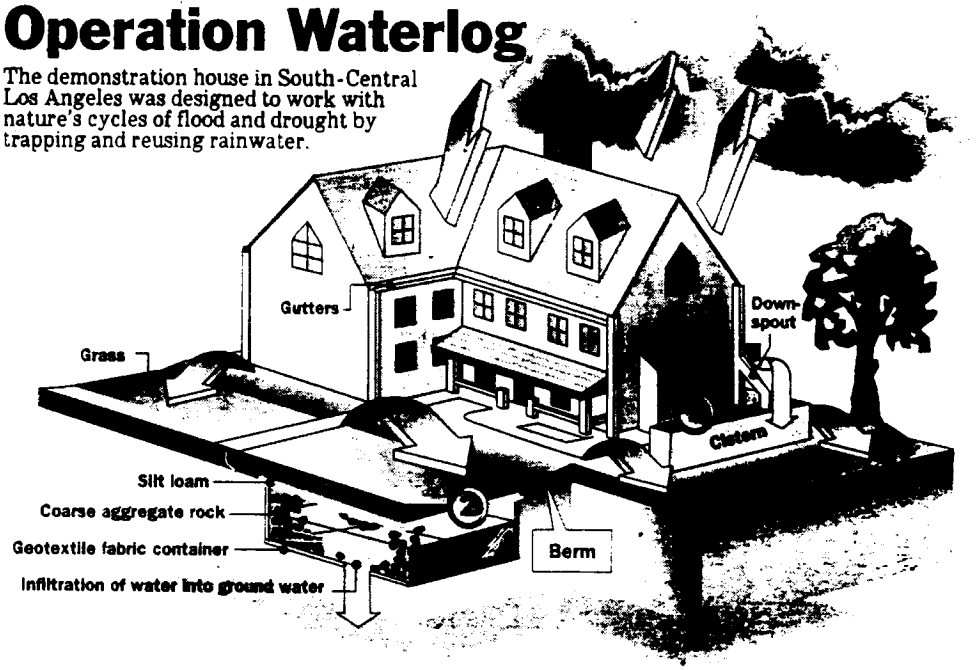

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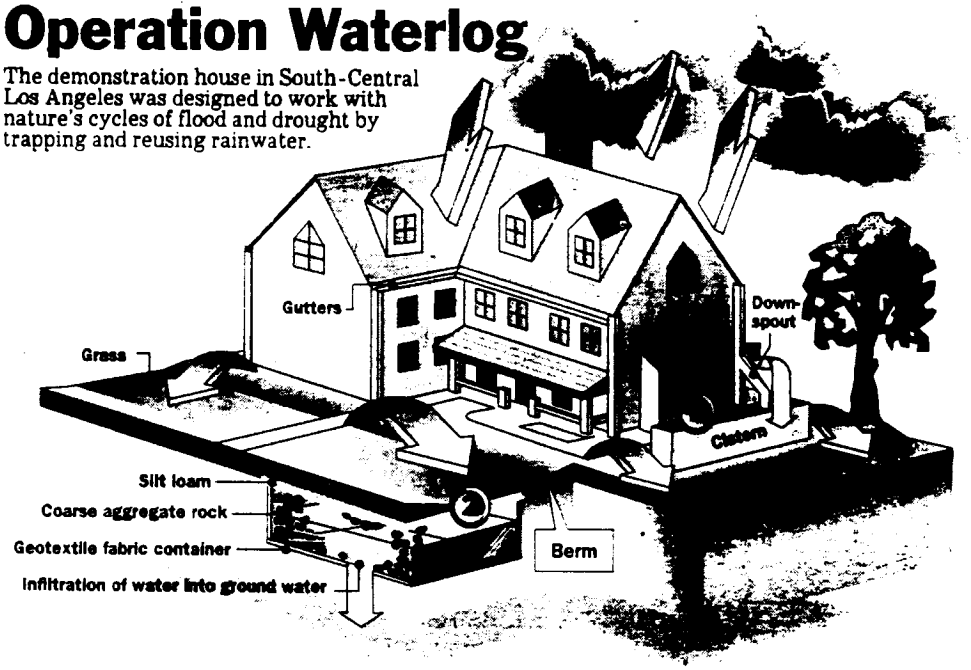

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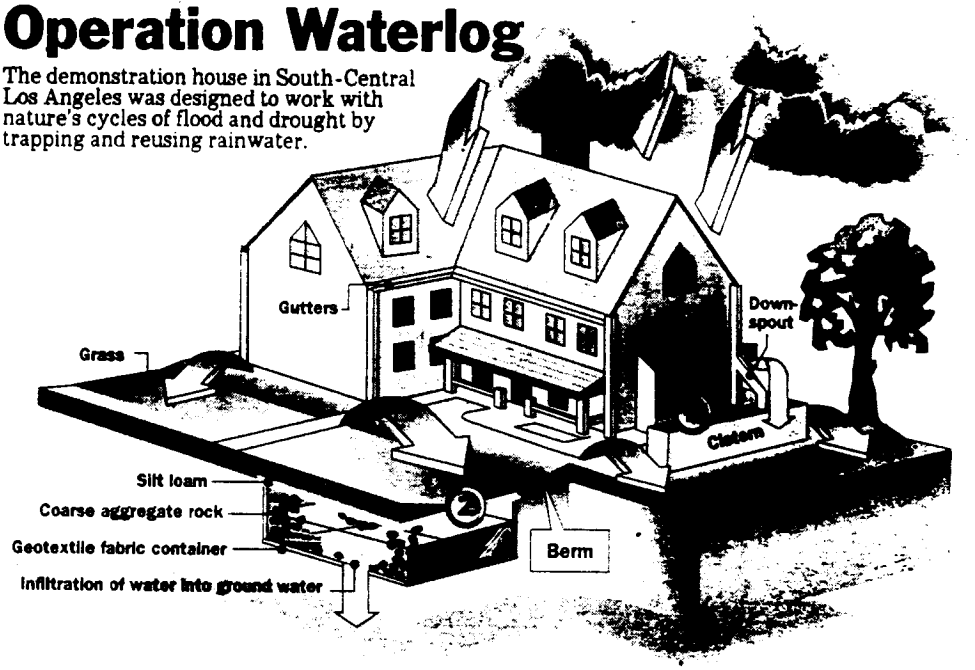

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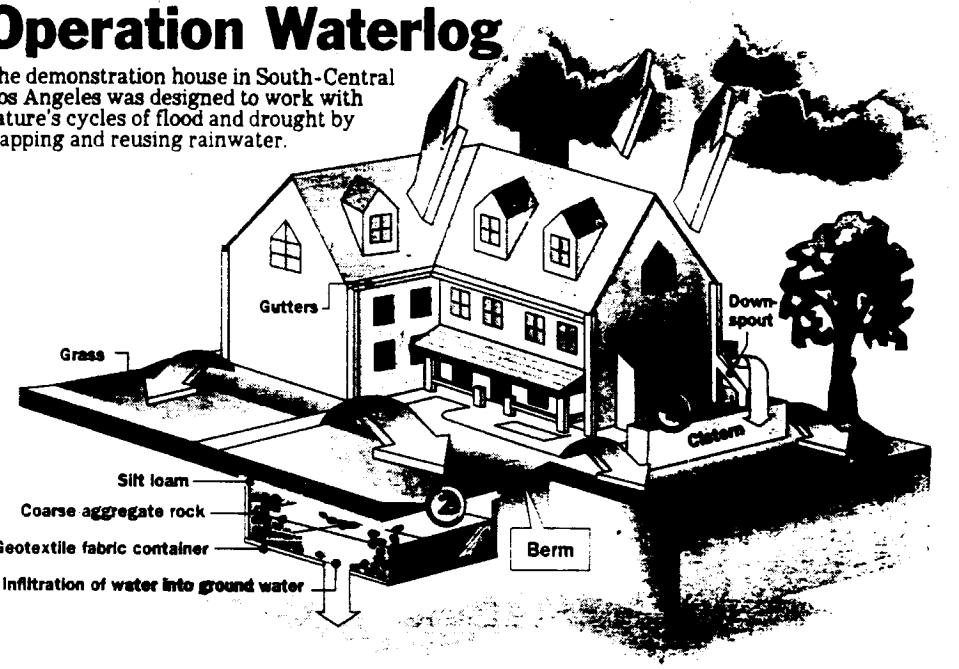

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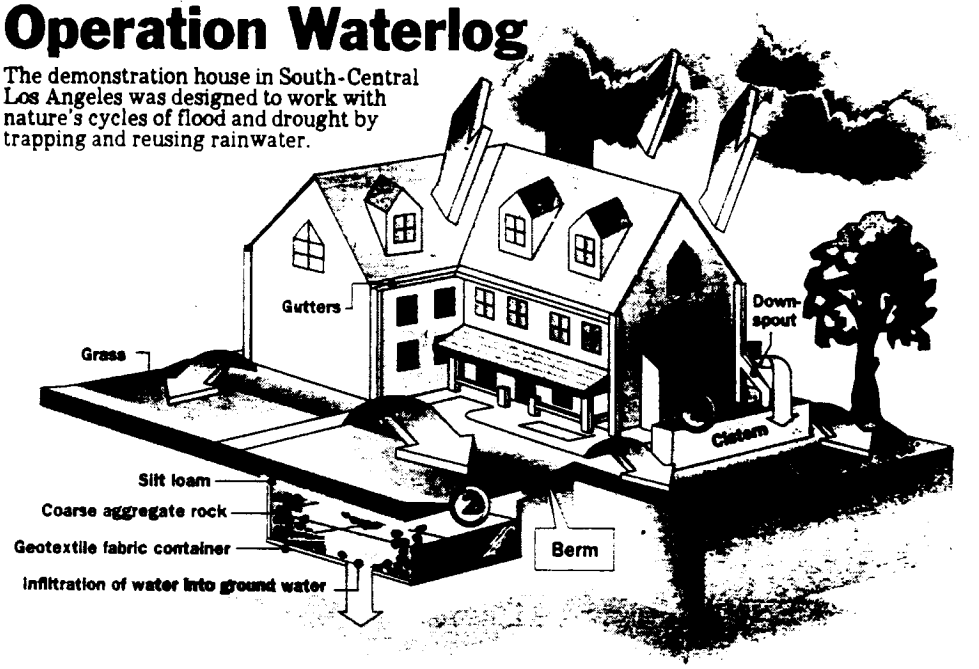

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Source: TreePeople

Los Angeles Times

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By ROBERT SMAUS
TIMES GARDEN EDITOR

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Landscape designer Robert Cornell, left, and TreePeople President Andy Lipkis examine the rainwater storage system at demo house.

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FRIDAY
AUGUST 14, 1998

METRO

Los Angeles Times

Rain Brainstorm

■ **Conservation:** Yard is landscaped in pilot project to work as a catch basin, saving runoff.

By BOB POOL
TIMES STAFF WRITER

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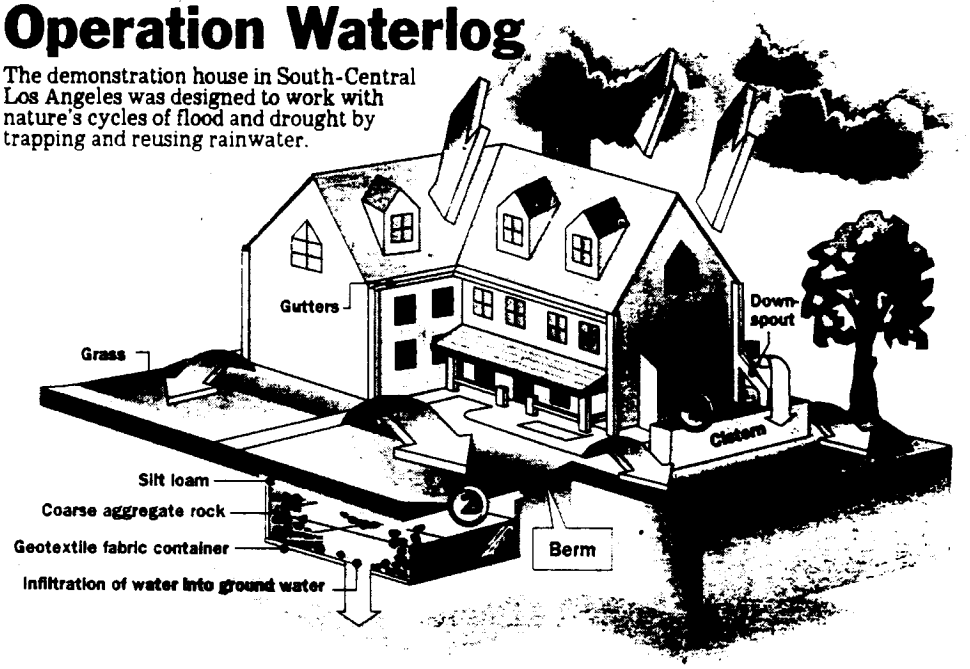

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Our wording for the 0.75 standard is as follows: "The development must be designed so as to mitigate (infiltrate and/or treat) the site runoff generated from each and every storm event of up to and including 0.75-inches of rainfall, prior to it discharging into the stormwater conveyance system."

This wording is not in any County Ordinance or Code. Also we have received several comments about this wording having the implication of having to treat more than one storm. The question has arisen, "What if there are two storms within a short time period? Does the BMP need to be designed to mitigate both storms or possibly 1.5 inches of rainfall?". It is our intend and understanding that the BMPs will need to be designed to mitigate the runoff generated from a storm event of up to and including 0.75-inches of rainfall. The design criteria to be used for each selected BMP will detail the emptying or residence time to be used for proper BMP design. Our SUSMPs can be obtained at the following URL: http://dpw.co.la.ca.us/epd/mitigation/lacdpw.htm

II. URBAN RUNOFF

A. New Development Management Measure

1. **By design or performance:**

   - **After construction has been completed and the site is permanently stabilized, reduce the average annual total suspended solid (TSS) loadings by 80 percent. For the purposes of this measure, an 80 percent TSS reduction is to be determined on an average annual basis, or**

   - **Reduce the postdevelopment loadings of TSS so that the average annual TSS loadings are no greater than predevelopment loadings, and**

2. **To the extent practicable, maintain postdevelopment peak runoff rate and average volume at levels that are similar to predevelopment levels.**

Sound watershed management requires that both structural and nonstructural measures be employed to mitigate the adverse impacts of storm water. Nonstructural Management Measures II.B and II.C can be effectively used in conjunction with Management Measure II.A to reduce both the short- and long-term costs of meeting the treatment goals of this management measure.

1. Applicability

This management measure is intended to be applied by States to control urban runoff and treat associated pollutants generated from new development, redevelopment, and new and relocated roads, highways, and bridges. Under the Coastal Zone Act Reauthorization Amendments of 1990, States are subject to a number of requirements as they develop coastal nonpoint source (NPS) programs in conformity with this management measure and will have flexibility in doing so. The application of management measures by States is described more fully in *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*, published jointly by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce.

For design purposes, postdevelopment peak runoff rate and average volume should be based on the 2-year/24-hour storm.

2. Description

This management measure is intended to accomplish the following: (1) decrease the erosive potential of increased runoff volumes and velocities associated with development-induced changes in hydrology; (2) remove suspended solids and associated pollutants entrained in runoff that result from activities occurring during and after development; (3) retain hydrological conditions to closely resemble those of the predisturbance condition; and (4) preserve natural systems including in-stream habitat. For the purposes of this management measure, "similar" is defined as "resembling though not completely identical."

During the development process, both the existing landscape and hydrology can be significantly altered. As development occurs, the following changes to the land may occur (USEPA, 1977):

- Soil porosity decreases;
- Impermeable surfaces increase;
- Channels and conveyances are constructed;
- Slopes increase;
- Vegetative cover decreases; and
- Surface roughness decreases.

These changes result in increased runoff volume and velocities, which may lead to increased erosion of streambanks, steep slopes, and unvegetated areas (Novotny, 1991). In addition, destruction of in-stream and riparian habitat, increases in water temperature (Schueler et al., 1992), streambed scouring, and downstream siltation of streambed substrate, riparian areas, estuarine habitat, and reef systems may occur. An example of predicted effects of increased levels of urbanization on runoff volumes is presented in Table 4-4 (USDA-SCS, 1986). Methods are also available to compute peak runoff rates (USDA-SCS, 1986).

The annual TSS loadings can be calculated by adding the TSS loadings that can be expected to be generated during an average 1-year period from precipitation events less than or equal to the 2-year/24-hour storm. The 80 percent standard can be achieved by reducing, over the course of the year, 80 percent of these loadings. EPA recognizes that 80 percent cannot be achieved for each storm event and understands that TSS removal efficiency will fluctuate above and below 80 percent for individual storms.

Management Measures II.A, II.B, and II.C were selected as a system to be used to prevent and mitigate the problems discussed above. In combination, these three management measures applied on-site and throughout watersheds can be used to provide increased watershed protection and help prevent severe erosion, flooding, and increased pollutant loads generally associated with poorly planned development. Implementation of Management Measures II.B and II.C can help achieve the goals of Management Measure II.A.

Structural practices to control urban runoff rely on three basic mechanisms to treat runoff: **infiltration**, **filtration**, and **detention**. Table 4-5 *(53k)* lists specific urban runoff control practices that relate to these and includes information on advantages, disadvantages, and costs. Table 4-6 presents site-specific considerations, regional limitations, operation and maintenance burdens, and longevity for these practices.

Infiltration devices, such as infiltration trenches, infiltration basins, filtration basins, and porous and concrete block pavement, rely on absorption of runoff to treat urban runoff discharges. Water is percolated through soils, where filtration and biological action remove pollutants. Systems that rely on soil absorption require deep permeable soils at separation distances of at least 4 feet between the bottom of the structure and seasonal ground water levels. The widespread use of infiltration in a watershed can be useful to maintain or restore predevelopment

hydrology, increase dry-weather baseflow, and reduce bankfull flooding frequency. However, infiltration systems may not be appropriate where ground water requires protection. Restrictions may also apply to infiltration systems located above sole source (drinking water) aquifers. Where such designs are selected, they should be incorporated with the recognition that periodic maintenance is necessary for these areas. Long-term effectiveness in most cases will depend on proper operation and maintenance of the entire system.

NOTE: Infiltration systems, some filtration devices, and sand filters should be installed after construction has been completed and the site has been permanently stabilized. The State of Maryland has observed a high failure rate for infiltration systems. Many of these failures can be attributed to clogging due to sediment loadings generated during the construction process and/or the premature use of the device before proper stabilization of the site has occurred. In cases where construction of the infiltration system is necessary before the cessation of land-disturbing activities, diversions, covers, or other means to prevent sediment-laden runoff from entering and clogging the infiltration system should be used (State of Maryland DNR, personal communication, 1991).

Filtration practices such as filter strips, grassed swales, and sand filters treat sheet flow by using vegetation or sand to filter and settle pollutants. In some cases infiltration and treatment in the subsoil may also occur. After passing through the filtration media, the treated water can be routed into streams, drainage channels, or other waterbodies; evaporated; or percolated into ground water. Sand filters are particularly useful for ground-water protection. The influence of climatic factors must be considered in the process of selecting vegetative systems.

Detention practices temporarily impound runoff to control runoff rates, and settle and retain suspended solids and associated pollutants. Extended detention ponds and wet ponds fall within this category. Constructed urban runoff wetlands and multiple-pond systems also remove pollutants by detaining flows that lead to sedimentation (gravitational settling of suspended solids). Properly designed ponds protect downstream channels by controlling discharge velocities, thereby reducing the frequency of bankfull flooding and resultant bank-cutting erosion. If landscaped and planted with appropriate vegetation, these systems can reduce nutrient loads and also provide terrestrial and aquatic wildlife habitat. When considering the use of these devices, potential negative impacts such as downstream warming, reduced baseflow, trophic shifts, bacterial contamination due to waterfowl, hazards to nearby residents, and nuisance factors such as mosquitoes and odor should be considered. Siting development in wetlands and floodplains should be avoided. Where drainage areas are greater than 250 acres and ponds are being considered, inundation of upstream channels may be of concern.

Constructed wetlands and multiple-pond systems also treat runoff through the processes of adsorption, plant uptake, filtration, volatilization, precipitation, and microbial decomposition (Livingston and McCarron, 1992; Schueler et al., 1992). Multiple-pond systems in particular have shown potential to provide much higher levels of treatment (Schueler et al., 1992). In general, the potential concerns and drawbacks applicable to wet ponds apply to these systems. Many of these systems are currently being designed to include vegetated buffers and deep-water areas to provide habitat for wildlife and aesthetic benefits. Where such designs are selected, they should be incorporated with the recognition that periodic maintenance is necessary. Long-term effectiveness in most cases will depend on proper operation and maintenance of the entire system. Refer to Chapter 7 for additional information on constructed wetlands.

Water quality inlets, like ponds, rely on gravity settling to remove pollutants before ponds discharge water to the storm sewer or other collection system. Water quality inlets are designed to trap floatable trash and debris. When inlets are coupled with oil/grit separators, hydrocarbon loadings from areas with high traffic/parking volumes can be reduced. However, experience has shown that these devices have limited pollutant-removal effectiveness and should not be used unless coupled with frequent and effective clean-out methods (Schueler et al., 1992). Although no costs are currently available, proper maintenance of water quality inlets must include proper disposal of trapped coarse-grained sediments and hydrocarbons. The costs of clean-out and disposal may be significant when contaminated sediments require proper disposal.

Inadequate maintenance is often cited as one of the major factors influencing the poor effectiveness of structural practices. The cost of long-term maintenance should be evaluated during the selection process. In addition, responsibility for maintenance should be clearly assigned for the life of the system. Typical maintenance requirements include:

- Inspection of basins and ponds after every major storm for the first few months after construction and annually thereafter;
- Mowing of grass filter strips and swales at a frequency to prevent woody growth and promote dense vegetation;
- Removal of litter and debris from dry ponds, forebays, and water quality inlets;
- Revegetation of eroded areas;
- Periodic removal and replacement of filter media from infiltration trenches and filtration ponds;
- Deep tilling of infiltration basins to maintain infiltrative capability;
- Frequent (at least quarterly) vacuuming or jet hosing of porous pavements or concrete grid pavements;
- Quarterly clean-outs of water quality inlets;
- Periodic removal of floatables and debris from catch basins, water quality inlets, and other collection-type controls; and
- Periodic removal and proper disposal of accumulated sediment (applicable to all practices). Sediments in infiltration devices need to be removed frequently enough to prevent premature failure due to clogging.

Operation and Maintenance

Proper operation and maintenance of structural treatment facilities is critical to their effectiveness in mitigating adverse impacts of urban runoff. The proper installation and maintenance of various BMPs often determines their success or failure (Reinalt, 1992).

During a field study of 51 urban runoff treatment facilities, the Ocean County, New Jersey, planning and engineering departments determined that the major source of urban runoff

problems was a failure of the responsible party to provide adequate facility maintenance. The causes of this failure are complex and include factors such as lack of funding, manpower, and equipment; uncertain or irresponsible ownership; unassigned maintenance responsibility; and ignorance or disregard of potential consequences of maintenance neglect (Ocean County, 1989). The analysis of the field data collected during the study indicated the following trends:

- Bottoms, side slopes, trash racks, and low-flow structures were the primary sources of maintenance problems.
- Infiltration facilities seemed to be more prone to maintenance neglect and were generally in the poorest condition overall.
- Retention facilities appeared to receive the greatest amount of maintenance and generally were in the best condition overall.
- Publicly owned facilities were usually better maintained than those that were privately maintained.
- Facilities located at office development sites were better maintained than those at commercial or institutional sites; facilities in residential areas received average maintenance.
- Highly visible urban runoff facilities were generally better maintained that those in more remote, less visible locations (Ocean County, 1989).

The following program elements should be considered to ensure the proper design, implementation, and operation and maintenance of runoff treatment and control devices (adapted from The State of New Jersey Ocean County Demonstration Study's *Storm Water Management Facilities Maintenance Manual*):

- Adoption, promulgation, and implementation of planning and design standards that eliminate, reduce, and/or facilitate facility maintenance; coordination with other regulatory authorities with jurisdiction over runoff facilities;
- Establishment of a comprehensive design review program, which includes training and education to ensure adequate staff competency and expertise;
- Design standards published in a readily understandable format for all permittees and responsible parties including regulatory authorities; the provision of clear requirements to promote the adoption of planning and standards and expedite facility review and approval;
- Publication of specific obligations and responsibilities of the runoff facility owner/operator including procedures for the identification of owners/operators who will have long-term responsibility for the facility;
- Development of a procedure for addressing maintenance default by negligent owner/operators;

- Periodic review and evaluation of the runoff management program to ensure continued program effectiveness and efficiency;
- Runoff facility construction inspection program; and
- Provisions for public assumption of runoff control facilities.

3. Management Measure Selection

This management measure was selected because of the following factors.

1. Removal of 80 percent of total suspended solids (TSS) is assumed to control heavy metals, phosphorus, and other pollutants.
2. A number of coastal States, including Delaware and Florida, and the Lower Colorado River Authority (Texas) require and have implemented a TSS removal treatment standard of at least 80 percent for new development.
3. Analysis has shown that constructed wetlands, wet ponds, and infiltration basins can remove 80 percent of TSS, provided they are designed and maintained properly. Other practices or combinations of practices can be also used to achieve the goal.
4. The control of postdevelopment volume and peak runoff rates to reduce or prevent streambank erosion and stream scouring and to maintain predevelopment hydrological conditions can be accomplished using a number of water quality and flood control practices. Many States and local governments have implemented requirements that stipulate that, at a minimum, the 2-year/24-hour storm be controlled.

Management Measure II.A.(1)(b) was selected to provide a descriptive alternative to Management Measure II.A.(1)(a). Where preexisting conditions do not already present a water quality problem, preservation of predevelopment TSS loading levels is intended to promote TSS loading reductions that adequately protect surface waters and are equivalent to or greater than the levels achieved by Management Measure option II.A.(1)(a). In some cases, local conditions (e.g., mountainous areas with arid, steep slopes) may preclude the implementation of Management Measure II.A.(1)(a). Where local conditions do not allow the implementation of BMPs such as grassed swales or detention basins, and preconstruction/predevelopment (existing conditions) TSS loadings from the site are significant, it may not be cost-effective or beneficial to require 80 percent TSS postdevelopment loading reductions. Management Measure option II.A.(1)(b) was provided to allow flexibility where such conditions exist. This flexibility will be especially important in cases where loadings from surrounding undeveloped areas dwarf the TSS loadings generated from the new development. (NOTE: Predevelopment is defined, in the context of Management Measure II.A.(1)(b), as the sediment loadings and runoff volumes/velocities that exist onsite immediately before the planned land disturbance and development occur.)

4. Practices

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set

forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

Cost and effectiveness information for these practices is shown in Tables 4-7 *(34k)* and 4-8. Many of these practices can be used during site development, but the focus of this section is the abatement of postdevelopment impacts.

a. Develop training and education programs and materials for public officials, contractors, and others involved with the design, installation, operation, inspection, and maintenance of urban runoff facilities.

Training programs and educational materials for public officials, contractors, and the public are crucial to implementing effective urban runoff management programs. Contractor certification, inspector training, and competent design review staff are important for program implementation and continuing effectiveness. The State of New Jersey Ocean County Demonstration Study's *Storm Water Management Facilities Maintenance Manual* addresses many of these issues and provides guidance on programmatic elements necessary for the proper operation and maintenance of urban runoff facilities. Several other States and local governments, including Virginia, Maryland, Washington, Delaware, Northeastern Illinois Planning Commission, and the City of Alexandria, Virginia, have developed manuals and training materials to assist in implementation of urban runoff requirements and regulations.

The State of Delaware passed legislation requiring that "all responsible personnel involved in a construction project will have a certificate of attendance at a Departmental sponsored or approved training course for the control of sediment and storm water before initiation of land disturbing activity." The State provides personnel training and educational opportunities for contractors to meet this requirement and has delegated program elements to conservation districts, counties, and other agencies. The program has been well received and from February 1991 to July 1991, over 1,100 individuals from 300 companies and organizations participated in the program (Shaver and Piorko, 1992).

b. Ensure that all urban runoff facilities are operated and maintained properly.

Once an urban runoff facility is installed, it should receive thorough maintenance in order to function properly and not pose a health or safety threat. Maintenance should occur at regular intervals, be performed by one or more individuals trained in proper inspection and maintenance of urban runoff facilities, and be performed in accordance with the adopted standards of the State or local government (Ocean County, undated). It is more effective and efficient to perform preventative maintenance on a regular basis than to undertake major remedial or corrective action on an as needed basis (Ocean County, undated).

c. Infiltration Basins

Infiltration basins are impoundments in which incoming urban runoff is temporarily stored until it gradually infiltrates into the soil surrounding the basin. Infiltration basins should drain within 72 hours to maintain aerobic conditions,

which favor bacteria that aid in pollutant removal, and to ensure that the basin is ready to receive the next storm (Schueler, 1987). The runoff entering the basin is pretreated to remove coarse sediment that may clog the surface soil pore on the basin floor. Concentrated runoff should flow through a sediment trap, or a vegetated filter strip may be used for sheet flow.

d. Infiltration Trenches

Infiltration trenches are shallow excavated ditches that have been backfilled with stone to form an underground reservoir. Urban runoff diverted into the trench gradually infiltrates from the bottom of the trench into the subsoil and eventually into the ground water. Variations in the design of infiltration trenches include dry wells, pits designed to control small volumes of runoff (such as the runoff from a rooftop), and enhanced infiltration trenches, which are equipped with extensive pretreatment systems to remove sediment and oil. Depending on the quality of the runoff, pretreatment will generally be necessary to lower the failure rate of the trench. More costly than pond systems in terms of cost per unit of runoff treated, infiltration trenches are suited best for drainage areas of less than 5 to 10 acres or where ponds cannot be applied (Schueler et al., 1992).

e. Vegetated Filter Strips

Vegetated filter strips are areas of land with vegetative cover that are designed to accept runoff as overland sheet flow from upstream development. They may closely resemble many natural ecotones, such as grassy meadows or riparian forests. Dense vegetative cover facilitates sediment attenuation and pollutant removal. Vegetated filter strips do not effectively treat high-velocity flows and are therefore generally recommended for use in agriculture and low-density development and other situations where runoff does not tend to be concentrated. Unlike grassed swales, vegetated filter strips are effective only for overland sheet flow and provide little treatment for concentrated flows. Grading and level spreaders can be used to create a uniformly sloping area that distributes the runoff evenly across the filter strip (Dillaha et al., 1987). Vegetated filter strips are often used as pretreatment for other structural practices, such as infiltration basins and infiltration trenches. Refer to Chapter 7 of this guidance for additional information.

Filter strips are less effective on slopes of over 15 percent. Periodic inspection, repair, and regrading are required to prevent channelization (Schueler et al., 1992). Inspection is especially important following major storm events. Excessive use of pesticides, fertilizers, and other chemicals should be avoided. To minimize soil compaction, vehicular traffic and excessive pedestrian traffic should be avoided.

A berm of sediment that must be periodically removed may form at the upper edge of grassed filter strips. Mowing of grassed filter strips at a minimum of two to three times per year will maintain a thicker vegetative cover, providing better sediment retention. To avoid impacts on ground-nesting birds, mowing should be limited to spring or fall (USEPA, undated). Harvesting of mowed vegetation will allow for thicker growth and promotes the retention of nutrients that are released during decomposition (Dillaha et al., 1989).

Forested areas directly adjacent to waterbodies should be left undisturbed except for the removal of trees presenting unusual hazards and the removal of small debris near the stream that may be

chambered urban runoff inlets in which the bottom has been lowered to provide 2 to 4 feet of additional space between the outlet pipe and the structure bottom for collection of sediment. Some water quality inlets include a second chamber with a sand filter to provide additional removal of finer suspended solids by filtration. The first chamber provides effective removal of coarse particles and helps prevent premature clogging of the filter media. Other water quality inlets include an oil/grit separator. Typical oil/grit separators consist of three chambers. The first chamber removes coarse material and debris; the second chamber provides separation of oil, grease, and gasoline; and the third chamber provides safety relief should blockage occur (NVPDC, 1980). While water quality inlets have the potential to perform effectively, they are not recommended. Maintenance and disposal of trapped residuals and hydrocarbons must occur regularly for these devices to work. No acceptable clean-out and disposal techniques currently exist (Schueler et al., 1992).

j. Extended Detention Ponds

Extended detention (ED) ponds temporarily detain a portion of urban runoff for up to 24 hours after a storm, using a fixed orifice to regulate outflow at a specified rate, allowing solids and associated pollutants the required time to settle out. The ED ponds are normally "dry" between storm events and do not have any permanent standing water. These basins are typically composed of two stages: an upper stage, which remains dry except for larger storms, and a lower stage, which is designed for typical storms. Enhanced ponds are equipped with plunge pools near the inlet, a micropool at the outlet, and an adjustable reverse-sloped pipe as the ED control device (orifice) (NVPDC, 1980; Schueler et al., 1992). Temporary and most permanent ED ponds use a riser with an antivortex trash rack on top to control trash.

k. Wet Ponds

Wet ponds are basins designed to maintain a permanent pool of water and temporarily store urban runoff until it is released at a controlled rate. Enhanced designs include a forebay to trap incoming sediment where it can easily be removed. A fringe wetland can also be established around the perimeter of the pond.

l. Constructed Wetlands

Constructed wetlands are engineered systems designed to simulate the water quality improvement functions of natural wetlands to treat and contain surface water runoff pollutants and decrease loadings to surface waters. Where site-specific conditions allow, constructed wetlands or sediment retention basins should be located to have a minimal impact on the surrounding areas. (The State of Washington requires that constructed wetlands be located in uplands (Washington Department of Ecology, 1992).) In addition, constructed urban runoff wetlands differ from artificial wetlands created to comply with mitigation requirements in that they do not replicate all of the ecological functions of natural wetlands. Enhanced designs may include a forebay, complex microtopography, and pondscaping with multiple species of wetland trees, shrubs, and plants. Additional information on constructed wetlands is provided in Chapter 7.

m. Filtration Basins and Sand Filters

Filtration basins are impoundments lined with filter media, such as sand or gravel. Urban runoff

refloated by high water. Periodic harvesting of some trees not directly adjacent to waterbodies removes sequestered nutrients (Lowrance, Leonard, and Sheridan, 1985) and maintains an efficient filter through vigorous vegetation (USEPA, undated). Exposure of forested filter strip soil to direct radiation should be avoided to keep the temperature of water entering waterbodies low, and moist conditions conducive to microbial activities in filter strip soil should be maintained (Nutter and Gaskin, 1989).

f. Grassed Swales

A grassed swale is an infiltration/filtration method that is usually used to provide pretreatment before runoff is discharged to treatment systems. Grassed swales are typically shallow, vegetated, man-made ditches designed so that the bottom elevation is above the water table to allow runoff to infiltrate into ground water. The vegetation or turf prevents erosion, filters sediment, and provides some nutrient uptake (USDA-SCS, 1988). Grassed swales can also serve as conveyance systems for urban runoff and provide similar benefits.

The swale should be mowed at least twice each year to stimulate vegetative growth, control weeds, and maintain the capacity of the system. It should never be mowed shorter than 3 to 4 inches. The established width should be maintained to ensure the continued effectiveness and capacity of the system (Bassler, undated).

g. Porous Pavement and Permeable Surfaces

Porous pavement, an alternative to conventional pavement, reduces much of the need for urban runoff drainage conveyance and treatment off-site. Instead, runoff is diverted through a porous asphalt layer into an underground stone reservoir. The stored runoff gradually exfiltrates out of the stone reservoir into the subsoil. Many States no longer promote the use of porous pavement because it tends to clog with fine sediments (Washington Department of Ecology, 1991). A vacuum-type street sweeper should be used to maintain porous pavement.

Permeable paving surfaces such as modular pavers, grassed parking areas, and permeable pavements may also be employed to reduce runoff volumes and trap vehicle-generated pollutants (Pitt, 1990; Smith, 1981); however, care should be taken when selecting such alternatives. The potential for ground-water contamination, compaction, or clogging due to sedimentation should be evaluated during the selection process. (NOTE: These practices should be selected only in cases where proper operation and maintenance can be guaranteed due to high failure rates without proper upkeep.)

h. Concrete Grid Pavement

Concrete grid pavement consists of concrete blocks with regularly interdispersed void areas that are filled with pervious materials, such as gravel, sand, or grass. The blocks are typically placed on a sand or gravel base and designed to provide a load-bearing surface that is adequate to support vehicles, while allowing infiltration of surface water into the underlying soil.

i. Water Quality Inlets

Water quality inlets are underground retention systems designed to remove settleable solids. Several designs of water quality inlets exist. In their simplest form, catch basins are single-

"Quite frankly, I think we're somewhat disappointed that they're using scare tactics to alarm consumers in California," Lombardi said.

She said the state's regulations are based on human health, whereas the hazardous waste standards apply to things such as landfills, she said.

Less than one-tenth of 1 percent of fertilizer made in the United States uses recycled hazardous waste, Lombardi said. Those products have to meet federal standards.

Fertilizer sold in California is safe, she said. "Absolutely."

SPECIAL REPORT • Cities upset about proposed rules for cutting storm runoff from new developments are raising . . .

A Torrent of Opposition

By MARLA CONE
TIMES ENVIRONMENTAL WRITER

Cities throughout Los Angeles County—which suffers the worst urban runoff problem in the nation—are waging an intense battle against a proposed mandate that would help prevent toxic pollutants, bacteria and viruses from contaminating ocean waters.

The standard proposed by the region's water quality board would force Los Angeles County cities to fundamentally change how large new projects—from shopping centers to housing subdivisions—are built. If enacted, it would be the U.S.' most far-reaching restrictions on polluted storm water.

Cities would have to ensure that new developments capture either 85% of the runoff from a storm in a 24-hour period or the first three-fourths of an inch of rain. The standard would apply to new commercial projects of more than 100,000 square feet and all new gas stations, auto repair garages, restaurants and subdivisions of 10 or more houses.

Officials of about 50 cities, including Los Angeles and other beach communities, have joined with developers to fight the proposal through letters and in speeches at a packed public hearing held last month by the Los Angeles Regional Water Quality Control Board.

Because the costs of complying with the proposal are unknown, the city leaders are unconvinced that the benefits would be worth the expense, and they are asking for a thorough economic study. They also want any standards to be voluntary.

"Obviously a beach city wants to have its beaches pristine, but it's a matter of cost," said Neil Miller, Manhattan Beach's public works director.

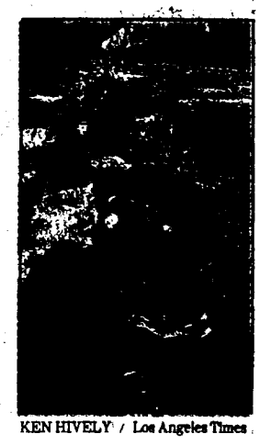
Of the county's 85 cities, only Santa Monica—already a leader in cleaning up its polluted beach waters—has supported the runoff limits.

"The amount spent . . . is most likely a small percentage of total construction costs. The benefits, however, are regionwide," wrote Craig Perkins, the city's director of environmental and public works programs, in a letter to the water agency.

The agency's executive officer, Dennis Dickerson, does not need the support of his governing board or the cities to set the runoff limits. But he has wavered in the face of the opposition, and this month he postponed any action until at least January.

Dickerson said he wants to first try to educate city leaders and persuade them to change their minds or, if necessary, agree to a compromise. He declined to say, though, whether he is willing to turn the limits into voluntary

Please see RUNOFF, B5



KEN HIVELY / Los Angeles Times

Ballona Creek debris illustrates runoff problem.

A Citizen's Guide to Cleaning Up

- Use a broom, not a hose, to clean sidewalks and driveways.
- Buy nontoxic products for your garden and home.
- Follow directions on pesticides, fertilizers and weed-killers to make sure you apply them sparingly. Do not use when rain is forecast.
- Do not over-water your lawn or garden. Any water flowing onto pavement becomes runoff.
- Make sure your car isn't leaking oil or antifreeze. Use a drip pan when changing car fluids and use kitty litter or sawdust to soak up spills.
- Do not pour, spill or throw anything into gutters.
- Pick up dog waste from pavement and lawns and throw it in the trash.
- Use biodegradable detergents to wash cars and use as little water as possible. Shut off hose while washing and then rinse.
- Compost leaves and yard trimmings or throw them in the trash. Do not sweep them into streets.
- Divert rain spouts onto grass or plants or install dry wells or cisterns.
- Remove pavement and plant vegetation around your house. Or use gravel, brick, cobblestones, paving stones on sand or other permeable surfaces.
- Rinse paint brushes in sink, not outdoors.
- Put tarps over loose soil or construction materials to keep out rain or water.
- Take unwanted paints, solvents, batteries, pesticides and other toxic materials to a local household hazardous waste roundup.

To report dumping in curbside catch basins or channels, call:
(800) 974-9794 (city of L.A.)
(800)303-0003 (L.A. County)

Source: City and county of Los Angeles departments of public works

Administrative Record: **SWRCB/OCC Files A-1280, A-1280(a), A-1280 (b)**

VOLUME 03

Doc. No.	Item	Date	Comments
	———	01/26/00	Binder for Xavier Swamikannu's Presentation on Item 11, SUSMP Mitigation Plans of the California Regional Water Quality Control Board, Los Angeles Region, 427th Regular Board Meeting
	1		Outline of Presentation
	2		BMP Cost Estimates
	3	01/20/00	Newspaper Article: Sacramento Bee
	4		Opening Statement
	5	01/26/00	Procedure for Public Comment on
	6	12/07/99	Tentative Resolution to SUSMP
	7		Staff Report and Record of Decision SUSMP and Numerical Design Standards for Best Management Practices
	8		SUSMP Development Planning Change Sheet
	9	01/21/00	Revised Final Tentative Copy of Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County
	10		SUSMP Summary of Comments Received and Responses
	11		SUSMP Development Planning Change Sheet (Revised)
	12	12/07/99	Revised Tentative Resolution to SUSMP

Standard Urban Storm Water Mitigation Plans (SUSMPs)

Presentation to
the Regional Board
January 26, 2000

Xavier Swamikannu
California Regional Water Quality Control Board,
Los Angeles Region

Numerical Storm Water Mitigation Standard

Four different and equivalent methods to determine BMP sizing criteria

- Maximized volume capture (WEF Method)
- Percent volume treatment (CA Handbook)
- All events up to 0.75 inch 24-hr precipitation
- Historical record 85th percentile rainfall event

No Flow Sensitive Standard At This Time

WEF Design Standard

The Design Storm

$$P_o = a.C.P_A$$

P_o - Maximized water quality "treatment" volume

a - "Treatment" volume coefficient

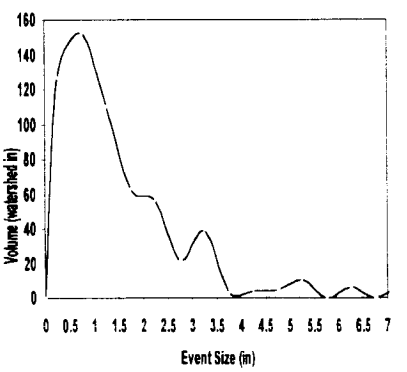
C - Area runoff coefficient

P_A - Mean storm precipitation volume

Range in coastal CA for 85% annual runoff "treatment"

» 0.12 inch - 0.86 inch

Principle



- Largest volumes of runoff are produced by smaller storms
- Criteria promotes BMP application to smaller more frequent storms

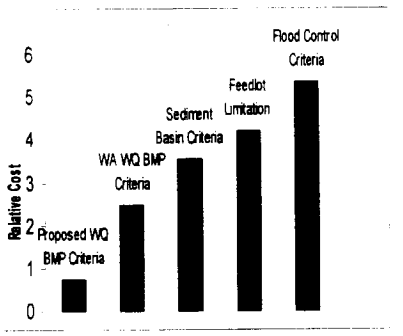
Translation

- Criterion is averaged for local communities
- Further increase in value results in fewer and fewer rainfall events being captured. ("point of diminishing returns")
- Eight-five percent of rainfall events are equal to or less than the criterion
- "First flush" pollutant concentration peaks will be treated
- Approximately eight-five percent of long term pollutant load can be reduced.

Bases

- Technically defensible
- Based on local data and nationally accepted methods
- Criteria in use by other communities range from 0.5 to 2 inches (TX, FL, WA, MD, CO)
- Similar criteria in use by Santa Monica, Calabasas, Ventura County, and unincorporated LA County

Relative Cost Comparison



- Relative cost much less than similar storm water criteria.
- Comparable criteria for wet regions, e.g., Pacific Northwest is higher.

BMP Cost

- Five Acre Commercial Development
  - » Project Cost is $6.5 million
  - » Detention Basin BMP (Example 1)
    - Excavation and Haul away = $12,870
    - Land Cost = $28,800
    - Maintenance (1 / year cleanout) = $33
    - Total Cost = About $42,000
  - » Mitigation Percent Cost = 0.6 %

BMP Cost

- » Infiltration Trench and Vegetated Swale BMPs (Example 2)
  - Trench with Gravel = $13,500
  - Land Cost = Minimal
  - Maintenance (5 yr replacement) = $1350 per yr
  - Swale = $4050
  - Land Cost / Maintenance = Within Landscaping
  - Combined Cost = About $19,000
- » Mitigation Percent Cost = 0.3 %

Generalizations

- Numerical standard provides flexibility in choice of BMPs
- Mitigation cost not likely to exceed environmental mitigation reasonable cost threshold (about 5 percent)
- BMP choice must be made on BMP effectiveness
- BMP choice may consider ease of maintenance

Presenters
Bongi Harris
Robyn Goodman

STANDARD URBAN STORM WATER MITIGATION PLANS

NUMERICAL MITIGATION CRITERIA FOR DEVELOPMENT PLANNING

BMP COST ESTIMATES

Cost estimates for BMPs for a commercial development project using the numerical mitigation measure under consideration by the Regional Water Quality Control Board were performed with assistance of the City of Los Angeles staff. The cost estimates indicate that the capital and maintenance costs associated with treatment BMPs sized to meet the numerical mitigation measure are reasonable and amount to less than 0.5 percent of the project cost. The total cost of the project was estimated to be $ 6.5 million and includes the land acquisition, engineering and design, any clean-ups, construction, permits, etc.

CASE EXAMPLE 1: DETENTION BASIN

DETENTION BASIN (Unlined)

i. Excavation and haulaway - $22 / yd^3 [1]

⇨ Warehouse project: 15815 ft^3 = 585 yd^3 = $12,870

ii. Land cost - $18 / sq.ft. [2]

⇨ Warehouse project: 40'x40' = 1600 sq.ft. = $28,800

iii. Maintenance cost: 1 cleanout per year

Event Mean Concentration for Commercial Area – 91 mg/L TSS [3]

=> Total rainfall volume captured in the basin = 70% of 15 in. per year
= (10.5 in/12) x 240,000
= 210,000 ft^3 = 5,943,000L

⇨ TSS collected = 80% (91 mg/L x 5,943,000 L) = 432.6 kg / yr.

If sediment density is 1.5 tons/ yd^3, total TSS to be removed = 0.29 yd^3

Clean-out cost: 1 cu.yd / 3 years = $99 / 3 yrs. = $33/year.

➔ Total capital cost - $28,800
➔ Annual maintenance - $ 33

CASE EXAMPLE 2: INFILTRATION TRENCH & VEGETATED SWALE

a. INFILTRATION TRENCH – For roof runoff

i. Infiltration trench with gravel ≈ \$27.77 per ft^3 [4]

⇨ Warehouse project: 3' W x 6' D x 27'L = \$13,500

ii. Land cost: Negligible

iii. Maintenance cost: Replacement of gravel every 5 years.
≈ ½ of initial set up = \$6750 every 5 years

⇨ Annual maintenance cost = \$1,350

b. VEGETATED SWALE – For parking lot runoff

9 ft wide swale = \$6 per linear foot [5]

⇨ Warehouse project: 3 (9' W x 225' L) = 3 x (\$6 x 225) = \$4050

Land cost: No extra land required – Swale to be incorporated in landscaping plan.

Maintenance cost: Routine landscape upkeep will do - No additional mowing and cleaning.

➔ Total capital cost - \$17,550
➔ Annual maintenance cost - \$1,350

CASE EXAMPLE 3:

CATCHBASIN INSERTS – For the entire project

To treat the "maximized" storage volume calculated for detention basin in 24 hours, outflow = 15,815 ft^3 / 24 hours = 82 gpm

Aquashield Model 300, capacity 855 gpm = \$1335 [6]
Fossil Filter, 2' x 2' Rectangular, capacity 76 gpm = \$1,000 [6]

⇨ Warehouse project ≈ \$1200

ii. Land cost: Negligible

iii. Storm drain connection cost ≈ \$300

iv. Maintenance and disposal cost: 3 cleanings and 3 replacement

= $495 / yr. [7]

➔ Total capital cost - $1,500
➔ Annual maintenance cost - $495

Reference for Costs

1. Earthwork estimate – Bureau of Engineering, City of Los Angeles

2. Real Estate Estimator – Department of General Services, City of Los Angeles. Estimate varies from $15 to $25 in S. Central Los Angeles.

3. Watershed Model, US Environmental Protection Agency. 1983

4. Infiltration trench in Department of Transportation Parking Lot. Venice, Los Angeles
   Cost for 5'W x 3'D x 12'L trench = $5,000

5. Bird Rehab Center in San Pedro.y Trees People for City of Los Angeles
   Cost for 6 ft wide swale = $4 per linear foot.

6. BMP Demonstration projects by City of Los Angeles

7. Rick Campos – DPS Kristar Enterprise, Cotati, CA
   Schedule A: Maintenance and disposal cost for 3 cleanings and one replacement = $200 per year.
   Schedule B: 3 cleanings and 2 replacement = $275
   ≈ $45/cleaning and $75/replacement

STANDARD URBAN STORM WATER MITIGATION PLANS

NUMERICAL MITIGATION CRITERIA FOR DEVELOPMENT PLANNING

SAMPLE CALCULATIONS

Sample calculations for a commercial development project using the numerical mitigation measure under consideration by the Regional Water Quality Control Board were performed with the assistance of City of Los Angeles staff. The case examples illustrate that, (i) the three different numerical mitigation criteria for calculating Best Management Practice (BMP) sizing dimensions produce values that are within 10 percent of one another; (ii) the sizing criteria for treatment BMPs (vegetated swales and infiltration trench) based on filtration and adsorption (not storage) are reasonable and practicable using the numerical mitigation criteria being considered by the Regional Board; and (iii) commercially available catch-basin inserts are adequately manufactured to handle and treat flow equivalent to the storage volume that is needed for a detention basin BMP.

REQUIREMENT: 85th percentile rainfall runoff capture

PROJECT: Light industrial warehouse/office with parking lot in South Central L.A.

PROJECT SIZE: 240,000 ft^2 = 5.51 acres

CASE EXAMPLE 1: DETENTION BASIN: Sample calculation demonstrates the water quality treatment volume required to size a detention basin using (a) the maximized water quality treatment volume method and (b) the 85th percentile rainfall event treatment volume for Los Angeles County and (c) the 85 percent annual runoff volume capture method.

(a) WEF Manual of Practice #23 – Chapter 5

Maximized detention volume, $P_o = a\ C\ P_6$ [WEF, Pg. 175]

For 85th percentile event capture for 24 hours

Regression constant, a = 1.299 [WEF, Table 5.4, Pg. 177]
Mean storm depth, P_6 = 0.67 in. [WEF, Figure 5.3, Pg. 176]

(Note: Local precipitation record can be used to calculate more accurate P_6 for the site)

C = 0.9086 [LAMC, Code 3300]

=> P_o = 1.299 x 0.9086 x 0.67 = 0.7908 inch

Required storage volume = P_o x Area of the site
= (0.7908 in / 12) x 240,000 ft^2
= 15,815 ft^3 = 118,296 gal.

➔ Basin size ≈ 40'W x 40'L x 10' D

(b) Using treatment volume from all events up to and including 0.75" rainfall

P_o = 0.75 in.

⇨ Required storage volume = (0.75 in / 12) x 240,000 ft^2
= 15,000 ft^3 = 112,200 gal.

➔ Basin size = 40'W x 40'L x 9.5'D

(c) California Stormwater BMP Handbook

For 85 percent annual runoff volume capture for 40 hours [Industrial Handbook, Pg. D1]

⇨ Unit basin storage volume = 0.06 ac-ft/ac [Industrial Handbook, Pg. D7]

⇨ Required storage volume = Unit basin storage x Area of site
= 0.06 ac-ft/ac x 5.51 ac
= 0.3306 ac-ft
= 14,401 ft^3 = 107,719 gal.

➔Basin size = 40'W x 40'L x 9'

CASE EXAMPLE 2: VEGETATED SWALE AND INFILTRATION TRENCH: These calculations demonstrate sizing of alternative BMPs to achieve storm water treatment without storage capture as would be required with the detention basin BMP illustrated in case example 1. The method used is the maximized water quality treatment approach.

(i) VEGETATED SWALE – For Parking Lot Runoff
[Using WEF Manual of Practice #23]

Area of the parking lot, A_p = 110,000 ft^2 = 2.525 ac.

Mean storm, P_6 = 0.67 in. [WEF, Fig. 5.3, Pg. 176]

Runoff coefficient, C = 1 [WEF, Pg. 191]

Drain time = 12 hours [WEF, Pg. 191]

Regression constant, a = 1.109 [WEF, Table 5.4, Pg. 177]

=> P_o = a C P_6 = 1.109 x 1 x 0.67 = 0.74 inch

If P_o is for 2 hour storm, i = P_o / 2 [WEF, Pg. 192]

=> i = 0.74 / 2 = 0.37 in./hr.

Frequency of this storm event is 3 months [BOE, Fig. G212A]

Average slope of the flow line = 1 %

=> Velocity, V = 0.7 ft/sec for grass [Gupta, Fig. 12.7, Pg. 625]

Travel distance for runoff, L = 500 ft + 480 ft = 980 ft. [Project site plan]

Time of concentration for runoff, t_c = L / V [Gupta, Pg. 623]
=> t_c = 980 / 0.7 = 1400 sec = 23.3 minutes

For this t_c and 3-month frequent storm
=> Rainfall intensity, i = 0.95 in/hr [BOE, Fig. G212A]

Runoff discharge rate for this rainfall,
$Q = C\, i\, A_p$; Where, C = runoff coeff.= 0.9086 [LAMC, Code 3800]

⇨ $Q = 0.9086 \times 0.95 \times 2.52 = 2.18$ cfs

Discharge this runoff over three (3) identical swale with the following assumed characteristics: [WEF, Pg. 192]

Type: Trapezoidal
Center depth, D = 6" = 0.5 ft
Vegetation: Grass
Grass height = 4"
Longitudinal slope, S = 4%
Side slope ratio, Z = 6
Bottom width, B = 3 ft
Manning's n = 0.22
Runoff discharge, Q = 2.18 / 3 = 0.73 cfs

=> Flow depth in swale, Y = Grass ht. – 2" = 4" – 2" = 2" = 0.167 ft

Because B >> Y, hydraulic radius, R = Y [WEF, Pg. 194]

Using Manning's equation for flow velocity, $V = (1.486 / n) \times R^{2/3} \times S^{1/2}$

$V = (1.486 / 0.22) \times 0.167^{2/3} \times 0.04^{1/2}$
$= 0.41$ ft/sec < 0.9 sec <u>OK</u> [WEF, Pg. 192]

=> Runoff flow area = Q / V = 0.73 / 0.41 = 1.78 ft^2

Cross section area of swale $= BD + ZD^2$
$= (3 \times 0.5) + (6 \times 0.5^2)$
$= 3.0$ > Runoff flow area <u>OK</u>

For a 225 ft. long swale,

=> Hydraulic retention in swale, t_d = Length / Velocity

=> t_d = 225 / 0.41 = 550 sec
= 9.1 min > Minimum of 9 min. suggested for Pacific Northwest *(Note: local data can be used if available)*

=> Top width of swale, T = B + 2DZ = 3 + 2 (0.5 x 6) = 9 ft.

➔ Three swales (225' L x 9' W x 6" D) required.

(ii) For Rooftop Runoff – INFILTRATION TRENCH
[Using WEF Manual of Practice #23]

Size of the building roof, A_r = 130,000 ft^2 = 2.98 acres [LAMC, Code 3300]
Runoff coefficient, C = 0.9086

[WEF, Pg. 206]

Requisite site conditions:

- High groundwater must be > 4 ft. below bottom of infiltration trenches
- Bedrock must be > 4 ft. below bottom of the trenches
- No fill or recompacted soil in and around the trenches
- Soil around the trenches must be of HSG Group A or B

Assumptions:

- Sandy soil on site
- Hydraulic conductivity, k = $3.3x10^{-3}$ ft/sec [WEF, Table 5.11, Pg. 205]
- Trench is filled with mix of uniform and graded gravel [WEF, Table 5.12, Pg. 206]
- Porosity of trench fill, p = 35% [WEF, Pg. 206]
- Width of trench, W = 3 ft

"Maximized" storm volume calculated in Vegetative Swale section, [WEF, Pg. 209]
P_o = 0.74 in.

⇨ Volume to runoff to drain into infiltration trench,
$V_r = P_o A$ = (0.74 / 12) x 130,000 = 8017 ft3

=> Volume of the required trench with gravel
$V_T = V_r / p$ = 8017 / 0.35 = 22,905 ft^3

Total area of the sides of the trenches, $A_T = 2 V_T / k t$ [WEF, Eq. 5.7, Pg. 209]

If all captured runoff (V_r) is to drain out of trench in one day, [WEF, Pg. 207]
t = 24 hours = 86,400 sec

=> A_T = 2 x 22,905 / ($3.3x10^{-3}$ x 86,400) = 160.6 ft^2

➔ Required trench will be 3'W x 6'D x 27' L.

CASE EXAMPLE 3: CATCHBASIN INSERTS: This calculation demonstrates that commercially available catch-basin inserts are adequately designed for flow treatment equivalent to the storage volume required in case example 1, based on manufacturers product performance claims.

To treat the "maximized" treatment volume calculated for detention basin (case example 1) in 24 hours,

⇨ Outflow rate = 15,815 ft^3 / 24 hours = 82 gpm

Commercially available inserts:

➔ a. Aquashield Model 300, capacity 855 gpm [Aquashield]

➔ b. Fossil Filter, 2' x 2' Rectangular, capacity 76 gpm [Fossil Filter]

Each of these will require a catch basin to collect runoff and drainage pipings for outflow from the inserts.

References

Aquashield, Remedial Solutions, Inc., 1999

Bureau of Engineering (BOE), *Storm Drain Design*, City of Los Angeles, Department of Public Works, 1973.

Fossil Filter, Kristar Enterprise, 1996

Gupta, Ram, *Hydrology and Hydraulic Systems*, Waveland Press, Inc. 1995.

Industrial Handbook, *California Stormwater Best Management Practice Handbooks*, Stormwater Quality Taskforce, 1993.

Los Angeles Municipal Code (LAMC), *Stormwater Pollution Abatement Charge,* Los Angeles Municipal Code 64.51.

Water Environment Federation (WEF), *Urban Runoff Quality Management*, WEF Manual of Practice No. 23, Joint Task of the WEF and ASCE, 1998.

From: Karen Caesar
To: RB4-All Staff
Date: 1/20/00 2:04PM
Subject: Sacto B: Simplifying Marine Protection Efforts

Sacramento Bee
Thursday, January 20, 2000
By Nancy Vogel, Bee Staff Writer

State says the coast isn't clear: Plan would simplify marine protection

The confusing clutter of protected areas off California's coast would be streamlined under a plan issued Wednesday by the California Resources Agency.

For decades, the 18 different kinds of state restricted zones off the 1,100-mile-long coast have proved a bureaucratic and enforcement nightmare. Even the agencies in charge of managing the zones had trouble discerning what marine life could be harvested legally and what could not.

"We have ecological reserves, state reserves, things that are just called reserves, UC reserves," said Brian Baird, ocean programs manager for the Resources Agency. "Different objectives, different funding sources, different managers."

"The only way to figure it out is to open a big book and go through these things," he said.

For example, despite its name, commercial fishing is allowed within the Monterey Bay National Marine Sanctuary, although in the little Hopkins Marine Life Refuge within that sanctuary no fish may be taken -- except by scientists with permits. And in the nearby Pacific Grove Marine Gardens Fish Refuge, fish may be taken but not mollusks or crustaceans.

Only in roughly 14 of the state's 3,300 square miles of ocean water is there a total prohibition on the harvest of marine life. Environmentalists argue that a smattering of such true sanctuaries may be necessary to restore depleted marine species such as long-lived, slow-growing rockfish.

The new Resources Agency plan proposes to shrink the current 18 different designations of marine protection zones so that they fit under six classifications: marine parks, reserves, conservation areas, cultural preservations areas, recreational management areas and water quality protection areas.

"We're looking at the purpose and design," Baird said. "There's never been a clear purpose for what the system's supposed to do."

Carrying out the plan, Baird said, will require a mix of legislative and administrative action.

The report comes a week after President Clinton used the federal Antiquities Act to designate all rocks, islands, exposed reefs and pinnacles under U.S. Bureau of Land Management ownership as a new California Coastal National Monument.

Among other things, Baird said, the Resources Agency report should help the California Department of Fish and Game carry out a law passed last year, the Marine Life Protection Act by Assemblyman Kevin Shelley, D-San Francisco. That law directs Fish and Game to work with fishermen, divers, kelp harvesters and others to come up with a master plan for determining whether important habitats along the California coast are adequately protected.

"The current system of classifying California's protected waters is broken; it's a hodgepodge of incoherent jargon," said Warner Chabot, Pacific region director of the Center for Marine Conservation. "This report is

a needed first step to put it back together."

OPENING STATEMENT – Contested Items

THIS IS A PUBLIC MEETING TO CONSIDER BOARD ACTION REGARDING STANDARD URBAN STORMWATER MITIGATION PLANS (SUSMPS) WHICH HAVE BEEN SUBMITTED TO THE EXECUTIVE OFFICER PURSUANT TO REQUIREMENTS OF THE LA COUNTY MUNICIPAL STORMWATER PERMIT, ORDER NO. 96-054.

DURING THIS PUBLIC HEARING, STAFF WILL PROVIDE A REPORT TO THE BOARD DETAILING THE EXECUTIVE OFFICER'S INTENTION TO APPROVE THE SUSMPS WITH CHANGES, AND ASK THE BOARD TO ADOPT A RESOLUTION EXPRESSING THE REGIONAL BOARD'S EXPECTATIONS REGARDING SUSMP APPROVAL.

COPIES OF THE STANDARD URBAN STORMWATER MITIGATION PLAN WERE SENT TO THE U.S. EPA, STATE WATER RESOURCES CONTROL BOARD, AND OTHER INTERESTED AGENCIES, PERSONS AND ORGANIZATIONS.

THE ORDER OF PRESENTATION OF TESTIMONY AT THIS MEETING WILL BE ANNOUNCED BY THE CHAIRMAN. ANYONE SO DESIRING WILL BE HEARD; IF YOU HAVEN'T FILLED OUT ONE OF THE BLUE CARDS LOCATED ON THE TABLE AT THE BACK OF THE ROOM, PLEASE RAISE YOUR HAND AND WE'LL GET A CARD TO YOU TO FILL OUT.

IT WILL BE APPRECIATED IF ALL PERSONS APPEARING BEFORE THE BOARD TODAY WILL LEAVE WRITTEN COPIES OF THEIR TESTIMONY, IF AVAILABLE. THE BOARD WILL CONSIDER ALL TESTIMONY; HOWEVER, IN THE INTEREST OF TIME, IT IS REQUESTED THAT ALL REPETITIVE AND REDUNDANT STATEMENTS BE AVOIDED. THE SETTING OF TIME LIMITS FOR THE PRESENTATION OF EVIDENCE IS AT THE DESCRETION OF THE BOARD.

MR. CHAIRMAN, WILL YOU NOW OPEN THE MEETING AND ADMINISTER THE OATH?

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, CA 90013
Phone (213) 576-6600 FAX (213) 576-6640

Gray Davis
Governor

TO: **Interested Parties**

FROM: **Dennis A. Dickerson**
Executive Officer

DATE: **January 21, 2000**

SUBJECT: **Procedure for Public Comment on January 26, 2000**

On January 26, 2000, the Los Angeles Regional Water Quality Control Board will consider the matter of Standard Urban Storm Water Mitigation Plans. This matter has been preceded by many opportunities for discussion including a formal workshop on August 10, 1999, a Board hearing on September 16, 1999, and many informal discussions with staff. An extensive written record has been received and provided to the Regional Board members.

The Standard Urban Storm Water Mitigation Plan item will be the principal item on the agenda and most of the Board meeting will be dedicated to hearing this matter. Approximately 3 hours will be dedicated to public comment. It is expected that many individuals will attend the meeting on January 26th. To accommodate as many speakers as possible in the limited time available, and to provide for as fair a distribution of the available time, the following protocol has been developed to guide the Regional Board in hearing public comment.

Speaker cards for the Standard Urban Storm Water Mitigation Plan item will be collected prior to the commencement of this item. Speakers should indicate on their card what position they are taking, i.e., in favor of the staff proposal or opposed.

All speakers will be limited to 3 minutes each.

A segment of time for speakers will be set aside immediately following the staff presentation for a statement in favor of or in opposition to the Staff's proposal before the Board. 30 minutes will be available for 10 speakers in favor and 30 minutes and 10 speakers in opposition. Questions from the Board will be held until the conclusion of each 30 minute segment. The Board will accept, at the beginning of the meeting, a list of 10 speakers from those in favor and a list 10 speakers from those in opposition who will use this time.

All other speakers will follow and will be alternated as to their position on the proposal to ensure that equal time is provided to each position.

Speakers will not be allowed to reserve their time for another speaker.

The Board Chair may, at his discretion, and if time permits, allow speakers who have already commented to add to their comments if any issues have arisen during the meeting that they wish to augment their statements to include.

California Regional Water Quality Control Board

Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
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Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region

NOTICE OF JANUARY 26, 2000 BOARD MEETING LOCATION CHANGE

(Govt. Code Section 11125)

NOTICE IS HEREBY GIVEN that the January 26, 2000 Regular Board Meeting location has changed (effective 1/21/00) in order to accommodate more members of the public. The original location was at the Richard H. Chambers U.S. Court of Appeals Building, 125 S. Grand Avenue, Pasadena.

The new Board Meeting location is as follows:

Holiday Inn Pasadena Hotel
303 E. Cordova
Main Ballroom
Pasadena, CA

R0068743

TENTATIVE

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

Resolution No. xx-xx

APPROVING THE RECORD FOR
STANDARD URBAN STORM WATER MITIGATION PLAN
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF MANAGEMENT PROGRAMS
IN LOS ANGELES COUNTY

WHEREAS, THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION FINDS:

1. On July 15, 1996, a municipal storm water permit was issued to the County of Los Angeles and 85 incorporated cities to control and minimize the discharge of pollutants associated with storm water and urban runoff. This permit became Regional Board Order No. 96-054, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles.

2. On June 30, 1999, a municipal storm water permit was issued to the City of Long Beach which removed the City of Long Beach from Board Order No. 96-054, giving the City of Long Beach its own distinct Municipal Storm Water and Urban Runoff NPDES permit, Regional Board Order No. 99-060, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the City of Long Beach.

3. On August 19, 1999, a statewide general storm water permit for construction activity was adopted by the State Water Resources Control Board (State Board). This permit became State Board Order No. 99-08-DWQ, and applies to construction projects that disturbs five acres or more or is part of a larger common plan of sale in the Los Angeles region.

4. Many of the rivers and streams in Los Angeles County are formally designated as impaired, pursuant to Section 303 (d) of the federal Water Pollution Control Act, for specific pollutants that are commonly found in storm water and urban runoff.

5. Storm water runoff carries with it many pollutants in varying concentrations that are suspended in, and or dissolved, in the runoff. The sources of these pollutants include nearly all properties that have been developed since the pollutants originate through the many diverse activities of habitation and land use. Pollutants generated from individual property developments vary greatly in the concentration or loading of each pollutant. Generally, the relative contribution of the pollutant from runoff from any individual property development will represent only a small portion of the entire loading of a water body given the many square miles of land upon which storm water runoff is generated. When the individual contributions from tens of thousands of discrete property units are aggregated, the pollutant loading becomes significant. The resultant pollutant loads results in the impairment of that water body and the conveyance of pollutants, including sediments, metals, complex organic compounds, oil and grease, nutrients, and pesticides to the ocean and harbors within Los Angeles County. The loading of pollutants generated in the Los Angeles area are being measured through the monitoring program being conducted by the Los Angeles County Department of Public Works in conformance with its obligations as the Principal Permittee under the Los Angeles County Municipal Storm Water and Urban Runoff NPDES permit.

6. The nature of property use is related to the types and quantities of pollutants that are transported from that property during a rainfall event.

7. As property is developed or redeveloped, the utilization of Best Management Practices provide an opportunity to reduce the loading of pollutants to water bodies. This is accomplished by various techniques and can be passive (source reduction) or active (treatment). As property is developed from undisturbed lands, the project can be designed to incorporate structural BMPs that would normally not be available or practical to use on property that has been in urban use.

8. BMPs are effective means of reducing pollutants and treatment control BMPs can be "designed-into" a project in a cost effective way and in a manner that is either transparent to or which enhances the use to which the property has been placed. Some BMPs encourage the setting aside of areas as a greenbelt to allow storm water runoff to flow over areas which are permeable, thereby allowing all or a portion of the runoff to infiltrate. Other BMPs can be designed and built into structures such as catch basins that incorporate replaceable filters to absorb oily wastes or by installing screens to prevent litter from passing through the system and into the water body.

9. Arrays of treatment control BMPs are available to developers of both new and redevelopment properties. The use of BMPs is already required by the terms of the Los Angeles County and Long Beach Municipal Storm Water and Urban Runoff NPDES permits.

10. The ability of any BMP to be effective is limited by the volume of water that the BMP is exposed to in any discrete period of time. A BMP that can only be effective for a small volume of storm water runoff is inherently less effective than one sized to accommodate a larger volume of water.

11. Storm water runoff will normally convey a disproportionate loading of pollutants in the initial period runoff is generated during a storm event. Storm events generating up to 0.75 inches of precipitation, measured over a 24-hour period, constitute 85 percent of the total amount of runoff that can be expected during an average wet season. Designing a BMP to be able to accommodate this amount of runoff will result in the application of a BMP intervention to all but 15% of the total runoff during a year, and usually all of the critical runoff that occurs in the early phase of the precipitation event, commonly referred to as the "first Flush."

12. Both the Los Angeles County (Part III.A.1.c) and the Long Beach Municipal Storm Water and Urban Runoff permits contain provisions related to the adoption of Standard Urban Storm Water Mitigation Plans (SUSMPs) requiring their development and implementation.

13. Standard Urban Storm Water Mitigation Plans are required for a specified set of discretionary "Priority Projects" and the permit specifically identifies seven distinct categories for which SUSMPs are required to be prepared. The permit specifically states that the seven categories of "Priority Projects" are the minimum categories requiring SUSMPs.

14. Standard Urban Storm Water Mitigation Plans are also required for development or redevelopment of Parking Lots 5,000 square feet or greater and Locations in Environmentally Sensitive Areas. These categories have been added to advance efforts to control storm water pollution beyond the minimum in Los Angeles County.

15. Standard Urban Storm Water Mitigation Plans are required to be approved by the Regional Board Executive Officer following which they are to be implemented by the Permittees and used by the Permittees as the minimum criteria for the approval of project specific Urban Storm Water Mitigation Plans and the issuance of grading or building permits to project applicants.

16. The statewide general storm water permit for construction activity requires that Storm Water Pollution Prevention Plans (State SWPPPs) contain post-construction BMPs that will be implemented after construction is complete.

17. Section 402 (p) of the Clean Water Act requires the Administrator of the United States Environmental Protection Agency or her designated agent, in this instance, the Regional Board, to require as part of the storm water program "controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." [USC Section 1342 (p)(3)(B)].

18. A recent decision of the United States 9th Circuit Court of Appeals, Defenders of Wildlife v. Browner (1999) Case No. 98-71080, provides additional support and clarification of the authority of the Administrator and the Regional Board to impose additional controls on storm water pollution. The Court in Defenders of Wildlife v. Browner said that the USEPA and the States have discretion under the law to determine what pollution controls are appropriate to achieve compliance.

19. Pursuant to the requirements of Regional Board Order No. 96-054, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, the Regional Board Executive Officer received a proposal for Standard Urban Storm Water Mitigation Plans submitted by the Principal Permittee.

20. Upon the review of the Regional Board Executive Officer, the Standard Urban Storm Water Mitigation Plan submitted for the seven applicable categories was deemed inadequate. A revised SUSMP proposal was developed subsequent to a discussion of the proposal's conceptual foundation at a public workshop held on August 10, 1999. This workshop was well attended with over 80 municipal representatives and interested parties participating.

21. On August 16, 1999, a public notice was issued indicating that the Standard Urban Storm Water Mitigation Plans proposed by the Principal Permittee would be augmented by the addition of criteria related to specifying numerical design criteria for BMP construction. The matter was noticed for the Regional Board's September meeting to allow the issue to be discussed before the Board although no formal action of the Regional Board itself is required for SUSMP approval.

22. On September 16, 1999, the Regional Board conducted a public hearing on the Standard Urban Storm Water Mitigation Plan proposal as amended by the Executive Officer. At that hearing, the Regional Board Executive Officer suggested additional time would be necessary to develop a more comprehensive proposal incorporating the comments received at the public hearing.

23. Between September 16 and December 3, 1999, the Regional Board Executive Officer met with interested parties to discuss comments and concerns from interested parties.

24. The Southern California Council of Governments (SCAG) has indicated its interest in obtaining funding to prepare a regional plan(s) to address storm water pollution and identify regional treatment solutions for implementation.

25. On December 7, 1999, the Regional Board Executive Officer released a revised Standard Urban Storm Water Mitigation Plan document to interested parties.

THEREFORE BE IT RESOLVED THAT:

1. The Regional Board endorses the Standard Urban Storm Water Mitigation Plan prepared by the Regional Board Executive Officer and noticed to the public on December 7, 1999 and the concepts therein relating to numerical storm water mitigation standards for Best Management Practices; and

2. The Regional Board ~~encourages~~ directs the Regional Board Executive Officer to approve the Standard Urban Storm Water Mitigation Plan at the earliest opportunity incorporating any specific changes recommended and formally approved by the Regional Board at the January 6, 1999 Board Hearing;

STANDARD URBAN STORM WATER MITIGATION PLAN

FOR LOS ANGELES COUNTY AND CITIES IN LOS ANGELES COUNTY

LOS ANGELES COUNTY URBAN RUNOFF AND STORM WATER NPDES PERMIT

STANDARD URBAN STORM WATER MITIGATION PLAN

BACKGROUND

The municipal storm water National Pollutant Discharge Elimination System (NPDES) permit (Permit) issued to Los Angeles County and 85 cities (Permittees) by the Los Angeles Regional Water Quality Control Board (Regional Board) on July 15, 1996, requires the development and implementation of a program addressing storm water pollution issues in development planning for private projects. The same requirements are applicable to the City of Long Beach under its separate municipal storm water permit, which was issued on June 30, 1999.

6 mths from date of adoption + 30 days

The requirement to implement a program for development planning is based on federal and state statutes including: Section 402 (p) of the Clean Water Act, Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 ("CZARA"), and the California Water Code. The Clean Water Act amendments of 1987 established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES program. The primary objectives of the municipal storm water program requirements are to:

-Effectively prohibit non-storm water discharges, and
-Reduce the discharge of pollutants from storm water conveyance systems to the Maximum Extent Practicable.

Discussion

The Standard Urban Storm Water Mitigation Plan (SUSMP) was developed as part of the municipal storm water program to address storm water pollution from new Development and Redevelopment by the private sector. This SUSMP contains a list of the minimum required Best Management Practices (BMPs) that must be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the Permittee and applied generally or on a case by case basis. This SUSMP applies to projects that are Priority Projects ~~(Discretionary Projects)~~ as defined by the NPDES Permit. The Permittees are required to adopt the requirements set herein in ~~use this SUSMP to develop~~ their own ~~citywide~~ SUSMP. Developers must incorporate appropriate SUSMP requirements into their project plans. Each Permittee will approve the project plan ~~an Urban Storm Water Mitigation Plan~~ as part of the development plan approval process and prior to issuing building and grading permits for the projects covered by the SUSMP requirements.

~~Discretionary projects~~, that fall into one of seven categories are identified in the NPDES Permit as requiring SUSMPs. These categories are:

Single-Family Hillside Residences
100,000 Square Foot Commercial Developments
Automotive Repair Shops
Retail Gasoline Outlets
Restaurants
Home Subdivisions with >10 housing units*

* (Note: this category is two separate categories in the NPDES Permit)

The Regional Board Executive Officer has designated two additional categories subject to SUSMP requirements. These categories are:

Location within or directly adjacent to or discharging directly to an environmentally sensitive area, and ~~Commercial stand-alone P~~parking ~~lot~~lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff

DEFINITIONS [Note: Alpha-numeric re-ordering caused full paragraphs to be underlined and struck-out]
~~"Greater than (>) 9 unit home subdivision" means any subdivision being developed for 10 or more 10 single family or multi family dwelling units.~~

"100,000 Square Foot Commercial Development" means any commercial development that creates at least 100,000 square feet of ~~Developments based on total~~ impermeable area, including parking areas., ~~as opposed to lot size or building footprint.~~

"Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. ~~Exceptions do apply for SIC codes 5013, 5014, and 5541. For SIC code 5013, if the business has no outside storage of any recycled oil or other hazardous substances, it is not included. For SIC code 5014, if the business does not engage in any repair work, it is not included. For SIC code 5541, if the business does not engage in any onsite repair work, it is not included.~~

"Best Management Practice (BMP)" means any program, technology, process, siting criteria, operational methods or measures, or engineered systems, which when implemented prevent, control, remove, or reduce pollution.

"Directly Connected Impervious Area (DCIA)" means the area covered by a building, impermeable pavement, and/ or other impervious surfaces, which drains directly into the storm drain without first flowing across permeable land area (e.g. lawns).

"Discretionary Project" means a project which requires the exercise of judgement or deliberation when the public agency or public body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether

there has been conformity with applicable statutes, ordinances, or regulations.

~~**"Environmentally Sensitive Area" means an**~~ "Environmentally Sensitive Area" means an area designated as an Area of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (1994)) or an area designated as a significant natural area by the California Resources Agency or an area designated as an Area of Ecological Significance by the County of Los *Angeles (Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)).*

"Greater than (>) 9 unit home subdivision" means any subdivision being developed for 10 or more 10 single-family of multi-family dwelling units.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is twenty-five percent or greater.

"Infiltration" means the downward entry of water into the surface of the soil.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Parking Lot" means land area or facility for the temporary parking or storage of motor vehicles used personally, for business or for commerce.

Redevelopment" means, on an already developed site, the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/ or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces.

"Restaurant" means a facility ~~that sells~~ prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption. (SIC code 5812)

"Retail Gasoline Outlet" means a facility ~~primarily~~ engaged in selling gasoline and lubricating oils~~., which derives more than fifty percent of its annual gross receipts from the sale of gasoline, lubricating oils. These establishments frequently sell other merchandise, such as~~ tires, batteries, ~~and~~ automobile parts and other automotive services. ~~Frequently, these establishments also~~

~~perform minor automotive repair work. Gasoline stations combined with other activities, such as grocery stores, convenience stores, or car wash facilities, are classified according to the primary activity.~~

~~"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope and where grading contemplates cut or fill slopes.~~

~~"Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. Exceptions do apply for SIC codes 5013, 5014, and 5541. For SIC code 5013, if the business has no outside storage of any recycled oil or other hazardous substances, it is not included. For SIC code 5014, if the business does not engage in any repair work, it is not included. For SIC code 5541, if the business does not engage in any onsite repair work, it is not included.~~

~~"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption. (SIC code 5812)~~

~~"Parking Lot" means land area or facility for the parking of commercial or business or private motor vehicles.~~

~~"Environmentally Sensitive Area" means an area designated as an Area of Special Biological Significance by the State Water Resources Control Board or an area designated as a Significant Natural Area by the California Resources Agency or an area designated as an area of Ecological Significance by the County of Los Angeles.~~

~~"Best Management Practice (BMP)" means any program, technology, process, siting criteria, operational methods or measures, or engineered systems, which when implemented prevent, control, remove, or reduce pollution.~~

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures,~~,~~ managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"Storm Event" means a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media adsorption, biodegradation, biological uptake, chemical

oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

~~"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.~~

~~"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media adsorption, biodegradation, biological uptake, chemical oxidation and UV radiation.~~

~~"Infiltration" means the downward entry of water into the surface of the soil.~~

~~"Directly Connected Impervious Area (DCIA)" means the area covered by pavement, building and other impervious surfaces which drain directly into the storm drain without first flowing across pervious areas (e.g. lawns).~~

~~"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.~~

~~Redevelopment" means, on an already developed site, the creation or addition of impervious surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/ or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; land disturbing activities related with structural or impervious surfaces .~~

~~"Discretionary Project" means a project which requires the exercise of judgement or deliberation when the public agency or public body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.~~

CONFLICTS WITH LOCAL PRACTICES

Where provisions of the SUSMP requirements conflict with established local codes , (e.g., specific language of signage used on storm drain stenciling), the Permittee may continue the local practice and modify the SUSMPs contained herein to be consistent with the code, except ~~where those practices would defeat or circumvent the intent of the SUSMP requirements.~~ provided that where SUSMPs are more stringent.

SUSMP PROVISIONS APPLICABLE TO ALL CATEGORIES

REQUIREMENTS

1. PEAK STORM WATER RUNOFF DISCHARGE RATES

Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development ~~levels~~ rate for developments where ~~it is reasonably foreseeable that~~ ~~an~~ the increased peak storm water discharge rate ~~may result in a foreseeable~~ will result in increased potential for downstream erosion.

2. CONSERVE NATURAL AREAS

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- ~~Every effort shall be made to c~~Concentrate or cluster ~~development~~ Development on portionss of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants. ~~Wherever practical~~, promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

3. MINIMIZE STORM WATER POLLUTANTS OF CONCERN

Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the stormwater conveyance system. The development must be designed so as to minimize, to the maximum extent ~~practicable~~ practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as approved by the building official. Pollutants of concern, ~~as defined by the Permit~~, consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at a concentrations or loads ~~level high enough to be~~ considered potentially toxic to humans and/or flora and fauna.

In meeting this specific requirement, "minimization of the pollutants of concern" will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in the *California Storm Water Best Management Practices*

Handbooks; *Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide*; *Manual for Storm Water Management in Washington State*; *The Maryland Stormwater Design Manual*; *Florida Development Manual: A Guide to Sound Land and Water Management*; Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices* ~~[Denver]~~ and *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* , USEPA Report No. EPA-840-B-92-002, as "likely to have significant impact" beneficial to water quality for targeted pollutants that are of concern at the site in question. However, it is possible that a combination of BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants.~~.~~

Examples of BMPs that can be used for minimizing the introduction of pollutants of concern generated from site runoff are identified in Table 2. Any BMP not specifically approved by the Regional Board in Resolution No. 99-03, "Approving Best Management Practices for Municipal Storm Water and Urban Runoff Programs in Los Angeles County", for development planning may be used if they have been recommended in one of the above references.

4. PROTECT SLOPES AND CHANNELS

~~If applicable, pr~~Project plans must include BMPs consistent with local codes and ordinances to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff.

- Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
- Utilize natural drainage systems to the maximum extent practicable
- Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable
- Stabilize permanent channel crossings.
- Vegetate slopes with native or drought tolerant vegetation.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion, with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers and the California Department of Fish and Game

5. PROVIDE STORM DRAIN SYSTEM STENCILING AND SIGNAGE

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the stormwater conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message.

- All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: "NO DUMPING – DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.
- Signs and prohibitive language and/or graphical icons ~~discouraging~~ illegal dumping must be posted at public access points along channels and creeks within the project area.
- Legibility of stencils and signs must be maintained.

6. PROPERLY DESIGN OUTDOOR MATERIAL STORAGE AREAS

Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials~~.~~

Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the stormwater conveyance system. Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system, the following *structural* BMPs are required:

- ~~Areas~~ Materials with the potential to contaminate storm water ~~where materials are to be stored~~ must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area must be paved and sufficiently impervious to contain leaks and spills.
- ~~Where feasible~~, the storage area ~~should~~must have a roof or awning to minimize collection of stormwater within the secondary containment area.

7. PROPERLY DESIGN TRASH STORAGE AREAS

A trash storage area refers to an area where a trash receptacle or receptacles are located for use as a repository for solid wastes.

Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas must meet the following *structural BMP* requirements(Individual single family residences are exempt from these requirements):

- Trash container areas must have drainage from adjoining roofs and pavement diverted around the area(s).
- Trash container areas must be screened or walled to prevent off-site transport of trash.

8. PROVIDE PROOF OF ONGOING BMP MAINTENANCE

Improper maintenance is one of the most common reasons why water quality controls will not function as designed or which may cause the system to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP, and what equipment is required to perform the maintenance properly. As part of project review, if a project applicant has included, or is required to include~~, treatment~~, treatment control BMPs in project plans, the Permittee shall require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits.

For all properties, th~~is~~e verification will include the developer's signed statement, as part of ~~its~~the project application, accepting responsibility for all structural and treatment control BMP

structural / treatment

maintenance until the time the property is transferred and, where applicable, a signed agreement from the public entity assuming responsibility for structural or treatment control BMP maintenance. Thise transfer of property to a private or public owner must have conditions requiring the recipient to assume responsibility for maintenance of ~~any treatment~~any treatment control BMPs to be included in the sales or lease agreement for that property, and will be the owner's responsibility. The condition of transfer ~~may~~ will include a provision that the property owner conduct maintenance inspection of all treatment control BMPs at least once a year and retain proof of inspection. For residential properties where the treatment control BMPs are located within a common area which will be maintained by a homeowner's association, language regarding the responsibility for maintenance must be included in the projects conditions, covenants and restrictions (CC&R's). Printed educational materials will be required to accompany the first deed transfer to highlight the existence of the requirement and to provide information on what stormwater management facilities are present, signs that maintenance is needed, how the necessary maintenance can be performed, and assistance that the Permittee can provide. It ~~will also encourage~~ the transfer ~~of this information~~ with subsequent sale of the property.

~~If treatment~~If treatment control BMPs are located within a public area proposed for transfer, they will be the responsibility of the developer until they are accepted for transfer by the County or other appropriate public agency. Treatment control BMPs proposed for transfer must meet design standards adopted by the public entity for the BMP installed and should be approved by the County or other appropriate public agency prior to its installation.

9. DESIGN STANDARDS FOR TREATMENT CONTROL BMPS

Treatment control BMPs selected for use at any project covered by this SUSMP shall meet the design standards of this Section unless specifically exempted.

a. Post-construction Treatment Control BMPs shall be designed to:

A. mitigate (infiltrate or treat) storm water runoff from either:

1. ~~each runoff event up to and including~~ the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

2. the volume of annual runoff based on unit basin storage water quality volume, to achieve ~~85~~80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or

3. the volume of runoff produced from a 0.75 inch ~~each and every~~ storm event ~~up to and including 0.75 inch of rainfall~~, prior to its discharge to a storm water conveyance system, or

4. the volume of runoff produced from ~~each and every storm event up to and including~~ a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile

24-hour runoff event,

AND

B. control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency.

~~The~~A proportional area of roofing surfaces may be excluded from the total area for calculation of rainfall or runoff volume to be treated provided:

a. the roofing materials will not be a source of pollutants of concern in storm water, and

b. storm water from the roofing surfaces area is diverted directly to a storm water conveyance system, and

c. roof based exhaust systems, vents, filters, and air pollution control devices will not present a significant source of pollutants of concern in storm water, and

d. the storm water conveyance system does not directly ~~or indirectly~~ discharge to a natural stream or ~~unlined channel or~~ channel segment scheduled for restoration.

Exclusions

Restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the ~~requirements of this Section.~~ numerical BMP design standard requirement.

10. PROVISIONS APPLICABLE TO INDIVIDUAL PRIORITY PROJECT CATEGORIES

A. 100,000 SQUARE FOOT COMMERCIAL DEVELOPMENTS

1. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water runon or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

Vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. ~~To alleviate this problem, consider including~~ in the project plans an area for washing/steam cleaning of vehicles and equipment. If such an area is included in the site design, it must meet the following:

- This area must be self-contained~~,~~ and or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer.

B. RESTAURANTS

1. PROPERLY DESIGN EQUIPMENT/ACCESSORY WASH AREAS

Outdoor equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must meet the following:

- This area must be self-contained, equipped with a grease trap, and properly connected to a sanitary sewer.
- If this wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer.

C. RETAIL GASOLINE OUTLETS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant

and gasoline to the storm water conveyance system. The project plans must include the following BMPs:

- Fuel dispensing areas should be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.
- Fuel dispensing areas must be paved with portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable.
- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

D. AUTOMOTIVE REPAIR SHOPS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. Therefore, design plans, which include fueling areas, must contain the following:

- Fuel dispensing areas should be covered with an overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area.
- Fuel dispensing areas must be paved with portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water.
- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

Vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, ~~consider~~ including in the project plans an area for washing/steam cleaning of vehicles and equipment. If such an area is included in the site design, it must meet the following:

- This area must be self-contained and/or~~,~~ covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or to a permitted disposal facility.

4. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

E. PARKING LOTS

1. PROPERLY DESIGN PARKING AREA

Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that are deposited on ~~these~~parking lot surfaces by ~~from~~ motor vehicles~~-traffic~~. These pollutants are directly transported to surface waters. To minimize the offsite transport of pollutants, the following design criteria are required:

- Reduce impervious land coverage of parking areas
- Infiltrate runoff before it reaches storm drain system.
- Treat runoff before it reaches storm drain system

2. PROPERLY DESIGN TO LIMIT OIL AND PERFORM MAINTENANCE

Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks.

- Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces , sports event parking lots, shopping malls, grocery stores, discount warehouse stores)
- Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal, and system fouling and plugging prevention control

11. WAIVER

A Permittee may, through adoption of an ordinance or code ~~inc~~ incorporating the treatment requirements of the SUSMP, provide for a waiver from the requirement if ~~impracticability for~~impracticability for a specific ~~property can~~property can be established. Recognized situations of impracticability include (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because an existing or potential underground source of drinking water is less than 10 feet from the soil surface. Any other ~~justification for~~justification for impracticability must be separately petitioned by the Permittee and approved by the Regional Board Executive Officer before it becomes recognized and effective. A waiver granted by a Permittee to any development or redevelopment project may be revoked by the Regional Board Executive Officer for cause and with proper notice upon petition.

If a waiver is granted for impracticability, the Permittee must require the project proponent to transfer the savings in cost, as determined by the Permittee, to a storm water mitigation fund to be used to promote regional or alternative solutions for storm water pollution in the storm watershed and operated by a public agency or a non-profit entity.

12. LIMITATION ON USE OF INFILTRATION BMPS

Three factors significantly influence the potential for storm water to contaminate ground water. They are (i) pollutant mobility, (ii) pollutant abundance in storm water, (iii) ~~and~~ soluble fraction of pollutant. The risk of contamination of groundwater may be reduced by pretreatment of storm water. A discussion of limitations and guidance for infiltration practices is contained in, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94/051, USEPA (1994).*

In addition, the distance of the groundwater table from the infiltration BMP may also be a factor determining the risk of contamination. A water table distance separation of ten feet depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic.

Infiltration BMPs are not recommended for areas of industrial activity or areas subject to high vehicular traffic (25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway) unless appropriate pretreatment is provided to ensure groundwater is protected and the infiltration BMP is not rendered ineffective by overload.

13. ALTERNATIVE CERTIFICATION FOR STORM WATER TREATMENT MITIGATION

In lieu of conducting detailed BMP review to verify treatment control BMP adequacy, ~~A~~ a

Permittee may elect to accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets the criteria established herein. The Permittee is encouraged to verify that certifying person(s) ~~must provide evidence that~~ ~~s/he~~ have been ~~received~~ trained~~ing~~ on BMP design for water quality, not more than two years prior to the signature date.~~and that the plan preparer has undergone training on designing BMPs to meet the numerical mitigation criteria, in lieu of conducting detailed BMP review to verify treatment control BMP adequacy~~. Training~~The training must have been~~ conducted by an organization with storm water BMP design expertise (e.g., a University, American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, or the California Water Environment Association) ~~with the training and curriculum accepted by the Regional Board Executive Officer. For the certification to be valid, training must have been received not more than two years prior to the signature date on the plan.~~ ~~Will~~ may be considered qualifying.

Table 1

SUGGESTED RESOURCES	HOW TO GET A COPY
Start at the Source (1999) by Bay Area Stormwater Management Agencies Association Detailed discussion of permeable pavements and alternative driveway designs presented.	Bay Area Stormwater Management Agencies Association 2101 Webster Street Suite 500 Oakland, CA 510-286-1255
Design of Stormwater Filtering Systems (1996) by Richard A. Claytor and Thomas R. Schuler Presents detailed engineering guidance on ten different stormwater filtering systems.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Better Site Design: A Handbook for Changing Development Rules in Your Community (1998) Presents guidance for different model development alternatives.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Design Manual for Use of Bioretention in Stormwater Management (1993) Presents guidance for designing bioretention facilities.	Prince George's County Watershed Protection Branch 9400 Peppercorn Place, Suite 600 Landover, MD 20785

Operation, Maintenance and Management of Stormwater Management (1997) Provides a thorough look at stormwater practices including, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	Watershed Management Institute, Inc. 410 White Oak Drive Crawfordville, FL 32327 850-926-5310
California Storm Water Best Management Practices Handbooks (1993) for Construction Activity, Municipal, and Industrial/Commercial Presents a description of a large variety of structural and good housekeeping BMPs.	Los Angeles County Department of Public Works Cashiers Office 900 S. Fremont Avenue Alhambra, CA 91803 626-458-6959

TABLE 1 (Continued)

SUGGESTED RESOURCES	HOW TO GET A COPY
Second Nature: Adapting LA's Landscape for Sustainable Living (1999) by Tree People Detailed discussion of BMP designs presented to conserve water, improve water quality, and achieve flood protection.	Tree People 12601 Mullholland Drive Beverly Hills, CA 90210 818-753-4600 (?)
Florida Development Manual: A Guide to Sound Land and Water Management (1988 Presents detailed guidance for designing BMPs	Florida Department of the Environment 2600 Blairstone Road, Mail Station 3570 Tallahassee, FL 32399 850-921-9472
Stormwater Management in Washington State (1999) Vols. 1-5 Presents detailed guidance on BMP design for new development and construction.	Department of Printing State of Washington Department of Ecology P.O. Box 798 Olympia, WA 98507-0798 360-407-7529
Maryland Stormwater Design Manual (1999) Presents guidance for designing storm water BMPs.	Maryland Department of the Environment 2500 Broening Highway Baltimore, MD 21224 410-631-3000

Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices~~Denver~~ (1999) **Presents guidance for designing BMPs** **Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters** (1993) Report No. EPA–840-B-92-002. Provides an overview of, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	Urban Drainage and Flood Control District 2480 West 26th Avenue, Suite 156-B Denver, CO 80211 303-455-6277 National Technical Information Service U.S. Department of Commerce Springfield, VA 22161 800-553-6847
~~ASCE Database~~National Stormwater Best Management Practices (BMP) Database, Version 1.0 **Provides data on performance and evaluation of storm water BMPs**	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 703-296-6000
Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide (Best Management Practices Handbooks (1998) Presents guidance for design of storm water BMPs	California Department of Transportation P.O. Box 942874 Sacramento, CA 94274-0001 916-653-2975

TABLE 2: Example Best Management Practices (BMPs)

The following are examples of BMPs that can be used for minimizing the introduction of pollutants of concern that may result in significant impacts, generated from site runoff to the storm water conveyance system. (See Table 1: Suggested Resources for additional sources of information):

-Provide reduced width sidewalks and incorporate landscaped buffer areas between sidewalks and streets. However, sidewalk widths must still comply with regulations for the Americans with Disabilities Act and other life safety requirements.
-Design residential streets for the minimum required pavement widths needed to comply with all zoning and applicable ordinances to support travel lanes; on-street parking; emergency, maintenance, and service vehicle access; sidewalks; and vegetated open channels.
-Comply with all zoning and applicable ordinances to minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. The radius of cul-de-sacs should be the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds should be considered.
-Use permeable materials for private sidewalks, driveways, parking lots, or interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.).
-Use open space development that incorporates smaller lot sizes.
-Reduce building density.
-Comply with all zoning and applicable ordinances to reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
-Comply with all zoning and applicable ordinances to reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas.
-Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the storm water conveyance system.
-Vegetated swales and strips
-Extended/dry detention basins
-Infiltration basin
-Infiltration trenches
-•——Wet ponds
-Constructed wetlands
-•—Oil/Water separators
-•—Catch basin inserts
-•—Continuous flow deflection/ separation systems
-•—Storm drain inserts
-Media filtration
-•——Bioretention facility
-Dry-wells
-Cisterns
-•——Foundation planting
-Catch basin screens
-Normal flow storage/ separation systems
-Clarifiers
-Filtration systems
-•——Primary waste water treatment systems
-
-

3. The Regional Board adopts the approved requirements as provisions applicable to the SUSMP requirements for the City of Long Beach.

4. The Regional Board adopts the numerical mitigation standards for storm water, endorsed herein, as the minimum design criteria for review of post-construction BMPs in the Los Angeles Region for construction projects subject to coverage under the state storm water general permit for construction activity.

5. The Regional Board encourages the Permittees and all interested parties to work together in a spirit of cooperation to effect the implementation of the Standard Urban Storm Water Mitigation Plan at the earliest possible date, and

6. The Regional Board encourages the efforts by the Southern California Council of Governments and area Council of Governments (COGs) to develop regional plans and identify regional solutions to address storm water pollution from new development and redevelopment.

I, Dennis Dickerson, Executive officer, do hereby certify that the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on January 6, 2000.

DENNIS A. DICKERSON
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

STAFF REPORT AND RECORD OF DECISION

STANDARD URBAN STORM WATER MITIGATION PLANS

AND

NUMERICAL DESIGN STANDARDS FOR BEST MANAGEMENT PRACTICES

1.0 EXECUTIVE SUMMARY

The Standard Urban Storm Water Mitigation Plan (SUSMP) is a model guidance document for use by builders, land developers, engineers, planners and others to select post-construction Best Management Practices (BMPs) and obtain municipal approval of the urban storm water runoff mitigation plan for projects which fall into selected categories. A proposed SUSMP (December 7, 1999 version) was developed by Regional Board staff and distributed to interested parties.

The proposed SUSMP is designed to ensure that storm water pollution is addressed in one of the most effective ways possible, i.e., by incorporating Best Management Practices (BMPs) in the design phase of new development and redevelopment. It provides for numerical design standards (water quality design standards) to ensure that storm water runoff is managed for water quality concerns in addition to flood protection and that pollutants carried by storm water are retained and not delivered to waterways. Further, two additional categories are being included for storm water control requirements. These categories are, (i) parking lots 5,000 square feet (or with 25 or more parking spaces) and (ii) development of locations discharging to environmentally sensitive areas. The proposed SUSMP also attempts to respond to various concerns by providing a choice of design criteria and incorporating provisions that allow for flexibility thereby recognizing that a single numerical standard may not be appropriate in every case

The proposed SUSMP will require all new development or redevelopment that includes one of the following planning projects to select post-construction treatment BMPs for implementation:

(i) 100+ home subdivision;
(ii) 10-99 home subdivision;
(iii) 100,000+ square-foot commercial development;
(iv) automotive repair facilities;
(v) retail gasoline outlets;
(vi) restaurants;
(vii) parking lots more than 5,000 square feet or more than 25 parking spaces

(viii) hillside located single-family dwelling,
(ix) construction projects in environmentally sensitive areas

Note: The first two categories are combined in the December 7, 1999 proposed SUSMP document.

The Standard Urban Storm Water Mitigation Plan (SUSMP) proposed by the Regional Board staff takes much of the original language offered by the Co-Permittees in their submittal to the Regional Board on August 22, 1999, and consolidates it in a more concise and understandable document without duplication

2.0 STATEMENT OF THE PROBLEM

Water Quality and Storm Water

The water quality impacts of urbanization and urban storm water discharges have been summarized by several recent USEPA reports.[1] Urbanization causes changes in hydrology and increases pollutant loads which adversely impact water quality and impair the beneficial uses of receiving waters. Increases in population density and imperviousness result in changes to stream hydrology including:

(i) increased peak discharges compared to predevelopment levels;
(ii) increased volume of storm water runoff with each storm compared to pre-development levels;
(iii) decreased travel time to reach receiving water; (iv) increased frequency and severity of floods;
(iv) reduced stream flow during prolonged periods of dry weather due to reduced level of infiltration;
(v) increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from chanellization, and
(vi) decrease infiltration and diminish groundwater recharge.

The Los Angeles County municipal storm water management (municipal separate storm sewer system [MS4]) program conducts monitoring to:

(i) quantify mass emissions for pollutants,
(ii) identify critical sources for pollutants of concern in storm water;
(iii) evaluate BMP effectiveness, and
(iv) evaluate receiving water impacts.

The monitoring indicates that instream concentrations of pathogen indicators (fecal coliform and streptococcus), heavy metals (such as Pb, Cu, Zn,) and pesticides (such as diazinon) exceed

[1] *Storm Water Phase II Report to Congress* (USEPA 1995); *Report to Congress on the Phase II Storm Water Regulations* (USEPA1999); *Coastal Zone Management Measures Guidance* (USEPA 1992)

state and federal water quality criteria.[2] The mass emissions of pollutants to the ocean are significant from the urban Watershed Management Areas (WMAs) such as the Los Angeles River WMA, Ballona Creek WMA, and Coyote Creek WMA with the Los Angeles River WMA providing more than seventy percent of the loadings. Critical sources data for facilities (such as auto-salvage yards, primary metal facilities, and automotive repair shops) showed that total and dissolved heavy metals (Pb, Cu, Zn, and Cd), and total suspended solids (TSS) exceeded state and federal water quality criteria by as much as a hundred times. The results are consistent with a limited term study conducted by the Regional Board to characterize storm water runoff in the Los Angeles region before the issuance of MS4 permits.[3] Storm water runoff data from predominant landuses showed similar patterns. Light-industrial, commercial and transportation landuses showed the highest range of exceedances. A pesticide (diazinon) showed higher ranges from residential landuse. The data for polycyclic aromatic hydrocarbons (PAHs), a known pollutant of concern in urban storm water runoff, is inconclusive but improved analytical methods may yield more definitive results next year. Receiving water impacts studies found that storm water discharges from urban watersheds exhibit toxicity that are attributable to heavy metals. Biosurveys of the sea-bottom showed bioaccumulation of toxicants. Sediment analysis showed higher concentrations of pollutants such as Pb and PAHs than rural watersheds (2 to 4 times higher). In addition, toxicity of dry weather flows was observed with the cause of toxicity undetermined.[4] Previous studies have found chemical concentration of pollutants that exceed state and federal water quality criteria in storm drains flowing to the ocean,[5] and that there are adverse health impacts from swimming near them.[6]

Treatment BMP requirements on new development and redevelopment offer the most cost effective strategy to reduce pollutant loads to surface waters. Retrofit of existing development will be expensive and may be considered on a targeted basis. Studies on the economic impacts of watershed protection indicate that storm water quality management has a positive or at least neutral economic effect while greatly improving the quality of surface waters.[7]

Municipal storm water regulations at 40 CFR 122.26 require that pollutants in storm water be reduced to the maximum extent practicable (MEP). The USEPA's definition is intentionally broad to provide maximum flexibility in MS4 permitting and to and to give municipalities the

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[2] Los Angeles County 1998-1999 Stormwater Monitoring Report, Los Angeles County Department of Public Works (1999). Data summarizes results of storm water monitoring for the most recent year and the past five years.

[3] *Storm Water Runoff in Los Angeles and Ventura Counties, Final Report* (1988), California Regional Water Quality Control Board, Los Angeles, SCCWRP Contribution C292. This study found the highest mean concentrations of pollutants of concern such as heavy metals in the urban watershed rivers and that they contributed significant loads to the ocean.

[4] *Toxicity of Dry Weather Flow from the Santa Monica Bay Watershed*, Bay, S. et al (1996), Bull. Southern California Acad. Sci. 5(1), pp. 33-45. The paper describes preliminary results on dry weather toxicity which have been confirmed by the MS4 monitoring program.

[5] *Chemical Contaminant Release into Santa Monica Bay, Final Report*, American Oceans Campaign , Santa Monica (1993)

[6] *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999), Epidemiology 10: 355-363). The study found higher risks of respiratory and gastrointestinal symptoms from swimmers.

[7] *The Economics of Watershed Protection*, T. Schuler (1999), Center for Watershed Protection, Endicott, MD. The article summarizes nationwide studies to support the statement that watershed planning and storm water management provide positive economic benefits.

opportunity to optimize pollutant reductions on a program-to-program basis.[8] The definition of MEP has generally been applied to mean implementation of economically achievable management practices. Because storm water runoff rates can vary from storm to storm, the statistical probabilities of rainfall or runoff events become economically significant and are central to the control of pollutants through cost effective BMPs. Further, it is recommended that storm water BMPs be designed to manage both flows and water quality for best performance. [9] It is equally important that treatment BMPs once implemented be routinely maintained.

Financing the MS4 program offers a considerable challenge for municipalities. A proven successful financing mechanism is the establishment of a storm water utility.[10] Utility fees, which are assessed on the property owner based on some estimate of storm water runoff generated for the site, are a predictable and dedicated source of fund. Utility fees can also provide a mechanism to provide incentives to commercial and industrial property owners to reduce impervious surface areas. Such incentives offer flexibility to property owners to choose the better economic option – paying more fees or improvements to reduce runoff from the site.

3.0 REVIEW OF STANDARDS FOR DEVELOPMENT PLANNING

The American Society of Civil Engineers (ASCE) and the Water Environment Federation (WEF) have recommended a numerical BMP design standard for storm water that is derived from a mathematical equation to maximize treatment of runoff volume for water quality based on rainfall/ runoff statistics and which is economically sound (ASCE/ WEF 1998).[11] The maximized treatment volume is cut-off at the point of diminishing returns for rainfall/ runoff frequency. On the basis of this equation the maximized runoff volume for 85 percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inch depending on the imperviousness of the watershed area and the mean rainfall.[12]

Other methods of establishing numerical BMP design standards include: (i) Percent treatment of the annual runoff; (ii) Full treatment of runoff from rainfall event equal to or less than a predetermined size; (iii) Percent reduction in runoff based on a rainfall event of standard size.[13] These numerical design standards have been applied to Development Planning in Puget Sound, WA; Alexandria, VA; Montgomery County, MD; Denver, CO, Orlando, FL and Austin, TX.

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[8] Storm Water Phase II Final Rule – Pre-Federal Register Version, p 87 (USEPA 1999). See USEPA's discussion in response to challenges that the definition is sufficiently vague to be deemed adequate notice for purposes of compliance with the regulation.

[9] *Urban Runoff Pollution – Summary Thoughts* – The State of Practice Today and For the 21st Century. Wat. Sci. Tech. 39(2) pp. 353-360. L.A. Roesner (1999)

[10] *Preliminary Data Summary of Urban Storm Water Best Management Practices* (1999), Report No. EPA-821-R-99-012, USEPA.. The document reviews municipal financing mechanisms and summarizes experience in the U.S. to date.

[11] In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87. WEF, Alexandria, VA; ASCE, Reston, VA. 259 pp. (1998).

[12] Sizing and Design Criteria for Storm Water Treatment Controls, Presentation to California Storm Water Quality Task Force, November 13, 1998, Sacramento, CA. L.A. Roesner, Camp Dresser McKee .

[13] Sizing and Design Criteria for Stormwater Quality Infrastructure, Presentation at California Regional Water Quality Control Board Workshop on Standard Urban Storm Water Mitigation Plans, August 10, 1999, Alhambra, CA., R.A. Brashear, Camp Dresser McKee.

The City of Seattle requires that where new development coverage is 750 square feet or more, storm water detention be provided based on a 25 year storm return frequency and a peak discharge rate not to exceed 0.2 cubic foot per second.[14] Additionally, for projects that add more than 9,000 square feet in developmental coverage, the peak drainage water discharge rate is limited to 0.15 cubic feet per second per acre for a two-year storm. The City of Denver requires new residential, commercial, and industrial developments to capture and treat the 80th percentile runoff event. This capture and proper treatment is estimated to remove 80 to 90 percent of the annual TSS load which is a surrogate measure for heavy metal and petroleum hydrocarbon pollutants.[15]

In the Los Angeles Region, at least three different numerical mitigation measures are in use or have been proposed by a small number of municipalities.

The County of Los Angeles requires that development projects that meet the threshold criteria in the unincorporated area select treatment BMPs that mitigate "runoff generated from each and every storm event of up to and including 0.75 inch rainfall". The point of diminishing return for rainfall treatment for Los Angeles County (Civic Center rainfall record) and the coastal Los Angeles (LAX rainfall records) coincide roughly with 0.75 inch and 1.4 inches.

The City of Santa Monica requires that development projects reduce 20 percent of the projected runoff from a one-inch 24-hour storm using impervious factors based on Los Angeles County flood control benefit assessment[16]. All new parking lots are required to have the capability to treat one inch of precipitation that falls in a 24 hour period. Developers are given the option to pay in lieu fees, to be used for other water quality projects by the City, should the standard be impossible to meet because of limiting considerations.

The City of Calabasas requires that development projects demonstrate an effort to reduce projected runoff by 20 percent from the base 1985 10-year storm basis (approximately 3.5 inches).[17]

Other cities such as Arcadia, Baldwin Park, Cudahy, Culver City, El Monte, Hermosa Beach, Pasadena, Rancho Palos Verdes, Redondo Beach, San Fernando, Sierra Madre, South El Monte, South Gate, Temple City, and West Holywood, while not having formally adopted the numerical design standard of 0.75 inch, have expressed a willingness or have implemented the standard already. These communities express a preference for a simple and easy to recall numerical standard applicable countywide.[18]

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[14] City of Seattle Municipal Code, Chapter 22.802.015 – Storm water, drainage and erosion control requirements.

[15] Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices, Urban Drainage and Flood Control District, Denver, CO (1999). Manual provides detail design criteria for new development for the Denver Metropolitan area.

[16] City of Santa Monica Municipal Code, Chapter 7.10 – Urban Runoff Pollution (1995). The City of Santa Monica's numerical mitigation measure emphasizes flow reduction of about 0.2 inch of rainfall, which limits options for "treatment".

[17] City of Calabasas Municipal Code, Title 17, Chapter 17.56 – Urban Runoff Pollution Control (1998). The City of Calabasas numerical mitigation measure (0.7 in.) appears to be equivalent to the Los Angeles County measure for unincorporated areas (0.75 in.).

[18] See Letter dated January 18, 2000 from John Hunter & Associates, Consultants for these cities, addressed to Dennis Dickerson, Regional Board Executive Officer

Ventura County has proposed draft land development criteria that treatment BMPs be designed for using a unit basin storage volume design based on 70 percent capture of annual runoff and flow based design criteria based on 10 percent of the peak 50 year flow rate from impervious areas.[19]

A few States have already established or are in the process of finalizing numerical standards for sizing storm water post-construction BMPs for new development and significant redevelopment. The State of Maryland has established storm water numerical criteria for water quality of 0.9 to 1 inch and BMP design standards in a unified approach combining water quality, stream erosion potential reduction, groundwater recharge, and flood control objectives.[20] The State of Florida has used numerical criteria to require treatment of storm water from new development since 1982 including BMPs sized for 80 percent (95 percent for impaired waters) reduction in annual total suspended solids load derived from the 90 percent (or greater for impaired waters) annual runoff treatment volume method for water quality.[21] The State of Washington has proposed at least six different approaches of establishing storm water numerical mitigation criteria for new development which add 10,000 square feet of impervious surface or more for residential development and 5,000 square feet of impervious surface or more for other types of development[22]. The mitigation criteria options include the 90th percentile 24-hour rainfall event and the six month 24 hour rainfall event.

On a national level, the USEPA is planning to standardize minimum BMP design and performance criteria for post-construction BMPs under Title III of the Clean Water Act and will likely build from the experience of effective state and local programs to establish national criteria.[23] The USEPA, based on the National Urban Runoff Program, supports the first half-inch of rainfall as generating first flush runoff.[24] First flush runoff is associated with the highest pollutant concentrations, and not pollutant load. The USEPA considers the first flush treatment method, the rainfall volume method, and the runoff capture volume method as common approaches for sizing of water quality BMPs.

4.0 NEW DEVELOPMENT REQUIREMENTS BACKGROUND

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[19] Letter from A. Sheyadayi, Ventura Countywide Stormwater Quality Management Program to X. Swamikannu (September 13, 1999) with attachment. 'Stormwater Treatment: A Design Approach for Volumetric and Flow Based Best Management Practices'. J. Endicott *et al.*

[20] Maryland Storm Water Design Manual - Draft (Maryland Department of the Environment 1998). The Final document is scheduled for publication in January 2000. Changes are mostly in format to improve presentation according to the authors.

[21] Florida Development Manual: A Guide to sound Land and Water Management (Florida Department of Environmental Protection 19xx). The manual describes structural and non-structural construction and post construction BMPs design criteria.

[22] Storm Water Management in Washington State Volumes 1 – 5. Public Review Draft (Washington Department of Ecology 1999). The volumes 1,3 and 5 are most relevant to new development standards and cover Hydrologic and Flow Control Designs, Minimum Technical Requirements and Treatment BMPs. The volumes will be adopted as statewide standards in early 2000 after completion of public hearings according to the agency.

[23] Storm Water Phase II Final Rule – Pre-Federal Register Version, p 53 (USEPA 1999). See USEPA's discussion on construction and post-construction BMP requirements for Phase II.

[24] A Watershed Approach to Urban Runoff: Handbook for Decisionmakers, Terene Institute and USEPA Region 5 (1996). See discussion on sizing rules for water quality purposes, p 36.

Los Angeles County and municipalities within the County (except the City of Long Beach) implement a municipal storm water program to reduce storm water and urban runoff pollution under the requirements of Board Order No. 96-054. The City of Long Beach implements a separate municipal storm water program to reduce storm water and urban runoff pollution under Board Order No. 99-060 adopted by the Regional Board on June 30, 1999. The Los Angeles County Municipal Storm Water Permit include requirements that Standard Urban Storm Water Mitigation Plans (SUSMPs) be prepared for priority planning projects and that they include appropriate Best Management Practices (BMPs) and guidelines to reduce pollutants in storm water to the maximum extent practicable (Permit Pt. 2. III.A.) The City of Long Beach municipal separate storm sewer system (MS4) permit includes requirements that make SUSMP provisions adopted by the Regional Board or approved by the Regional Board Executive Officer for Los Angeles County and Cities applicable to its program.

On April 22, 1999, the Regional Board approved a List of BMPs for MS4 Co-Permittees to select from and require implementation of the most effective BMPs in their Development Planning and Development Construction programs (Board Resolution No. 99-03). The Regional Board at that time also requested that the SUSMPs for Priority Planning Project categories, which incorporate the BMPs, be brought to it for discussion.

Los Angeles County Department of Public Works (LACDPW), on behalf of the Co-Permittees, submitted SUSMPs for Regional Board Executive Officer approval on July 22, 1999. These SUSMPs were revised and resubmitted on August 12, 1999, after a joint SUSMP workshop held on August 10, 1999, to clarify the meaning of some text. SUSMPs have been submitted for: (i) 100+ home subdivisions; (ii) 10-99 home subdivisions; (iii) 100+ square-foot commercial developments; (iv) automotive repair facilities; (v) retail gasoline outlets; (vi) restaurants; and (vii) hillside located single-family dwellings. Prior to submittal to the Regional Board, draft versions of the SUSMPs were distributed to environmental groups, contractors, developers, consultants and trade industry groups for review and comment.

The SUSMP requirements within this proposal for the Los Angeles County storm water program, will apply to the City of Long Beach MS4 permit for the following categories only: (i) 10-99 home subdivisions; (ii) 100 or more subdivisions; (iii) 100,000 or more square foot commercial developments; and (iv) projects located adjacent to or discharging to environmentally sensitive areas.

For (i) restaurents; (ii) retail gasoline outlets; and (iii) automotive repair facilities, it is expected that the City of Long Beach will require post construction BMPs to meet the numerical design standard approved by the Regional Board. The City of Long Beach MS4 permit does not require that SUSMPs be prepared for these categories, since the requirements are contained in the City of Long Beach Storm Water Management Program.

The Long Beach MS4 permit requires that the City conduct a parking lot-study (with ten or more spaces) to characterize and evaluate storm water runoff pollution and mitigation and submit a report in July 2000. It is expected that the City of Long Beach parking lot study will consider any requirements approved by the Regional Board for parking-lots, including treatment control BMPs based on a numerical design standard.

The Regional Board provided Public Notice on August 16, 1999, of proposed action on the SUSMP and proposed discussion on September 16, 1999, before the Board and invited

comments from interested parties. Comments were received from municipalities, environmental groups, businesses, environmental consultants, and the building industry.

These comments are summarized in "Comments and Response" included in the Record of Decision and was part of the package mailed out with the notice of proposed action for the January 6, 2000, Board meeting.

5.0 STANDARD URBAN STORM WATER MITIGATION PLANS (SUSMPS)

LACDPW and its Co-Permittees submitted for approval by the Executive Officer, SUSMPs for: (i) 100+ home subdivisions; (ii) 10-99 home subdivisions; (iii) 100+ square-foot commercial developments; (iv) automotive repair facilities; (v) retail gasoline outlets; (vi) restaurants; and (vii) hillside located single-family dwellings.

Post-construction BMPs to be selected include: Structural Control BMPs, Treatment Control BMPs, And Source Control BMPs. The list of treatment control BMPs includes (i) vegetated swales and strips; (ii) extended/ dry detention basins; (iii) infiltration basins; (iv) infiltration trenches; (v) wet ponds; (vi) constructed wetlands; (vii) oil/water separators; (viii) catch-basin inserts; (ix) storm drain inserts; (x) media filtration; (xi) bioretention; (xii) dry wells; (xiii) cisterns; and (xiv) foundation planting.

As submitted, the SUSMPs for the 100+ home subdivision, the 10-99 home subdivision, and 100+ square-foot commercial development categories included requirements that storm water runoff be mitigation with source control and treatment control BMPs. The SUSMPs for automotive repair facilities; retail gasoline outlets; restaurants; and hillside located single-family dwellings required only source control BMPs. No numerical design criteria were included. A 0.6-inch 24-hour rainfall criterion that was in earlier drafts of the document and circulated to Co-Permittees and interested parties for comment was deleted from the Co-Permittee's SUSMP proposal submitted to the Regional Board.

6.0 STAFF PROPOSED SUSMP IMPROVEMENTS

At the Regional Board meeting held on September 16th, the only significant difference between the staff's proposal and that of the Co-Permittee's was the inclusion of a numerical design standard for the sizing of Best Management Practices. Without including a specific design standard in the SUSMP proposal, staff hold that the SUSMPs would be left without a key provision that would ensure that BMPs would be utilized in the most effective manner as directed by the Regional Board in its April 1999 approval of the List of Best Management Practices for New Development.

With action on the SUSMP proposal delayed following the September 16, 1999 Regional Board meeting, staff were able to develop a more refined proposal that would build in additional flexibility for Co-Permittees. On December 7, 1999, staff released a revised proposal for public review and comment.

The December 7th SUSMP proposal is a substantial revision to that which was before the Board on September 16th. Much of the language of the original SUSMP proposal submitted by the Co-

Permittees remains. The following revisions to the original language (not all of the revisions made are discussed herein) represent the most significant differences between the August 1999 Co-Permittee submittal and the December 7th staff proposal:

Consolidation of Text

The August proposal contained much text that was redundant by replicating language for each individual SUSMP category. This redundant language has been consolidated in a section that applies a set of SUSMP requirements to all SUSMP categories. In addition, the two categories for residential developments have now been consolidated into one category.

Numerical Design Standard

As before the Regional Board in September, the December 7th staff proposal includes numerical design criteria for BMP. Four different numerical design criteria for BMPs have been provided while essentially retaining the technical basis of the September 7 staff proposal for numerical design standards for treatment control BMPs.

As presented in the December 7th document, the post-construction treatment BMPs shall be designed to:

A. mitigate (infiltrate or treat) storm water runoff from either:

1. each runoff event up to and including the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

2. the annual runoff volume, based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or

3. the volume of runoff produced from each and every storm event up to and including 0.75 inch of rainfall, prior to its discharge to a storm water conveyance system, or

4. the volume of runoff produced from each and every storm event up to and including a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event,

AND

B. control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency.

Significantly, the December 7th staff proposal contains a provision that allows BMPs to not be sized to include runoff from roof structures under certain conditions. These conditions include ensuring that the runoff from the roof surface is directed to a storm drain system prior to allowing any commingling with other surface runoff that may be carrying contaminants. Additionally, the runoff from the roof area should not itself be contaminated. Allowance of a roof runoff exemption allows for BMPs to be designed for a smaller amount of runoff thereby resulting in a smaller structural BMP and less initial construction and maintenance costs.

In addition, staff has recognized that flow considerations may be significant in the design of certain BMPs (such as catch-basin inserts). However, limited analyses exist at this time of flow rate and rainfall intensity statistics for water quality design. Thus staff has provided a general provision, determined by the local agency, to control peak flow discharge to avoid stream channel erosion and over-bank flooding only. Flow rate criteria for flow sensitive BMPs will need to be developed in the future.

Additionally, restaurants involving land area of 5,000 square feet or less are excluded from the numerical design standard.

Definition of Hillsides

The December 7th proposal attempted to provide clarity to the definition of "Hillside" for consistent interpretation. However, the definition in the December 7th proposal was defined broadly and requires modification. A Change Sheet will be offered to modify the definition as property located in an area with known erosive soil conditions, where the development would involve regulated grading on any natural slope that is 25 percent or greater.

Redevelopment Threshold

Comments have suggested the need for a trigger threshold to the definition of 'Redevelopment' for SUSMP requirements to become applicable. A Change Sheet will provide a revision for the definition of "Redevelopment" which will provide that "on an already developed site, the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure". This change ensures that minor modifications to existing structures or properties do not unintentionally trigger SUSMP requirements.

Parking Lots

A new category subject to SUSMPs "Parking Lots" was added. Parking lots with daily vehicular traffic produce pollutants such as heavy metals, oil and grease, and petroleum hydrocarbons from vehicle drippings and engine system leaks. Studies in the Los Angeles area conducted on the quality of storm water from parking lots indicate that the concentration of the pollutants often exceed water quality criteria.[25] These results affirm studies, conducted by some business

[25] *Santa Monica Bay Area Municipal Storm Water/ Urban Runoff Pilot Project Studies: Evaluation of Potential Catchbasin Retrofits*, Santa Monica Bay Cities Consortium (1998); and *Consent Decree Report: Strip Filter*, City of Los Angeles, Stormwater

groups included in the priority-planning category, which demonstrate that pollution from commercial parking lots is similar.[26]

The Los Angeles municipal storm water permit currently includes requirements for parking lots with the threshold condition of 25 or more parking spaces (equivalent to 5,000 square feet of surface area).[27] Separately, the Long Beach municipal storm water permit includes a special study provision to characterize pollution and evaluate controls for parking lots with 10 or more spaces. It is expected that the Long Beach parking lot study will develop additional information on controls necessary, if any, for these smaller (10-25 space) parking lots.

Comments received have suggested that the staff's original intent with respect to this provision were unclear. A Change Sheet will clarify staff's intent that this requirement be applied only to commercial "stand alone" parking lots, i.e., parking lots that are not associated with small commercial developments.

Environmentally Sensitive Areas

The new category of Environmentally Sensitive Areas was added subject to SUSMPs. Urban storm water discharges that contribute pollutants to areas designated as environmentally significant or environmentally sensitive may adversely impact the ecology that has been designated for protection under state, federal and local laws.

Comments have been received that draw attention to the fact that many different provisions of law, regulation, and guidance define a variety of environmentally sensitive areas that, taken together, may result in the application of SUSMP criteria to an inherently vague definition leading to application of that criteria in situations where it was not intended. The staff proposal's definition requires careful review to ensure that it is defined to reflect Regional Board direction and regulatory clarity. A Change Sheet will address comments received. Some considerations in crafting a definition follow:

Under the federal Endangered Species Act (ESA) agency actions must not jeopardize the existence of listed species or modification of a critical habitat.[28] The Regional Board has a responsibility, as the implementing agency for a federal regulation, to ensure that its actions be consistent with the ESA. Applicability of the requirement to develop a SUSMP has been limited

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Management Division (1999), these studies characterized parking lot storm water runoff from areas 10,000 -150,000 square feet and evaluated BMP pollutant removal effectiveness.

[26] *Results of a Retail Gasoline Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute (1994). The study simulated runoff and found that pollutant concentrations from commercial parking lots and gas stations are similar.

[27] Board Order No. 96-054, Pt. 2. 1.E.1.a.ix. The Los Angeles permit requires that Permittees have the legal authority to require sweeping or other equally efective measures to remove debris from industrial commercial motor vehicle parking lots with more than 25 parking spaces.

[28] 62 *Fed. Reg.* 7872. The USEPA states in the preamble to the reissuance of NPDES general permits for storm water discharges from construction activities, that prohibition in the Endangered Species Act on harmful agency actions are binding on it, other federal agencies, permittees, and the public at large. EPA writes, "Federal agencies are required to consult with the Fish and Wildlife Service or the National Marine Fisheries Service to ensure that any action authorized, funded, or carried out by them are not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat."

to areas designated as environmentally sensitive or significant by the State Water Resources Control Board, the State Resources Agency, and the County of Los Angeles. The Long Beach municipal storm water permit already requires SUSMP for development in locations discharging to environmentally sensitive areas.[29]

The California Coast Act (CA) Section 30116 defines sensitive coastal resource areas as: "Those identifiable and geographically bounded land and water areas within the coastal zone of vital interest and sensitivity. "Sensitive coastal resource areas" include the following:

(a) special marine and land habitat areas, wetlands, lagoons and estuaries as mapped and designated in part 4 of the coastal plan
(b) areas possessing significant recreational value
(c) highly scenic areas
(d) archaeological sites referenced in the California coastline and recreation plan or as designated by the state historic preservation officer
(e) special communities or neighborhoods which are significant visitor destination areas.
(f) areas that provide existing coastal housing or recreation opportunities for low and moderate income persons.
(g) areas where divisions of land could substantially impair or restrict coastal access."

The Los Angeles County General Plan identifies Ecologically Significant Habitat Areas (ESHAs). Areas in Los Angeles County that are ecologically sensitive were first identified in the early 1970s by a court decision (the Judge Thomas decision) and subsequently modified based on "the England and Nelson Study" conducted by the Museum of Natural History for the Los Angeles County Department of Regional Planning ((Los Angeles County Significant Ecological Areas Study,1976). Subsequent modifications have been conducted on a case by case basis. These areas are designated Ecological Significant Areas (SEAs) and include all ESHAs.

Sensitive resources include streams and wetlands, but also some upland areas such as oak woodlands coastal sage scrub and certain desert habitat. The Coastal Act protects SEAs, streams and wetlands. The term "sensitive resource areas" include these areas. The coastal act defines an ESHA as an area in which the habitat is rare or especially valuable.

Retail Gasoline Outlets

At present, most retail gasoline outlets are operated as fueling facilities only. Automotive repair activities are no longer conducted on these sites. Consistent with this trend, the BMP requirements for retail gasoline outlet with fueling services only have been limited to guidelines in, *Best Management Practices Guide: Retail Gasoline Outlets*, California Stormwater Quality Task Force (1997). Where a retail gasoline outlet provides fueling services and operates a service bay for automotive repair, BMP requirements to reduce storm water pollution from vehicle repair/ maintenance activities would also apply.

Conflicts with Local Practices

[29] Board Order No. 99-060, Pt. 4. 1.D.5. The Long Beach municipal storm water permit states that, "the Standard Urban Storm Water Mitigation Plan [shall] be prepared for...(d) environmentally sensitive areas."

Language has been included to allow changes to provisions in the SUSMP if there is conflict with established local codes, if the modification would not otherwise defeat or circumvent the intent of the SUSMP requirements. This provision of the SUSMP enables municipalities to make changes to the SUSMP to be consistent with local codes and practices without prior approval of the Regional Board Executive Officer where the change has little bearing on SUSMP requirements to reduce storm water pollution.

Provision of Waiver

A waiver provision has been included in the SUSMP to enable municipalities to afford developers and builders the option of in lieu fees where "Impracticability" of storm water treatment can be established. Recognized situations of "Impracticability" include, (i) extreme limitations of space for treatment; (ii) unfavorable or unstable soil conditions for infiltration; and (iii) presumptive risk of groundwater contamination because an underground drinking water source or potential drinking water source is less than ten feet from soil surface.

As proposed, a waiver granted by a municipality for any project is revocable by the Regional Board Executive Officer for cause and with proper notice upon petition. Along with the waiver option is a requirement that the municipality, in turn, require that the cost savings of not implementing SUSMPs be transferred to a storm water mitigation fund, designated by the municipality, to be used to promote regional or alternative solutions for storm water pollution control. A public agency or a non-profit entity must operate the storm water pollution control project. Any other generic basis of 'Impracticability", other than the three listed above, must be submitted by the Co-Permittee to the Regional Board and approved by the Executive Officer before it can take effect. The purpose of the waiver is to provide an alternative for individual projects where storm water treatment is infeasible, while ensuring that storm water pollution control efforts are not obviated by the grant of waiver.

Groundwater Resource Protection

The SUSMP explicitly recognizes that in some circumstances, infiltration BMPs, may not be appropriate because of the risk of contamination of groundwater resources. It identifies the factors that determine potential for groundwater contamination. These are, (i) pollutant mobility; (ii) pollutant abundance in storm water, and (iii) soluble fraction of pollutant. A reference for further information on how to evaluate limitations and potential risk is provided, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94/051, USEPA (1994).*

Alternative Certification Option

The SUSMP includes a provision that authorizes municipalities, in lieu of conducting a detailed plan review, to accept a signed certification by a registered engineer or a licensed architect that the urban storm water mitigation plan submitted by the project proponent meets BMP criteria described in the SUSMP. As initially proposed in the December 7th SUSMP document, the registered engineer or licensed architect was to provide evidence that the certifying person has undergone training on designing BMPs to meet the numerical mitigation criteria and other conditions in the SUSMP not more than two years prior to the signature date on the plan. The training on SUSMP and BMP design criteria may be conducted by any institution with the

relevant expertise. Some such institutions are universities, the American Society of Civil Engineers (ASCE), the American Public Works Association (APWA), the American Society of Landscape Architects (ASLA), and the California Water Environment Association (CWEA). The purpose of the provision was to provide an option for municipalities to limit resource demands on planning departments, without reducing storm water quality protection objective of the SUSMP. While the concept remains desirable, staff will propose a modification that encourages, rather than require, Co-Permittees who elect to accept certifications from registered professional engineers and licensed architects, to verify that the certifying person has been trained, by an institution with expertise, on design of BMPs for water quality.

7.0 SAMPLE APPLICATION OF THE NUMERICAL MITIGATION MEASURE

After the Regional Board Executive Officer approves the SUSMP, municipalities will be expected to implement an urban storm water mitigation plan approval program. The municipality must require that projects that meet the criteria established in the permit and SUSMP prepare and submit an Urban Storm Water Mitigation Plan for approval. Project proponents must identify in the Plan post-construction treatment control BMPs for implementation. The treatment control BMP(s) must be sized or designed to treat the volume/ flow of storm water produced by rainfall events up to and including the design storm (numerical design criteria).

The project proponent will select source control and treatment control BMP(s) from the list approved by the Regional Board in Board Resolution No. 99-03, and included in the SUSMP. For example, for a 100+ home sub-division project, these may include swales (for the parkway); infiltration basin at the end of swale; biofilters (around parking lots); green belts (between rear yards); detention basin (as a lake); and catch-basin basket inserts (for trash). In combination, these treatment control BMPs must be sufficiently sized, i.e., designed and constructed, to treat, infiltrate, or filter the first 0.75 inch of storm water runoff from a storm or a storm event. The urban storm water mitigation plan will specify the treatment control BMPs and other source control BMPs that will be built into the project.

The municipality could then review the Urban Storm Water Mitigation Plan to make sure that it meets the requirements of the SUSMP for the project type. If the SUSMP requirements are met, the municipality may approve the project to proceed. As an alternative, the municipality, may in lieu of detailed plan checking, accept signed certification by a registered engineer or a licensed architect. The municipality may require that the certifying person provide evidence of undergoing training for BMP water quality sizing and other plan requirements. For example, training conducted by institutions with BMP water quality design expertise, within two years of the plan signature date, may be considered qualifying.

Alternatively, if the project proponent can demonstrate that construction of treatment control BMPs are impracticable the municipality may authorize the project proponent to transfer equivalent funds to alternative BMP projects to control storm water pollution managed by a public or non-profit agency. Some examples of recognized situations of impracticability are unstable soil conditions, shallow groundwater, or extreme limitations of space.

8.0 LEGAL AND REGULATORY BASIS FOR ACTION[30]

Regional Board Authority to Adopt the Proposed SUSMP.

The Regional Board has the authority to adopt the proposed SUSMP and numerical mitigation standards for new development and significant redevelopment. Regional Board Order No. 96-054 ("Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles") requires that each of the Permittees develop an Urban Storm Water Mitigation Plan following the model approved by the Executive Officer.[31]The proposed action would adopt the model, or Standard Storm Water Mitigation Plan for the Co-Permittees to follow.

Although Order No. 96-054 provides that the Regional Board Executive Officer has authority to approve the model program, as proposed, the current proposal is being submitted to the Board itself for review and endorsement at an upcoming meeting. Following consideration by the Board, the Executive Officer would proceed to approve the SUSMP for Los Angeles County Co-Permittees. In addition, the proposal would make the SUSMP applicable to the City of Long Beach. This is required because the City of Long Beach has a storm water permit (Order No. 99-060 separate from the one applicable to other cities in the County.

The proposed SUSMP would require, *inter alia,* that (a) post-construction treatment control BMPs be required for nine categories of development and (b) the BMPs be designed to mitigate (treat or infiltrate) the runoff from all storms up to 0.75 inch of rainfall for 24-hour period or equivalent runoff volume. These requirements are based upon application of provisions of the Clean Water Act (CWA), section 402(p) and the 1987 Amendments to the CWA. The federal provisions require that a storm water program:

> "* * *
>
> (ii) Shall include a requirement to effectively prohibit non-storm water discharges into storm sewers; and
>
> (iii) Shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." [Section 402(p)(3)(B), USC Section 1342(p)(3)(B), emphasis added.]

The proposal is an effort to meet the CWA requirements. In a 1992 decision, the U.S. Court of Appeals for the Ninth Circuit (NRDC v. U.S. U.S. EPA, 966 F.2d 1292) interpreted the above language as providing the Administrator or the State with a substantial amount of discretion:

> "[t]he language in (iii), above, requires the Administrator or the State to design controls. Congress did not mandate a minimum standards approach or specify that U.S. EPA

[30] Section 8.0 was prepared by the Regional Board's Legal Counsel, Mr. Jorge Leon

[31] Los Angeles Municipal Permit, (Part III.A., at Page 31.)

develop minimal performance requirements...we must defer to U.S. EPA on matters such as this, where U.S. EPA has supplied a reasoned explanation of its choices."

The decision, sometimes referred to as "NRDC II," stands for the proposition that the U.S. EPA and the States are authorized to require implementation of storm water control activities that, upon "reasoned explanation," accomplish the goals of Section 402(p).

In a very recent decision, the Ninth circuit Court of Appeals reinforced the U.S. EPA's and the State's authority in this area. In Defenders of Wildlife *v.* Browner (1999) Case No. 98-71080, the Ninth Circuit Court of Appeals reviewed an action of the U.S. U.S. EPA to adopt a Storm Water Management Program in the State of Arizona. That program included best management practices such as storm water detention basins, retention basins, and infiltration ponds. The question was whether the U.S. EPA may require numeric limitations to ensure strict compliance with the state water-quality standards. The Court concluded that the CWA does not require strict compliance; however, citing the language of (iii), above, it stated: "[t]hat provision gives the U.S. EPA discretion to determine what pollution controls are appropriate. As this court stated in NRDC II, 'Congress gave the administrator discretion to determine what controls are necessary...[cites omitted] (at page 11687).

The SUSMP proposal is an effort to meet the CWA Section 402(p) requirements and the staff has provided a "reasoned explanation of its choices" in the SUSMP proposal, the staff report, and the accompanying materials. Accordingly, the proposed SUSMP requirements are well within the Regional Board's authority and discretion.

Process under Order 96-054.

The Executive Advisory Committee of the Storm Water Program for Los Angeles County has suggested that the present process, by which the Regional Board will consider endorsement of a storm water program, violates the model program adoption process as set out in Order 96-054.

The argument relies heavily on a premise that the Permit process provides significant notice, review and meet-and-confer protections that will benefit the Co-Permittees. The comment accurately sets forth the storm water program submittal, review, and approval provisions as set forth in Order No. 96-054. However, those provisions must be considered in their full context, including, significantly, the deadline set forth in the permit for implementation. That deadline (July 30, 1999) has come and gone. Because of the lapse of the deadline, the lack of countywide implementation of an effective SUSMP, and the impending expiration of Order No. 96-054 itself, the process prescribed in the permit is now obsolete.

The process now proposed by the Executive Officer would expedite implementation of an effective SUSMP while still effectively providing the protections to the Co-Permittees provided under the Order's scheme. That is, while the proposed process differs from that set forth in Order No. 96-054, it creates no actual prejudice to the Co-Permittees. None is described in the Executive Advisory Committee's (EAC) comment letter of December 22, 1999. To the contrary, in order to provide for program submittal, review, and meet-and-confer, the Executive Officer and staff have held numerous discussions with the Co-Permittees, the County and the EAC regarding the SUSMP proposal, including a workshop held August 10, 1999 and the discussion

before the Regional Board itself of September 16, 1999. During these discussions, several proposals have been exchanged between the staff and the interested parties and the record in this matter now contains a substantial number of comments and responses.

Significantly, the Executive Officer's proposal has the endorsement of the U.S. EPA.[32] Moveover, as a further consideration, the U.S. EPA's October, 1999 "NPDES Program Implementation Review" for this region was critical of the process set forth in Order 96-054 for model program approval.[33]

The unfortunate effect of adopting the EAC's argument to adhere at this time to the scheme laid out in Order 96-054 would be to further seriously delay implementation of the SUSMP without providing any real additional procedural protections to the Co-Permittees. It would also expose the Regional Board to court action for failure to timely move toward program implementation.

Given the circumstances of this matter, the fact that a change of process has not deprived the Co-Permittees of any opportunity to discuss the SUSMP provisions and propose alternatives or any other protections, and the fact that the Regional Board's primary responsibility is to protect the water quality in the Region (Water Code Section 13000), the Board may, within its legal discretion, determine that the best way to do so in the municipal storm water context, is to proceed with the SUSMP proposal under the process presented by staff, rather than delay program implementation.

Compliance with the California Environmental Quality Act.

The City of Los Angeles has requested the "Regional Board's analysis of the potential multi-media environmental impacts from the proposed requirement "(i.e. the California Environmental Quality Act documentation and supporting information developed for this specific discretionary regulatory action." The proposed action is a requirement of Order No. 96-054. The issuance of the order itself, and the requirements contained in the order, is exempt from CEQA (Water Code Section 13389). Accordingly, no specific CEQA documentation has been prepared for this proposal. Nonetheless, the staff has prepared preliminary cost-benefit analyses contained in the supporting material, and these can be provided.

Notice Sufficiency

A party commented that insufficient notice has been provided to the public regarding this matter.
An earlier version of the SUSMP proposal was issued to the public in August 1999 and a public workshop was held on August 10, 1999. Additionally, this matter was heard before the Regional Board during a discussion at its September 16, 1999 meeting. While the only applicable legal notice requirement is 10 days (Govt. Code Section 11125), the Regional Board

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[32] See Letter of January 13, 2000 to Dennis Dickerson, Executive Officer from Alexis Strauss, Director, Water Division, U.S. EPA.

[33] See NPDES Program Implementation Review: California Regional Water Quality Control Board 4, Los Angeles Region. USEPA, Region 9, Final Report – October 1999., at page 10 of 45. The report notes at page 28 that the process was "...hindering overall progress towards achieving permit objectives".

staff has provided 30 days public notice of the revised version that is currently scheduled to be heard by the Board at its January 26, 2000 meeting. This constitutes adequate legal notice.

Implementation Date.

Order No. 96-054 contemplates that implementation of the SUSMP requirements commence no later that July 30, 1999. Since that date has passed, a new implementation date must be determined following approval of the SUSMP by the Executive Officer. There is no legal standard upon which to base a new implementation date. The Executive Officer is free to establish a revised implementation schedule. Inasmuch as the municipalities will likely be required to adopt or amend existing ordinances to require compliance with the SUSMPS, a new implementation date should take that need into account. I recommendation that the Co-Prmittees be requested to submit comments on this issue and that the Board consider alternatives proposed.

Unfunded Mandate.

The requirements of the proposed SUSMP are not within the definition of "Unfunded Mandates" that would require reimbursement of costs under the California Constitution. This is because the requirements of the SUSMP are derived from the federal Clean Water Act, not from State Law. Inasmuch as the Regional Board staff's proposal would implement a federal requirement, rather than a state requirement, the SUSMP are not unfunded mandates.

Compliance With the Administrative Procedure Act.

The EAC argues that the proposed SUSMP constitutes rulemaking, in violation of the California Administrative Procedure Act, Government Code Section 11340 et.seq. The EAC's objection to the model program adoption process comes approximately three and a half years beyond the legal statute of limitations (Water Code Section 13320 provides 30 days for an aggrieved person to petition for review of a Regional Board action). The model programs provision, contained in Order No. The Regional Board adopted Order No. 96-054, on July 15, 1996. The argument is not only grossly untimely, it is also incorrect. The APA requirements apply only to rulemaking activities. Contrary to the EAC's assertion, the proposed action is not "rulemaking" in nature. Rather, it is the identification of further requirements set forth in permit Order No. 96-054. Under the APA itself, the issuance of such permits is not subject to the rulemaking requirements of the APA (Government Code Section 11352(b).

9.0 RECOMMENDATION

Staff has reviewed the state of current technical practice and the regulatory authority vested with the Regional Board to direct implementation of actions to reduce pollutants in storm water. The municipal storm water program for Los Angeles County and cities is in its ninth year of implementation. The municipal storm water program has been widely criticized as being ineffective and there have been delays in achieving implementation of all facets of the 1996 permit requirements.[34] Some cities have adopted programs embracing many of the elements of

[34] Runoff Remedies will be Complex, Costly, Los Angeles Times, September 6, 1999. M. Cone.

the SUSMP program as proposed, including the numerical design criteria, and the County is using the 0.75 inch design standard (as a result of its own determination of the appropriateness of that value in reaching an accord regarding litigation settlement).

In view of 1) the legal authority of the Regional Board; 2) the practice already in place in a substantial portion of the County; and 3) the need to address the contribution of pollutants from storm water runoff; it is appropriate for the Regional Board to establish numerical design criteria for treatment BMPs for priority development projects. While the staff proposal cites a 0.75 inch standard, the specific design standard to be adopted and a schedule for its implementation remain matters which are within the discretion of the Regional Board.

Staff further recommends that the Regional Board adopt the numerical BMP design standard in the SUSMP as the minimum standard of review for post-construction BMPs, in the Los Angeles Region, for projects subject to coverage under the state general permit for storm water discharges associated with construction activity.

Regional Board staff recommends that the Regional Board endorse the December 7, 1999 staff proposal for SUSMPs with appropriate changes as included in the Change Sheet to be available at the Board meeting, and/or as modified and directed by the Regional Board. Comments are being received as this staff report is being developed and the Change Sheet to be submitted to the Board will likely include revisions based on comments received after the date of this Report.

STANDARD URBAN STORM WATER MITIGATION PLAN

DEVELOPMENT PLANNING

CHANGE SHEET

Summary

The Change Sheet lists proposed changes to the Final Tentative - Standard Urban Storm Water Mitigation Plan, (December 7, 1999). In general, the proposed changes respond to commenters' suggestions on improving clarity, format, and implementability of the Standard Urban Storm Water Mitigation Plan.

Noteworthy changes include, the addition of a definition for 'storm event' and the requirement of professional registration for certifying persons under the "Alternative Certification' option. Two new references have been added to augment implementation guidance. These are, (i) National Stormwater Best Management Practices (BMP) Database, Version 1.0, and (ii) Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices.*

In the Change Sheet, cross-reference to pages and paragraphs are for the 'Marked-up Version' dated January 21, 2000. New text added to a sentence is indicated by underline.

Background

1. Page 2 paragraph three, Clarify that a City has to adopt same requirements for the Citywide SUSMP

   Sentence changed to read, "The Permittees are required to adopt the requirements set herein in their own SUSMP."

2. Page 2 paragraph 3, Delete reference to Urban Storm Water Mitigation to avoid confusion

   Sentence changed to read, "Each Permittee will approve the project plan as part of the development plan approval process....

3. Page 3 paragraph 2, Clarify the environmentally sensitive area category.

   Sentence changed to read, "Location within or directly adjacent to or discharging directly to an environmentally sensitive area.

4. Page 3 paragraph 2, Make requirement applicable to stand-alone parking lots only

   Sentence changed to read, "Commercial stand-alone parking lots 5,000 square feet or more.....

Definitions

5. Order definitions alphabetically

   Definitions reordered alpha-numerically

6. Page 3, Delete exceptions in the definition of Automotive Repair Shop

   Exceptions deleted, now reads, "Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539."

7. Page 3, paragraph 3, Modify definition of 100,000 square foot commercial development for simplicity.

   Definition changed to read, "any commercial development that creates at least 100,000 square feet of impermeable area, including parking areas".

8. Page 4 paragraph, 2, Add references for environmentally sensitive areas

   References added for Areas of Special Biological Significance and Area of Ecological Significance.

9. Page 4, paragraph 8, Change definition to include a threshold trigger for requirements to apply to redevelopment

   Definition changed to read, "Redevelopment" means, on an already developed site, the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure. Redevelopment includes.....

10. Page 5, paragraph 1, Change definition to clarify 'primarily engaged'.

    Definition changed to read, ""Retail Gasoline Outlet" means a facility engaged in selling gasoline and lubricating oils, which derives more than fifty percent of its annual gross receipts from the sale of gasoline, lubricating oils tires, batteries, automobile parts and other automotive services.

11. Page 5, Define a storm event

    Defined storm event to mean, "a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather."

SUSMP Provisions Applicable to All Categories

12. Page 7, paragraph 2, Change sentence for clarity

    Sentence changed to read, "....shall not exceed the estimated pre-development rate for developments where it is reasonably foreseeable that the increased peak storm water discharge rate will result in increased potential for downstream erosion."

13. Page 7, paragraph 3, Delete text that makes act dependent on effort

    Sentence changed to read, "Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition."

14. Page 7, paragraph 4, Change sentence for clarity

    Sentence changed to read, "...or the detectable inputs of the pollutant are at a concentrations or loads considered potentially toxic to humans and/or flora and fauna."

15. Page 8, paragraph 1, Add reference

    Added reference, "Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices*"

16. Page 8, paragraph 1, Add text to enable BMP combination alternative

    Added text to read, "However, it is possible that a combination of BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants".

17. Page 8, paragraph 3, Delete text that is tentative

    Text deleted to read, "Project plans must include BMPs consistent....."

18. Page 8, paragraph 3, Add text to promote use of natural drainage systems

    Add text to read, "Utilize natural drainage systems to the maximum extent practicable"

    17. Page 8, paragraph 3, Add text to minimize fow to natural drainage systems

    Text added to read, "Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable"

18. Page 9, paragraph 2, Change sentence for clarity

    Sentence changed to read, "Materials with the potential to contaminate storm water must be: (1) placed in an enclosure..."

19. Page 9, paragraph 4, Add text to exclude single family residences

    Sentence added to read, " Individual single family residences are exempt from these requirements"

20. Page 10, paragraph 1, Change text for clarity

    Text changed to read, "The transfer of property to a private or public owner must have conditions..."

21. Page 10, paragraph 1, Add text to require maintenance inspection and record.

    Sentence added to read, "The condition of transfer may include a provision that the property owner conduct maintenance inspection of all treatment control BMPs at least once a year and retain proof of inspection."

22. Page 10, paragraph 3, Delete text for clarity

    Text deleted, "~~each runoff event up to and including~~", Now reads, "the 85th percentile 24-hour runoff event...."

23. Page 10, paragraph 3, Correct based on revised chart treatment volume from 85 percent to 80 percent.

    Text changed to read, "to achieve 80 percent or more volume treatment....."

24. Page 10, paragraph 3, Change text for clarity

    Sentence changed to read, "....runoff produced from a 0.75 inch storm event, prior..."

25. Page 11, paragraph 1, Change text for clarity

    Sentence changed to read, "....volume of runoff produced from a historical-record based reference 24-hour rainfall criterion...."

26. Page 11, paragraph 2, Change text to offer partial credit for roofing surfaces diversion

    Sentence changed to read, "A proportional area of roofing surface may be excluded..."

27. Page 11, paragraph 2, Change text for clarity.

    Sentence changed to read, "storm water conveyance system does not directly discharge to a natural stream or channel segment scheduled for restoration".

28. Page 11, paragraph 3, Change text to clarify exemption from numerical standard only.

    Sentence changed to read, "Restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the numerical BMP design standard requirement.

Provisions Applicable to Individual Priority Projects

29. Page 12, paragraph 2, and Page 14, paragraph 1, Change text to eliminate mandatory cover.

    Sentence change to read, "...area must be self-contained and/or covered, equipped with a clarifier,..."

30. Page 14, paragraph 3, Change text for clarity.

    Text modified to read, "....hydrocarbons that are deposited on parking lot surfaces by motor vehicles"

31. Page 14, paragraph 3, Add introductory text.

    Sentence added to read, "To minimize the offsite transport of pollutants, the following design criteria are required".

Waiver

32. Page 15, paragraph 1, Add text for clarity

    Text added to read, "....because an existing or potential underground source of drinking water..."

33. Page 15, paragraph 1, Change text to clarify that Permittee is petitioner.

    Sentence modified to read, "Any other justification for impracticability must be separately petitioned by the Permittee and approved...."

Alternative Certification

34. Page 16, paragraph 1, Change sentences to require professional registration and recommend training verification.

    Sentences added to read "...accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets the criteria." And, "The Permittee is encouraged to verify that certifying person(s) have been trained on BMP design for water quality, not more than two years prior to the signature date."

Suggested Resources

35. Page 18, Add BMP Database reference

    Reference added, "National Stormwater Best Management Practices (BMP) Database, Version 1.0"

STANDARD URBAN STORM WATER MITIGATION PLAN

FOR LOS ANGELES COUNTY AND CITIES IN LOS ANGELES COUNTY

Revised Final Tentative
January21, 2000.

STANDARD URBAN STORM WATER MITIGATION PLAN

BACKGROUND

The municipal storm water National Pollutant Discharge Elimination System (NPDES) permit (Permit) issued to Los Angeles County and 85 cities (Permittees) by the Los Angeles Regional Water Quality Control Board (Regional Board) on July 15, 1996, requires the development and implementation of a program addressing storm water pollution issues in development planning for private projects. The same requirements are applicable to the City of Long Beach under its separate municipal storm water permit, which was issued on June 30, 1999.

The requirement to implement a program for development planning is based on, federal and state statutes including: Section 402 (p) of the Clean Water Act, Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 ("CZARA"), and the California Water Code. The Clean Water Act amendments of 1987 established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES program. The primary objectives of the municipal storm water program requirements are to:

Effectively prohibit non-storm water discharges, and
Reduce the discharge of pollutants from storm water conveyance systems to the Maximum Extent Practicable.

The Standard Urban Storm Water Mitigation Plan (SUSMP) was developed as part of the municipal storm water program to address storm water pollution from new Development and Redevelopment by the private sector. This SUSMP contains a list of the minimum required Best Management Practices (BMPs) that must be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the Permittee and applied generally or on a case by case basis. This SUSMP applies to projects that are Priority Projects (Discretionary Projects) as defined by the NPDES Permit. The Permittees are required to adopt the requirements set herein in their own SUSMP. Developers must incorporate appropriate SUSMP requirements into their project plans. Each Permittee will approve the project plan as part of the development plan approval process and prior to issuing building and grading permits for the projects covered by the SUSMP requirements.

Discretionary projects that fall into one of seven categories are identified in the NPDES Permit as requiring SUSMPs. These categories are:

Single-Family Hillside Residences
100,000 Square Foot Commercial Developments
Automotive Repair Shops

Retail Gasoline Outlets
Restaurants
Home Subdivisions with >10 housing units*

* (Note: this category is two separate categories in the NPDES Permit)

The Regional Board Executive Officer has designated two additional categories subject to SUSMP requirements. These categories are:

Location within or directly adjacent to or discharging directly to an environmentally sensitive area, and Commercial stand-alone parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff

DEFINITIONS

"100,000 Square Foot Commercial Development" means any commercial development that creates at least 100,000 square feet of impermeable area, including parking areas. ,

"Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

"Best Management Practice (BMP)" means any program, technology, process, siting criteria, operational methods or measures, or engineered systems, which when implemented prevent, control, remove, or reduce pollution.

"Directly Connected Impervious Area (DCIA)" means the area covered by a building, impermeable pavement, and/ or other impervious surfaces, which drains directly into the storm drain without first flowing across permeable land area (e.g. lawns).

"Discretionary Project" means a project which requires the exercise of judgement or deliberation when the public agency or public body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.

"Environmentally Sensitive Area" means an area designated as an Area of Special Biological Significance by the State Water Resources Control Board (*Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (1994)) or an area designated as an Area of Ecological Significance by the County of Los *Angeles (Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)*) or an area designated as a significant natural area by the California Resources Agency.

"Greater than (>) 9 unit home subdivision" means any subdivision being developed for 10 or more 10 single-family or multi-family dwelling units.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is twenty-five percent or greater.

"Infiltration" means the downward entry of water into the surface of the soil.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Parking Lot" means land area or facility for the temporary parking or storage of motor vehicles used personally, for business or for commerce.

Redevelopment" means, on an already developed site, the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/ or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces.

"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption. (SIC code 5812).

"Retail Gasoline Outlet" means a facility engaged in selling gasoline and lubricating oils, which derives more than fifty percent of its annual gross receipts from the sale of gasoline, lubricating oils tires, batteries, automobile parts and other automotive services.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"Storm Event" means a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media adsorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

CONFLICTS WITH LOCAL PRACTICES

Where provisions of the SUSMP requirements conflict with established local codes, (e.g., specific language of signage used on storm drain stenciling), the Permittee may continue the local practice and modify the SUSMPs contained herein to be consistent with the code, except where those practices would defeat or circumvent the intent of the SUSMP requirements.

SUSMP PROVISIONS APPLICABLE TO ALL CATEGORIES

REQUIREMENTS

1. PEAK STORM WATER RUNOFF DISCHARGE RATES

Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate for developments where it is reasonably foreseeable that the increased peak storm water discharge rate will result in increased potential for downstream erosion.

2. CONSERVE NATURAL AREAS

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants. Wherever practical, promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

3. MINIMIZE STORM WATER POLLUTANTS OF CONCERN

Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the stormwater conveyance system. The development must be designed so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site

runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as approved by the building official. Pollutants of concern, , consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at a concentrations or loads considered potentially toxic to humans and/or flora and fauna.

In meeting this specific requirement, "minimization of the pollutants of concern" will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in the *California Storm Water Best Management Practices Handbooks*; *Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide*; *Manual for Storm Water Management in Washington State*; *The Maryland Stormwater Design Manual*; *Florida Development Manual: A Guide to Sound Land and Water Management*; Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices* and *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* , USEPA Report No. EPA-840-B-92-002, as "likely to have significant impact" beneficial to water quality for targeted pollutants that are of concern at the site in question. However, it is possible that a combination of BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants.

Examples of BMPs that can be used for minimizing the introduction of pollutants of concern generated from site runoff are identified in Table 2. Any BMP not specifically approved by the Regional Board in Resolution No. 99-03, "Approving Best Management Practices for Municipal Storm Water and Urban Runoff Programs in Los Angeles County", for development planning may be used if they have been recommended in one of the above references.

4. PROTECT SLOPES AND CHANNELS

Project plans must include BMPs consistent with local codes and ordinances to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff:

- Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
- Utilize natural drainage systems to the maximum extent practicable
- Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable
- Stabilize permanent channel crossings.
- Vegetate slopes with native or drought tolerant vegetation.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion, with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers and the California Department of Fish and Game

5. PROVIDE STORM DRAIN SYSTEM STENCILING AND SIGNAGE

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the stormwater conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message.

- All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: "NO DUMPING – DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.
- Signs and prohibitive language and/or graphical icons discouraging illegal dumping must be posted at public access points along channels and creeks within the project area.
- Legibility of stencils and signs must be maintained.

6. PROPERLY DESIGN OUTDOOR MATERIAL STORAGE AREAS

Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials. Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the stormwater conveyance system. Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system, the following *structural* BMPs are required:

- Materials with the potential to contaminate storm water must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area must be paved and sufficiently impervious to contain leaks and spills.
- Where feasible, the storage area must have a roof or awning to minimize collection of stormwater within the secondary containment area.

7. PROPERLY DESIGN TRASH STORAGE AREAS

A trash storage area refers to an area where a trash receptacle or receptacles are located for use as a repository for solid wastes.

Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas must meet the following *structural BMP* requirements (individual single family residences are exempt from these requirements):

- Trash container areas must have drainage from adjoining roofs and pavement diverted around the area(s).
- Trash container areas must be screened or walled to prevent off-site transport of trash.

8. PROVIDE PROOF OF ONGOING BMP MAINTENANCE

Improper maintenance is one of the most common reasons why water quality controls will not function as designed or which may cause the system to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP, and what equipment is required to perform the maintenance properly. As part of project review, if a project applicant has included, or is required to include, treatment control BMPs in project plans, the Permittee shall require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits.

For all properties, the verification will include the developer's signed statement, as part of the project application, accepting responsibility for all structural and treatment control BMP maintenance until the time the property is transferred and, where applicable, a signed agreement from the public entity assuming responsibility for structural or treatment control BMP maintenance. The transfer of property to a private or public owner must have conditions requiring the recipient to assume responsibility for maintenance of any treatment control BMP to be included in the sales or lease agreement for that property, and will be the owner's responsibility. The condition of transfer may include a provision that the property owner conducts maintenance inspection of all treatment control BMPs at least once a year and retain proof of inspection. For residential properties where the treatment control BMPs are located within a common area which will be maintained by a homeowner's association, language regarding the responsibility for maintenance must be included in the projects conditions, covenants and restrictions (CC&Rs). Printed educational materials will be required to accompany the first deed transfer to highlight the existence of the requirement and to provide information on what stormwater management facilities are present, signs that maintenance is needed, how the necessary maintenance can be performed, and assistance that the Permittee can provide. It will also encourage the transfer of this information with subsequent sale of the property.

If treatment control BMPs are located within a public area proposed for transfer, they will be the responsibility of the developer until they are accepted for transfer by the County or other appropriate public agency. Treatment control BMPs proposed for transfer must meet design standards adopted by the public entity for the BMP installed and should be approved by the County or other appropriate public agency prior to its installation.

9. DESIGN STANDARDS FOR TREATMENT CONTROL BMPS

Treatment control BMPs selected for use at any project covered by this SUSMP shall meet the design standards of this Section unless specifically exempted.

a. Post-construction Treatment Control BMPs shall be designed to:

A. mitigate (infiltrate or treat) storm water runoff from either:

1. the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

2. the volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial*, (1993), or

3. the volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or

4. the volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event,

AND

B. control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency.

A proportional area of roofing surface may be excluded from the total area for calculation of rainfall or runoff volume to be treated provided:

a. the roofing materials will not be a source of pollutants of concern in storm water, and

b. storm water from the roofing surface area is diverted directly to a storm water conveyance system, and

c. roof based exhaust systems, vents, filters, and air pollution control devices will not present a significant source of pollutants of concern in storm water, and

d. the storm water conveyance system does not directly discharge to a natural stream or channel segment scheduled for restoration.

Exclusions

Restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the numerical BMP design standard requirement.

10. PROVISIONS APPLICABLE TO INDIVIDUAL PRIORITY PROJECT CATEGORIES

REQUIREMENTS

A. 100,000 SQUARE FOOT COMMERCIAL DEVELOPMENTS

1. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water runon or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

Vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, consider including in the project plans an area for washing/steam cleaning of vehicles and equipment. If such an area is included in the site design, it must meet the following:

- This area must be self-contained and or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer.

B. RESTAURANTS

1. PROPERLY DESIGN EQUIPMENT/ACCESSORY WASH AREAS

Outdoor equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must meet the following:

- This area must be self-contained, equipped with a grease trap, and properly connected to a sanitary sewer.
- If this wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer.

C. RETAIL GASOLINE OUTLETS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. The project plans must include the following BMPs:

- Fuel dispensing areas should be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.
- Fuel dispensing areas must be paved with portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable.
- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

D. AUTOMOTIVE REPAIR SHOPS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. Therefore, design plans, which include fueling areas, must contain the following:

- Fuel dispensing areas should be covered with an overhanging roof structure or canopy. The cover's minimum

dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area.

- Fuel dispensing areas must be paved with portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water.
- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

Vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, consider including in the project plans an area for washing/steam cleaning of vehicles and equipment. If such an area is included in the site design, it must meet the following:

- This area must be self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or to a permitted disposal facility.

4. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

E. PARKING LOTS

1. PROPERLY DESIGN PARKING AREA

Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that are deposited on parking lot surfaces by motor vehicles. These pollutants are directly transported to surface waters. To minimize the offsite transport of pollutants, the following design criteria are required:

- Reduce impervious land coverage of parking areas
- Infiltrate runoff before it reaches storm drain system.
- Treat runoff before it reaches storm drain system

2. PROPERLY DESIGN TO LIMIT OIL AND PERFORM MAINTENANCE

Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks.

- Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces , sports event parking lots, shopping malls, grocery stores, discount warehouse stores)
- Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal, and system fouling and plugging prevention control

11. WAIVER

A Permittee may, through adoption of an ordinance or code incorporating the treatment requirements of the SUSMP, provide for a waiver from the requirement if impracticability for a specific property can be established. Recognized situations of impracticability include, (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because an existing or potential underground source of drinking water is less than 10 feet from the soil surface. Any other justification for impracticability must be separately petitioned by the Permittee and approved by the Regional Board Executive Officer before it becomes recognized and effective. A waiver granted by a Permittee to any development or redevelopment project may be revoked by the Regional Board Executive Officer for cause and with proper notice upon petition.

If a waiver is granted for impracticability, the Permittee must require the project proponent to transfer the savings in cost, as determined by the Permittee, to a storm water mitigation fund to be used to promote regional or alternative solutions for storm water pollution in the storm watershed and operated by a public agency or a non-profit entity.

12. LIMITATION ON USE OF INFILTRATION BMPS

Three factors significantly influence the potential for storm water to contaminate ground water. They are (i) pollutant mobility, (ii) pollutant abundance in storm water, (iii) and soluble fraction

of pollutant. The risk of contamination of groundwater may be reduced by pretreatment of storm water. A discussion of limitations and guidance for infiltration practices is contained in, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94/051, USEPA (1994).*

In addition, the distance of the groundwater table from the infiltration BMP may also be a factor determining the risk of contamination. A water table distance separation of ten feet depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic.

Infiltration BMPs are not recommended for areas of industrial activity or areas subject to high vehicular traffic (25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway) unless appropriate pretreatment is provided to ensure groundwater is protected and the infiltration BMP is not rendered ineffective by overload.

13. ALTERNATIVE CERTIFICATION FOR STORM WATER TREATMENT MITIGATION

In lieu of conducting detailed BMP review to verify treatment control BMP adequacy, a Permittee may elect to accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets the criteria established herein. The Permittee is encouraged to verify that certifying person(s) have been trained on BMP design for water quality, not more than two years prior to the signature date.,. Trainingconducted by an organization with storm water BMP design expertise (e.g., a University, American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, or the California Water Environment Association) may be considered qualifying.

14. RESOURCES AND REFERENCE

TABLE 1

SUGGESTED RESOURCES	HOW TO GET A COPY
Start at the Source (1999) by Bay Area Stormwater Management Agencies Association Detailed discussion of permeable pavements and alternative driveway designs presented.	Bay Area Stormwater Management Agencies Association 2101 Webster Street Suite 500 Oakland, CA 510-286-1255
Design of Stormwater Filtering Systems (1996) by Richard A. Claytor and Thomas R. Schuler Presents detailed engineering guidance on ten different stormwater filtering systems.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Better Site Design: A Handbook for Changing Development Rules in Your Community (1998) Presents guidance for different model development alternatives.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Design Manual for Use of Bioretention in Stormwater Management (1993) Presents guidance for designing bioretention facilities.	Prince George's County Watershed Protection Branch 9400 Peppercorn Place, Suite 600 Landover, MD 20785
Operation, Maintenance and Management of Stormwater Management (1997) Provides a thorough look at stormwater practices including, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	Watershed Management Institute, Inc. 410 White Oak Drive Crawfordville, FL 32327 850-926-5310
California Storm Water Best Management Practices Handbooks (1993) for Construction Activity, Municipal, and Industrial/Commercial Presents a description of a large variety of structural and good housekeeping BMPs.	Los Angeles County Department of Public Works Cashiers Office 900 S. Fremont Avenue Alhambra, CA 91803 626-458-6959

TABLE 1 (Continued)

SUGGESTED RESOURCES	HOW TO GET A COPY
Second Nature: Adapting LA's Landscape for Sustainable Living (1999) by Tree People Detailed discussion of BMP designs presented to conserve water, improve water quality, and achieve flood protection.	Tree People 12601 Mullholland Drive Beverly Hills, CA 90210 818-753-4600 (?)
Florida Development Manual: A Guide to Sound Land and Water Management (1988) Presents detailed guidance for designing BMPs	Florida Department of the Environment 2600 Blairstone Road, Mail Station 3570 Tallahassee, FL 32399 850-921-9472
Stormwater Management in Washington State (1999) Vols. 1-5 Presents detailed guidance on BMP design for new development and construction.	Department of Printing State of Washington Department of Ecology P.O. Box 798 Olympia, WA 98507-0798 360-407-7529
Maryland Stormwater Design Manual (1999) Presents guidance for designing storm water BMPs	Maryland Department of the Environment 2500 Broening Highway Baltimore, MD 21224 410-631-3000
Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices (1999) Presents guidance for designing BMPs	Urban Drainage and Flood Control District 2480 West 26th Avenue, Suite 156-B Denver, CO 80211 303-455-6277
Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (1993) Report No. EPA–840-B-92-002. Provides an overview of, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	National Technical Information Service U.S. Department of Commerce Springfield, VA 22161 800-553-6847
National Stormwater Best Management Practices (BMP) Database, Version 1.0 Provides data on performance and evaluation of storm water BMPs	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 703-296-6000
Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide (Best Management Practices Handbooks (1998) Presents guidance for design of storm water BMPs	California Department of Transportation P.O. Box 942874 Sacramento, CA 94274-0001 916-653-2975

TABLE 2

EXAMPLE BEST MANAGEMENT PRACTICES (BMPS)

The following are examples of BMPs that can be used for minimizing the introduction of pollutants of concern that may result in significant impacts, generated from site runoff to the storm water conveyance system. (See Table 1: Suggested Resources for additional sources of information):

- Provide reduced width sidewalks and incorporate landscaped buffer areas between sidewalks and streets. However, sidewalk widths must still comply with regulations for the Americans with Disabilities Act and other life safety requirements.
- Design residential streets for the minimum required pavement widths needed to comply with all zoning and applicable ordinances to support travel lanes; on-street parking; emergency, maintenance, and service vehicle access; sidewalks; and vegetated open channels.
- Comply with all zoning and applicable ordinances to minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. The radius of cul-de-sacs should be the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds should be considered.
- Use permeable materials for private sidewalks, driveways, parking lots, or interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.).
- Use open space development that incorporates smaller lot sizes.
- Reduce building density.
- Comply with all zoning and applicable ordinances to reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
- Comply with all zoning and applicable ordinances to reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas.
- Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the storm water conveyance system.
- Vegetated swales and strips
- Extended/dry detention basins
- Infiltration basin
- Infiltration trenches
- Wet ponds
- Constructed wetlands
- Oil/Water separators
- Catch basin inserts
- Continuous flow deflection/ separation systems
- Storm drain inserts
- Media filtration
- Bioretention facility
- Dry-wells
- Cisterns
- Foundation planting
- Catch basin screens
- Normal flow storage/ separation systems
- Clarifiers
- Filtration systems
- Primary waste water treatment systems

STANDARD URBAN STORM WATER MITIGATION PLANS

SUMMARY OF COMMENTS RECEIVED AND RESPONSE

The comments received on the Standard Urban Storm Water Mitigation Plans (SUSMPs) and Regional Board staff response is divided into two sections. The first sections, lists main issues and staff response in detail. The second section summarizes all significant comments received by the Board on SUSMP before December 6, 1999, and the staff response including any actions taken to address the comment.

A. MAIN ISSUES AND RESPONSE

1. **Comment**:The Regional Board lacks regulatory discretion to establish a numerical mitigation measure for storm water treatment.

Response: The municipal storm water permit for Los Angeles County and Cities requires that SUSMPs achieve specific objectives which include to (i) minimize adverse impacts to natural communities; (ii) maximize infiltration to the extent practicable; (iii) minimize parking lot pollution; (iv) provide for appropriate controls to reduce storm water pollutant loads.[1] Staff interprets this provision of the permit, underlying federal law, and the statutory standard of Maximum Extent Practicable (MEP) as requiring SUSMPs to incorporate numerical mitigation measures for development planning projects in order to achieve compliance with water quality standards. Without a numerical mitigation measure, developers will select no treatment BMPs because there will be no BMP sizing guideline. Board Resolution No. 99-03 which states that "The Permittees shall select and require implementation of the most effective BMPs,...." will then be without effect.[2]

The 1987 Clean Water Act amendments give USEPA and States considerable discretion on establishing provisions for implementation in storm water programs.[3] Further, interim USEPA policy guidelines on BMPs for storm water programs explains that the permitting authority can require more specific conditions or limitations to meet water quality

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[1] Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles (Board Order No. 96-054; NPDES No. CAS614001). Part 2. III.A.2)

[2] The Regional Board adopted Resolution No. 99-03 approving BMPs for Development Planning and Development Construction on April 22, 1999.

[3] 33 U.S.C. Section 1342(p)(B)(iii). "require controls to reduce the discharge of pollutants to the maximim extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of pollutants."

standards where adequate information exists.[4] In addition, courts accord administrative agencies a high degree of deference in the areas of law they regulate.[5]

2. **Comment:** Anti-degradation policy prohibits new construction when water quality is already impaired.

Response: The municipal storm water permit in agreement with federal storm water regulations requires controls on new development to reduce storm water pollution. There is no prohibition on new construction.

3. **Comment**: The numerical mitigation criteria mandates the capture of storm water which will require expensive land acquisition cost.

Response: The numerical mitigation measure defines the definite volume of storm water that must be treated for water quality benefits. Treatment is the application of any physical, biological, or chemical method that can be used to remove pollutants in storm water. Providing storage volume for the runoff or capture is one form of treatment. It is not mandatory and other options may be considered such as reducing impervious cover and promoting infiltration.

4. **Comment**: The proposed numerical mitigation measure is not based on science and is an arbitrarily agreed to number in settlement of a lawsuit.

Response: The proposed numerical measures are technically defensible. The measures are based on the principle that most rainfall events are in the smaller range and higher rainfall runoff producing events are less frequent. Designing storm water treatment controls for the smaller events will reduce storm water pollutant loads significantly while optimizing BMP costs. The primary numerical method to determine BMP design criteria is the maximized water quality treatment volume method recommended by the American Society of Civil Engineers (ASCE). The 0.75-inch rainfall event method happens to be also the one that was agreed to in a lawsuit settlement agreement between the NRDC and the County of Los Angeles. The four methods proposed as choices are equivalent variants and in a technical comparison were in agreement to within 10% of one another. It is highly probable that parties that settle a litigation select a numerical criterion that is reasonable and factual.

5. **Comment**: The numerical mitigation measure will require implementation of BMPs that have not been proven to be effective in the region.

Response: The proposed numerical mitigation measure defines the quantity of storm water (volume) that has to be treated to remove pollutants. This criterion does not in anyway describe the effectiveness of BMPs to be used. The effectiveness of any particular BMP is dependent on design parameters and the range for its applications. Physical geography has little influence on the effectiveness of BMPs while proper

[4] 61 Fed. Register 43761. "The interim permitting approach uses best management practices in first-round strom water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate."

[5] See, e.g., Chevron U.S.A. v. Natural Res. Def. Council, (1984) 467 U.S. 837

maintenance is a big factor. Information on BMP effectiveness can be found in research reports and national BMP databases. The numerical mitigation measure in combination with the effectiveness of a BMP determines the overall annual load of pollutant that can be removed.

6. **Comment**: The post-construction treatment BMPs will require costly maintenance

Response: Treatment BMPs do require proper maintenance and maintenance costs are BMP specific. Poor or non-existent maintenance will result in an ineffective BMP. Information on BMP maintenance costs can be obtained from national databases and reports. See references in the Record of Decision. A cursory review indicates that maintenance costs are reasonable.

7. **Comment**: The Regional Board did not perform an economic analysis required by State and Federal law.

Response: The implementation of a federal regulation does not require separate economic analysis. A relative quantitative comparison performed with similar criteria for storm water management or flood control, sediment removal from construction, combined animal feedlot operations, and State of Washington water quality criteria indicated that the numerical mitigation criteria would cost about three to ten times less. In addition, staff performed BMP cost calculations for an actual site in Los Angeles in the process of development and determined that the mitigation criteria cost is less than 0.5 percent of the project cost.

8. **Comment**: The Regional Board did not provide adequate public notices to interested parties.

Response: Regional Board action was not contemplated at the September Regional Board meeting and thus no public notice was necessary. Nevertheless, Board staff provided a 30-day public notice and mailed a copy to all parties on file. Staff was unable to verify the claim by some that they did not receive copies of the public notice or provide an explanation. Staff will again provide 30 day-notice of the proposed action on the SUSMPs scheduled by the Regional Board for January 6, 2000.

B. SUMMARY OF ALL SIGNIFICANT COMMENTS AND RESPONSE

COMMENTER	COMMENT	RESPONSE	ACTION
General City of Los Angeles, Western States Petroleum Association	1. Conduct first a quantitative review of the basis of designation of selected categories as priority-planning projects.	The categories are designated in the permit and were selected based on risk sources data compiled in the first term of permit implementation.	No action necessary
Los Cerritos Channel Task Force	2. Provide level playing field for unincorporated and incorporated cities within LA County	Four methods of determining the mitigation measure are provided to ensure some flexibility. The methods are equivalent. See ROD	Four equivalent methods included as mitigation criteria in SUSMP

COMMENTER	COMMENT	RESPONSE	ACTION
Bellflower, Claremont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, Lynwood, Maywood, Montebello, Paramount, Norwalk, Rancho Palos Verdes, Santa Fe Springs, Whittier	3. No other MS 4 permits in California require numerical criteria for runoff mitigation	All MS4 permits are required to have controls on new development and redevelopment that will reduce pollutants to the MEP. The USEPA has identified the lack of specific criteria as a deficiency in its Report to Congress ON Phase II (1999)	No action necessary
SCAG	4. Provide the opportunity for the development of regional BMPs instead of site by site requirements	May be considered by Board in a Resolution	Will suggest interest to Regional Board
SCAG	5. Make the numerical mitigation measure voluntary pilot program for the first two years.	Federal laws and regulations require that controls on new development and redevelopment be enforceable	No action necessary
Santa Monica	6. More studies not necessary to establish mitigation criteria and evaluate BMPs	We agree that there exists sufficient information to establish numerical mitigation criteria and to design BMP for optimum performance and effectiveness.	No action necessary
Bellflower, Claremont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, Lynwood, Maywood, Montebello, Paramount, Norwalk, Rancho Palos Verdes, Santa Fe Springs, Whittier	7. Numerical mitigation measure is an unfunded mandate	Implementation of a federal permit program is not an unfunded mandate as described in the State constitution. See memo from legal counsel.	No action necessary
Bellflower, Claremeont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, Long Beach, Los Angeles, Lynwood, Maywood, Montebello, Paramount, Norwalk, Rancho Palos Verdes, Santa Clarita, Santa Fe Springs, Vernon, Whittier, BIA, EAC, New Hall Land and Farming, Long Beach Chamber of Commerce	8. Numerical mitigation measure is not based on sound science	Disagree. Our review of local data and implementation programs in states such as WA, FL, and MD indicates that the approach to establishing numerical mitigation measure is scientific and reasonable. The methods have also been endorsed by national science and engineering associations.	References to important documents provided in the SUSMP. A bibliography of references reviewed for the action is included in the ROD.
Bellflower, Cerritos, Claremont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, , Long Beach, Lynwood, Maywood, Montebello, Paramount, Norwalk, Rancho Palos Verdes, Santa Fe Springs, Whittier	9. Treatment controls will be required irrespective of siting factors limiting application.	Site conditions will determine what BMPs are appropriate. A provision for waiver is provided where mitigation may be infeasible. Mitigation banking may be an alternative.	Waiver provision has been included in the SUSMP where impracticability is established.
Covina, Irwindale, La Mirada, Lomita, Norwalk, Whittier	10. Provide sufficient time for Council of Governments to review and comment	Staff will mail and e-mail copies to SCAG for distribution to COGs.	Staff will mail public notice of proposed action to SCAG and COGs.
Cerritos, Diamond Bar	11. Developers will move to build in counties without numerical mitigation measures.	The mitigation measure requirement for new development is based on federal law. Other Regional Boards are likely to develop and evaluate compliance using similar criteria. The USEPA considers the absence of numerical storm water BMP design criteria for new development a deficiency. See USEPA Phase II Final Rule	No action necessary.

COMMENTER	COMMENT	RESPONSE	ACTION
Bellflower, Cerritos, Claremont, Commerce, Covina, Diamond Bar, Downey, Huntington Park, Industry, Irwindale, Lakewood, La Mirada, Lomita, , Long Beach, Lynwood, Maywood, Montebello, Paramount Glendora, , Norwalk Rancho Palos Verdes, Santa Fe Springs, Whittier, Truxaw and Associates, Long Beach Chamber of Commerce	12. BMPs will require costly maintenance	Maintenance of BMPs is essential and strategies to support maintenance activities are discussed in USEPA's Phase II Final Rule.	No action necessary.
Azusa, Claremont, EAC	13. Perform cost benefit analysis	The implementation of federal law does not require a separate cost benefit analysis. Relative cost comparisons and BMP cost calculations performed indicate that the cost of the mitigation measure is reasonable for the water quality benefits it will bring.	No action necessary
Centex Homes, Desert Partners, Bill Ehrlich, FORMA, Engineering Contractors Association, Greystone Homes, John Laing Homes, Mid-cities Escrow, JTL, New Hall Land and Farming, New Urban West, Pace Engineering, Pacific bay Homes, Pacific Soils Engineering, David Placek, Psomas, Ramseyer, Rasmussen, Shea Homes, Sikand, Southern California Contractors, Southern California Ready Mix Concrete Assoc., South Place Corp., SunCal Co., Taylsor Woodrow., Tetra Tech, Van Tilburg and Associates, Warmington Homes, Western Pacific Housing, LA County Supervisor Knabe,	14. SUSMP is stringent enough without the numerical mitigation measure	Without the numerical mitigation measure the SUSMP does not provide adequate guidance on design criteria for BMPs. Thus no treatment BMPs or BMPs inadequately sized may be selected with no benefit to water quality. The USEPA in the preamble to Phase II Final Rule makes the same observation.	No action necessary.
Technical Heal the Bay, American Oceans Campaign, Friends of the LA River, NRDC, Kudo and Daniels, Fusion Films, Santa Monica BayKeeper, Ballona Wetlands Foundation, AHHA, H & K Interiors, Kinsella & Associates, AKERS Entertainment, Ballesteros, Stenstrom-UCLA, Chatten Broan & Assoc., South Bay SurfRider (13 members), Shatz	15. Establish for all municipalities in LA County the 0.75-inch mitigation measure or similar criteria for development planning currently in effect for the unincorporated areas.	The proposed criteria provide for the treatment of 0.75 inch or equivalent volume of runoff from new development for all areas of LA County within the jurisdiction of the Regional Board.	Criteria is made applicable to all MS4 permittees in LA county
Heal the Bay, American Oceans Campaign, Friends of the LA River,	16. Require SUSMPs for development in environmentally sensitive areas	The requirement is included for the City of Long Beach but was not one of the priority categories specifically identified in the LA County MS4 permit.	This category has been added to the SUSMP.
Heal the Bay, American Oceans Campaign, Friends of the LA River,	17. Require mitigation of runoff from parking lots separately in each SUSMP	This is not one of the priority categories specifically identified in the LA County MS4 permit. Commercial categories specifically included have indicated that they are no different than parking lots. In addition, the Coastal Commission has often consulted the Board for appropriate BMPs and criteria.	This category has been added to the SUSMP.

COMMENTER	COMMENT	RESPONSE	ACTION
NRDC	18. Apply SUSMP requirement broadly rather than limit it to seven categories	A BMP checklist is already required for other priority projects. Expanding the SUSMP requirement may be appropriate once TMDLs have been allocated and other significant sources need to be controlled.	Two categories have been added: locations in environmentally sensitive areas, and parking lots.
County of Ventura and cities	19. Include an alternative method based on volumetric and flow which uses capture of annual runoff and peak flow rate control	An equivalent volumetric method is provided based on annual volume capture. Flow rate controls are left to the judgement of the local agency.	Eight five percent treatment of annual runoff volume is provided as an equivalent mitigation criteria.
Heal the Bay, American Oceans Campaign, Friends of the LA River,	20. Define hillside development and not defer definition to the local municipality	Will provide a general definition.	Defined in SUSMP.
Heal the Bay, American Oceans Campaign, Friends of the LA River,	21. Apply requirements for retail gasoline outlets to any facility with a fuelling dispenser.	This is not one of the priority categories specifically identified in the LA County MS4 permit. Expansion of the applicability may be appropriate once TMDLs have been allocated and other significant sources need to be controlled.	No action necessary
WSPA, San Gabriel Basin Water Quality Authority	22. Requirement for infiltration will promote pathways for groundwater and soil contamination	Risks for ground water contamination exist under certain situations. These are identified in a report by the USEPA (1993). Pre-treatment of storm water will reduce such risks. The soil acts as a natural filter and self regenerates.	A section is included in the SUSMP describing the limitations of infiltration BMPs.
Truxaw and Associates	23. Promote non structural BMPs	SUSMPs already require source control BMPs in addition to structural BMPs and treatment control BMPs	No action necessary.
Land Tech Engineering	24. Provide design specifications for BMPs based on criteria	Expect that BMP design specification will be developed by the municipalities based on the numerical mitigation measure. Interim BMP design information may be obtained from manuals developed by other states.	No action necessary.
Centex Homes, Engineering Contractors Assoc., John Laing Homes, Land Tech Engineering, Pace Engineering, Pacific Soils Engineering, David Placek, Ramseyer, Rasmusen, Sikand, Southern California Contractors, Southern California Ready Mix Concrete Assoc., Tetra Tech, South Place Corp., Taylor Woodrow, Western Pacific Housing, LA New Car Dealers Ass.	25. Staff proposal requires capture which is not the same as infiltration or treatment	Storm water capture is not mandatory. The proposal only requires that a certain quantity of storm water be treated with BMPs to remove pollutants in one of several ways.	No action necessary.
Vernon, Los Angeles	26. Require similar criteria for USEPA Phase I industrial facilities	The requirements are for new development in selected categories. Expansion to other categories may be considered for the next permit term. Will recommend application to construction permits in the LA Region covered by the State General Storm Water permit for construction activity.	Will propose to the Board to consider in its Resolution that the same
Brash,	27. Filter media is not an effective BMP	Disagree. Filter media are effective BMPs if properly configured. See letter to Brash from RB Executive Officer date Oct. 19, 1999.	No action necessary.

COMMENTER	COMMENT	RESPONSE	ACTION
Santa Clarita	28. Provide criteria for flow based controls in addition to volumetric based controls	Flow based controls which are essential to maintain BMP effectiveness, reduce flow velocities, minimize downstream erosion potential, and prevent over bank flooding are left to the judgement of the local agency.	A statement has been included in the SUSMP that flow design criteria be determined by the local agency.
Santa Clarita	29. Limit application of criteria to impervious surfaces	The criterion is applied to the whole area. Credit for the pervious areas is automatically considered through the runoff coefficient. Roofing areas have been excluded for commercial facilities.	No action necessary.
Santa Clarita, EAC	30. Provide greater flexibility in application of the mitigation criteria	The four methods of selecting the numerical mitigatio through criteria and waiver procedures offer sufficient flexibility in application	Provide in the SUSMP four equivalent methods of determining the numerical mitigation measure.
Los Angeles	31. The numerical mitigation measure should be a guidelines and not a requirement for land development	Federal laws and regulations require that controls on new development and redevelopment be enforceable.	No action necessary.
Legal Los Angeles	32. Setting a numerical mitigation measure is a discretionary action. Provide cost estimates of impacts and benefits and release documentation for public comment and review under CEQA.	The requirements under an NPDES permit are exempt from review under CEQA. Preliminary costing estimates indicate that they are reasonable.	No action necessary.
Los Angeles	33. Identify the regulatory authority, which authorizes the Regional Board to establish the numerical mitigation measure.	Regulatory requirement is found at 40 CFR 122.26 (d)(2)(iv)(A) (2). Statutory authority is at 33 USC 342(p)(B)(iii). See also court's opinion in Defenders of Wildlife v. Browner (No. 98-71080) (9th Cir. 1999) and in NRDC v. USEPA 966 F2d. 1292 (9th Cir. 1992)	No action necessary.
Los Angeles	34. Setting a numerical mitigation measure is a discretionary action. Provide cost estimates of impacts and benefits and release documentation for public comment and review under CEQA.	The requirements under an NPDES permit are exempt from review under CEQA. Preliminary costing estimates indicate that they are reasonable.	No action necessary.
Western States Petroleum Association (WSPA)	35. Postpone consideration because of inadequate notice.	A thirty-day notice on this action has been provided. A thirty-day notice on the September 1999 Board meeting was provided even though it was not required for a Regional Board Information item.	No action necessary.
Apartment Association, BIA	36. There is no regulatory requirement that there be a numerical measure	Disagree. See detailed explanation under main issues and response.	No action necessary.
NRDC	37. Receiving water limits and anti-degradation policies apply independently from mitigation criteria.	Agree that mitigation standards are separate from the numerical mitigation measure. The Office of Chief Counsel confirms that MS4 programs must meet water quality standards in a memo dated October 14, 1999	No action necessary.
Burke, Williams & Sorenson	38. Provide broad legal authority for the SUSMP requirement	We will include legal citations that are relevant to the jurisdiction of the Regional Board.	Relevant laws are cited in the SUSMP to provide legal justification.
Burke, Williams & Sorenson	39. Delay SUSMP requirements in light of PL 106-74 requiring USEPA to submit reports to Congress.	The USEPA has already submitted the reports to Congress and thus no delay is warranted.	No action necessary.

COMMENTER	COMMENT	RESPONSE	ACTION
Santa Monica BayKeeper	40. New development can be prohibited under the Federal Anti-degradation policy if it degrades or adds pollutants to local waters	Disagree. See detailed explanation under main issues and response.	No action necessary.
EAC, Downey, Lakewood	41. Provide authority in the Clean Water Act to regulate flow to address water quality.	The U.S. Supreme Court has held that regulation of flow to protect beneficial uses is within the authority of the Clean Water Act PUD No. 1 v. WA Dept. of Ecology, 511 U.S. 700 (1994)	No action necessary.

STANDARD URBAN STORM WATER MITIGATION PLANS

SUMMARY OF COMMENTS RECEIVED (SINCE DECEMBER 6, 1999) AND RESPONSE - SUPPLEMENT

COMMENTER	COMMENT	RESPONSE	ACTION
General Claremont, West Covina, CRA, EAC, New Hall Land	1. Postpone issuance of SUSMP until SUSMP recirculated for further study and comment.	SUSMP was public noticed to provide a 30 day review period	No action recommended
Diamond Bar West Covina, EAC, New Hall Land.	2. Should not enlarge scope of SUSMPs to include two new categories: parking lots & environmentally sensitive areas. Defer to for consideration in next permit.	Categories are already included in Long Beach permit. RB Executive Officer has discretionary authority to designate additional sources of pollutants for management.	No action recommended
City of Long Beach: Attorney	3. Revise findings in Tentative Resolution to reflect two separate permits are affected by this resolution.	Changes to the Tentative Resolution will be considered.	Will amend resolution
Diamond Bar, EAC	4. No notice to meet has been issued for the SUSMP deficiency.	RB Executive Officer has met with parties repeatedly.	No action recommended
Heal the Bay, NRDC	5. Change "Retail Gasoline Outlet" definitions to include all facilities with gas pumps.	Definition has been changed to clarify primary activity, which is the more than 50 percent sale of automotive related products.	Amended definition
West Covina, EAC, CEA, , County of LA Dept. of Public Works, Heal the Bay, State of California Santa Monica Mountains Conservancy	6. Make definitions unambiguous (Hillside, Environmentally Sensitive Areas, Redevelopment)	Will revise definitions based on comments	Amended definitions
Heal the Bay, NRDC	7. Change the "Hillside" definition- grading with occur naturally where slope is 15% or greater & plans include cut or fill slopes 30 feet high or greater.	Definition has been changed to 25 percent natural slope.	Amended definitions
Public Works Agency County of Ventura	8. Require protection of unconfined groundwater basins	Protection of unconfined may be an appropriate consideration	No action recommended at this time.
City of Rancho Palos Verdes, EAC	9. Include numerical standard trigger for hillside SUSMP to 1 acre or more.	Hillside has been defined on 25 percent slope. No basis for acreage threshold.	Amended definitions
South Gate, EAC	8. Available guidelines to "conserve natural areas" are too vague for implementation	Disagree. Guidelines are sufficiently clear without being prescriptive.	No action recommended
County of LA Dept. of Public Works,	10. Delete the statement, " "each Permittee will approve an USMP" because it is not consistent with the Model Program.	The sentence has been changed to delete the USMP reference.	Amended sentence

COMMENTER	COMMENT	RESPONSE	ACTION
State of California Santa Monica Mountains Conservancy	11. Require that funds be available to provide for BMP Maintenance.	BMP maintenance is a necessary component of SUSMP implementation. Permittees are best able to identify source of funds.	No action recommended
California Coastal Commission	12. SUSMP requirements as is will improve water quality	Requirements are intended to minimize water quality impacts of development.	No action recommended
Technical AbTech Industries, Air Liquide, AKERS Entertainment Marketing, California Coastal Commission, CALPIRG, CDS Technologies Inc., La Canada Flintridge, Pasadena: Public Works & Transportation Department, South Gate, Cruz/Kravetz: IDEAS, JBI Process Equipment, Ballona Wetlands Foundation, Center for Marine Conservation, Center for Watershed Protection, 13 Citizen Comment Letters, Community Coalition for Change, County of LA Dept. of Public Works, Defend the Bay, Earth Communications Office, Environmental Defense Center, Friends of the LA River, Heal the Bay, Malibu Bay Company, NRDC, Public Works Agency Ventura County, Santa Monica Baykeeper, Sierra Club, South Bay Surfrider Chapter, Stainless Industrial Companies, University of Alabama, University of Georgia	13. Support the "3/4-inch" criteria because it is a Design Standard **not** a "Numerical Limit". The standard is reasonable for storm water runoff and makes economic sense for the greater Los Angeles area.	The design is statistically based and reasonable.	No change recommended
Ventura County Flood Control District	14. Peak Flow Rate control condition for BMP design indicates confusion between requirements for peak flow rate control versus a standard that allows the use of low flow-based water quality treatment control BMPs.	The peak flow rate condition is intended to limit down-stream erosion and over-bank flooding. Criteria for flow-sensitive BMPs will need to be developed in the future. Suggest BMP use consistent with manufacturer specs for now.	No action recommended at this time.
Ventura County Flood Control District	15. SUSMP design options are not technically equivalent- request a review of backup calculations and modifications of the percent capture to reflect equivalent standards.	Reviewed calculations and corrected percent capture to 80 percent.	Design standard for percent capture amended.
San Gabriel Valley Council of Gov'ts, South Bay Cities Council of Gov'ts	16. Defer inclusion of numeric standards until an evaluation of effectiveness treatment control BMPs for the pollutants of concern .	The numeric design standard has no bearing on effectiveness. BMP effectiveness data is available from national databases.	No action recommended.

COMMENTER	COMMENT	RESPONSE	ACTION
San Gabriel Valley Council of Govts, South Bay Cities Council of Govts	17. Defer inclusion of numeric standards into SUSMPs until an "out clause" has been established in the event a numeric standard can't be met for reasons of economy or feasibility.	The SUSMP already includes a waiver for recognized conditions when implementation of the design standard is impracticable.	No action recommended.
ASCE-Los Angeles Section, BIA, CEA, City of Long Beach: Office of City Attorney, EAC, New Hall Land, San Gabriel Valley Council of Govts, South Bay Cities Council of Govts	18. Empirical data on the efficacy of numerical design standards as a minimum are unavailable. There is also lack of data proving the numerical standards are cost effective.	Disagree. See discussion in Staff Report.	No action recommended.
SCAG	19. The use of "numeric standards" should be used as a "backup" policy, not a "front-end" policy, when identified priority pollution problems are not mitigated.	Federal regulations require that pollutants in storm water be reduced to the maximum extent practicable. A design standard is proper.	No action recommended.
West Covina, County of LA Dept. of Public Works, EAC	20. SUSMP should not apply to storm water runoff which does not flow across a source of pollutants.	SUSMP applies to the total project. Treatment mitigation credit is allowed for directly connected roof surface area.	No action recommended.
West Covina	21. Include a parking lot credit for use of vegetation on parking lot islands.	Parking lot requirements promote infiltration. Separate credit is not required for island areas.	No action recommended.
Heal the Bay, NRDC, Malibu Bay Company, USEPA, Ventura County Flood Control District	22. Remove the roofing exclusion in order not to encourage increase in impervious areas	Roofing exclusion credit is limited to situations where water quality impact is minimal.	No action recommended.
Heal the Bay, NRDC	23. Remove small restaurant exemption- no correlation between the size of a restaurant and amount of pollution it produces.	Small restaurant exemption applies only for BMP design standard criteria. All other requirements remain the same.	No action recommended.
Legal West Covina, Heal the Bay	24. State legal basis for Permittee City to take remedial action against a private party.	Legal basis will be applicable provisions in the federal Clean Water Act, the State Water Code, the MS4 permit, and local codes and ordinances	No action recommended.
Calif. SWQTF	25. Requirements intrude into local government responsibility and have more than regional significance.	Requirements are proposed consistent with federal storm water regulations. See Staff Report, Section 8: Legal and Regulatory Basis	No action recommended.
State of California Santa Monica Mountains Conservancy	26. The SUSMP Waiver section provides loopholes for developers to use.	Waiver provision provides relief if impracticability is established.	No action recommended.
USEPA	27. The requirements of the proposed SUSMP are consistent with the requirements of the CWA, applicable NPDES regulation, and EPA guidance.	Agree that requirements are consistent with state and federal law.	No action recommended.
NRDC	28. Eliminate the Self-Certification option for SUSMP review.	The third party certification option is intended to limit resource demands on municipalities. Will discourage use of the option for significant projects.	No action recommended.

STANDARD URBAN STORM WATER MITIGATION PLAN

DEVELOPMENT PLANNING

CHANGE SHEET (Revised)

Summary

The Change Sheet lists proposed changes to the Final Tentative - Standard Urban Storm Water Mitigation Plan, (December 7, 1999). In general, the proposed changes respond to commenters' suggestions on improving clarity, format, and implementability of the Standard Urban Storm Water Mitigation Plan.

Noteworthy changes include, the addition of a definition for 'storm event' and the requirement of professional registration for certifying persons under the "Alternative Certification' option. Two new references have been added to augment implementation guidance. These are, (i) National Stormwater Best Management Practices (BMP) Database, Version 1.0, and (ii) Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices.*

In the Change Sheet, cross-reference to pages and paragraphs are for the 'Clean Version' dated December 7, 2000. New text added to a sentence is indicated by underline.

Background

1. Page 2 paragraph three, Clarify that a City has to adopt same requirements for the Citywide SUSMP

   Sentence changed to read, "The Permittees are required to adopt the requirements set herein in their own SUSMP."

2. Page 2 paragraph 3, Delete reference to Urban Storm Water Mitigation to avoid confusion

   Sentence changed to read, "Each Permittee will approve the project plan as part of the development plan approval process....

3. Page 3 paragraph 2, Clarify the environmentally sensitive area category.

   Sentence changed to read, "Location within or directly adjacent to or discharging directly to an environmentally sensitive area.

4. Page 3 paragraph 2, Make requirement applicable to stand-alone parking lots only

   Sentence changed to read, "Commercial stand-alone parking lots 5,000 square feet or more.....

Definitions

5. Order definitions alphabetically

   Definitions reordered alpha-numerically

6. Page 3, Modify definition of hillsides to add specificity.

   Definition changed to read, "property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is twenty-five percent or greater."

7. Page 3, Delete exceptions in the definition of Automotive Repair Shop

   Exceptions deleted, now reads, "Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539."

8. Page 3, Modify definition of 100,000 square foot commercial development for simplicity.

   Definition changed to read, "any commercial development that creates at least 100,000 square feet of impermeable area, including parking areas".

9. Page 4 , Add references for definition of environmentally sensitive areas

   References added for Areas of Special Biological Significance and Area of Ecological Significance.

10. Page 4, , Change definition to include a threshold trigger for requirements to apply to Redevelopment

    Definition changed to read, "Redevelopment" means, on an already developed site, the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure. Redevelopment includes.....

11. Page 5, , Change definition for Retail gasoline outlets to clarify 'primarily engaged'.

    Definition changed to read, ""Retail Gasoline Outlet" means a facility engaged in selling gasoline and lubricating oils, which derives more than fifty percent of its annual gross receipts from the sale of gasoline, lubricating oils tires, batteries, automobile parts and other automotive services.

12. New Definition, Define a storm event

    Defined storm event to mean, "a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather."

SUSMP Provisions Applicable to All Categories

13. Page 5, paragraph 3, Change sentence for clarity

    Sentence changed to read, "....shall not exceed the estimated pre-development rate for developments where it is reasonably foreseeable that the increased peak storm water discharge rate will result in increased potential for downstream erosion."

14. Page 5, paragraph 4, Delete text that makes act dependent on effort

Sentence changed to read, "Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition."

15. Page 6, paragraph 1, Change sentence for clarity

    Sentence changed to read, "...or the detectable inputs of the pollutant are at a concentrations or loads considered potentially toxic to humans and/or flora and fauna."

16. Page 6, paragraph 2, Add reference

    Added reference, "Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices*"

17. Page 6, paragraph 3, Add text to enable BMP combination alternative

    Added text to read, "However, it is possible that a combination of BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants".

18. Page 6, paragraph 4, Delete text that is tentative

    Text deleted to read, "Project plans must include BMPs consistent....."

19. Page 6, paragraph 4, Add text to promote use of natural drainage systems

    Add text to read, "Utilize natural drainage systems to the maximum extent practicable"

19. Page 6, paragraph 4, Add text to minimize flow to natural drainage systems

    Text added to read, "Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable"

20. Page 7, paragraph 2, Change sentence for clarity

    Sentence changed to read, "Materials with the potential to contaminate storm water must be: (1) placed in an enclosure..."

21. Page 7, paragraph 3, Add text to exclude single family residences

    Sentence added to read, " Individual single family residences are exempt from these requirements"

22. Page 8, paragraph 1, Change text for clarity

    Text changed to read, "The transfer of property to a private or public owner must have conditions..."

23. Page 8, paragraph 1, Add text to require maintenance inspection and record.

    Sentence added to read, "The condition of transfer may include a provision that the property owner conduct maintenance inspection of all treatment control BMPs at least once a year and retain proof of inspection."

24. Page 8, paragraph 3, Delete text for clarity

    Text deleted, "~~each runoff event up to and including~~", Now reads, "the 85th percentile 24-hour runoff event...."

25. Page 8, paragraph 3, Correct based on revised chart treatment volume from 85 percent to 80 percent.

    Text changed to read, "to achieve 80 percent or more volume treatment....."

26. Page 8, paragraph 3, Change text for clarity

    Sentence changed to read, "....runoff produced from a 0.75 inch storm event, prior..."

27. Page 8, paragraph 3, Change text for clarity

    Sentence changed to read, "....volume of runoff produced from a historical-record based reference 24-hour rainfall criterion...."

28. Page 9, paragraph 2, Change text to offer partial credit for roofing surfaces diversion

    Sentence changed to read, "A proportional area of roofing surface may be excluded..."

29. Page 9, paragraph 2, Change text for clarity.

    Sentence changed to read, "storm water conveyance system does not directly discharge to a natural stream or channel segment scheduled for restoration".

30. Page 9, paragraph 3, Change text to clarify exemption from numerical standard only.

    Sentence changed to read, "Restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the numerical BMP design standard requirement.

Provisions Applicable to Individual Priority Projects

31. Page 10, paragraph 2, and Page 12, paragraph 1, Change text to eliminate mandatory cover.

    Sentence change to read, "...area must be self-contained and/or covered, equipped with a clarifier,..."

32. Page 12, paragraph 3, Change text for clarity.

    Text modified to read, "....hydrocarbons that are deposited on parking lot surfaces by motor vehicles"

33. Page 12, paragraph 3, Add introductory text.

    Sentence added to read, "To minimize the offsite transport of pollutants, the following design criteria are required".

Waiver

34. Page 13, paragraph 1, Add text for clarity

    Text added to read, "....because an existing or potential underground source of drinking water..."

35. Page 13, paragraph 1, Change text to clarify that Permittee is petitioner.

    Sentence modified to read, "Any other justification for impracticability must be separately petitioned by the Permittee and approved...."

Alternative Certification

36. Page 13, paragraph 1, Change sentences to require professional registration and recommend training verification.

    Sentences added to read "...accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets the criteria." And, "The Permittee is encouraged to verify that certifying person(s) have been trained on BMP design for water quality, not more than two years prior to the signature date."

Suggested Resources

37. Page 15, Add reference BMP database and on-line Texas Non-point Source Book

    Reference added, "National Stormwater Best Management Practices (BMP) Database, Version 1.0" ; and "Texas Non-Point Source Book".

STANDARD URBAN STORM WATER MITIGATION PLAN

FOR LOS ANGELES COUNTY AND CITIES IN LOS ANGELES COUNTY

LOS ANGELES COUNTY URBAN RUNOFF AND STORM WATER NPDES PERMIT

STANDARD URBAN STORM WATER MITIGATION PLAN

BACKGROUND

The municipal storm water National Pollutant Discharge Elimination System (NPDES) permit (Permit) issued to Los Angeles County and 85 cities (Permittees) by the Los Angeles Regional Water Quality Control Board (Regional Board) on July 15, 1996, requires the development and implementation of a program addressing storm water pollution issues in development planning for private projects. The same requirements are applicable to the City of Long Beach under its separate municipal storm water permit, which was issued on June 30, 1999.

The requirement to implement a program for development planning is based on, federal and state statutes including: Section 402 (p) of the Clean Water Act, Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 ("CZARA"), and the California Water Code. The Clean Water Act amendments of 1987 established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES program. The primary objectives of the municipal storm water program requirements are to:

- Effectively prohibit non-storm water discharges, and
- Reduce the discharge of pollutants from storm water conveyance systems to the Maximum Extent Practicable.

The Standard Urban Storm Water Mitigation Plan (SUSMP) was developed as part of the municipal storm water program to address storm water pollution from new Development and Redevelopment by the private sector. This SUSMP contains a list of the minimum required Best Management Practices (BMPs) that must be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the Permittee and applied generally or on a case by case basis. This SUSMP applies to projects that are Priority Projects (Discretionary Projects) as defined by the NPDES Permit. The Permittees are required to use this SUSMP to develop their own citywide SUSMP. Developers must incorporate appropriate SUSMP requirements into their project plans. Each Permittee will approve an Urban Storm Water Mitigation Plan as part of the development process and prior to issuing building and grading permits for the projects covered by the SUSMP requirements.

Discretionary projects, that fall into one of seven categories are identified in the NPDES Permit

as requiring SUSMPs. These categories are:

Single-Family Hillside Residences
100,000 Square Foot Commercial Developments
Automotive Repair Shops
Retail Gasoline Outlets
Restaurants
Home Subdivisions with >10 housing units*

* (Note: this category is two separate categories in the NPDES Permit)

The Regional Board Executive Officer has designated two additional categories subject to SUSMP requirements. These categories are:

Location adjacent to or discharging to an environmentally sensitive area, and
Parking lot 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff

DEFINITIONS

"Greater than (>) 9 unit home subdivision" means any subdivision being developed for 10 or more 10 single-family or multi-family dwelling units.

"100,000 Square Foot Commercial Development" means Developments based on total impermeable area, including parking areas, as opposed to lot size or building footprint.

"Retail Gasoline Outlet" means a facility primarily engaged in selling gasoline and lubricating oils. These establishments frequently sell other merchandise, such as tires, batteries, and automobile parts. Frequently, these establishments also perform minor automotive repair work. Gasoline stations combined with other activities, such as grocery stores, convenience stores, or car wash facilities, are classified according to the primary activity.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope and where grading contemplates cut or fill slopes .

"Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. Exceptions do apply for SIC codes 5013, 5014, and 5541. For SIC code 5013, if the business has no outside storage of any recycled oil or other hazardous substances, it is not included. For SIC code 5014, if the business does not engage in any repair work, it is not included. For SIC code 5541, if the business does not engage in any onsite repair work, it is not included.

"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption. (SIC code 5812)

"Parking Lot" means land area or facility for the parking of commercial or business or private motor vehicles.

"Environmentally Sensitive Area" means an area designated as an Area of Special Biological Significance by the State Water Resources Control Board or an area designated as a Significant Natural Area by the California Resources Agency or an area designated as an area of Ecological Significance by the County of Los Angeles.

"Best Management Practice (BMP)" means any program, technology, process, siting criteria, operational methods or measures, or engineered systems, which when implemented prevent, control, remove, or reduce pollution.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures,, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media adsorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Infiltration" means the downward entry of water into the surface of the soil.

"Directly Connected Impervious Area (DCIA)" means the area covered by pavement, building and other impervious surfaces which drain directly into the storm drain without first flowing across pervious areas (e.g. lawns).

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

Redevelopment" means, on an already developed site, the creation or addition of impervious surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/ or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; land disturbing activities related with structural or impervious surfaces .

"Discretionary Project" means a project which requires the exercise of judgement or deliberation when the public agency or public body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.

CONFLICTS WITH LOCAL PRACTICES

Where provisions of the SUSMP requirements conflict with established local codes , (e.g., specific language of signage used on storm drain stenciling), the Permittee may continue the local practice and modify the SUSMPs contained herein to be consistent with the code, except where those practices would defeat or circumvent the intent of the SUSMP requirements.

SUSMP PROVISIONS APPLICABLE TO ALL CATEGORIES

REQUIREMENTS

1. PEAK STORM WATER RUNOFF DISCHARGE RATES

Post-development peak storm water runoff discharge rates shall not exceed estimated pre-development levels for developments where an increased peak storm water discharge rate may result in a foreseeable increased potential for downstream erosion.

2. CONSERVE NATURAL AREAS

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Every effort shall be made to concentrate or cluster development on portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants. Wherever practical, promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

3. MINIMIZE STORM WATER POLLUTANTS OF CONCERN

Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the stormwater conveyance system. The development must be designed so as to minimize, to the maximum extent practicable , the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as

approved by the building official. Pollutants of concern, as defined by the Permit, consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at a level high enough to be considered potentially toxic to humans and/or flora and fauna.

In meeting this specific requirement, "minimization of the pollutants of concern" will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in the *California Storm Water Best Management Practices Handbooks*; *Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide*; *Manual for Storm Water Management in Washington State*; *The Maryland Stormwater Design Manual*; *Florida Development Manual: A Guide to Sound Land and Water Management*; and *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* , USEPA Report No. EPA-840-B-92-002, as "likely to have significant impact" beneficial to water quality for targeted pollutants that are of concern at the site in question..

Examples of BMPs that can be used for minimizing the introduction of pollutants of concern generated from site runoff are identified in Table 2. Any BMP not specifically approved by the Regional Board in Resolution No. 99-03, "Approving Best Management Practices for Municipal Storm Water and Urban Runoff Programs in Los Angeles County", for development planning may be used if they have been recommended in one of the above references.

4. PROTECT SLOPES AND CHANNELS

If applicable, project plans must include BMPs consistent with local codes and ordinances to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff:

- Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
- Stabilize permanent channel crossings.
- Vegetate slopes with native or drought tolerant vegetation.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion, with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers and the California Department of Fish and Game

5. PROVIDE STORM DRAIN SYSTEM STENCILING AND SIGNAGE

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the stormwater conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message.

- All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: "NO DUMPING – DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.
- Signs and prohibitive language and/or graphical icons discouraging illegal dumping must be posted at public access points along channels and creeks within the project area.
- Legibility of stencils and signs must be maintained.

6. PROPERLY DESIGN OUTDOOR MATERIAL STORAGE AREAS

Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials.
Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the stormwater conveyance system. Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system, the following *structural* BMPs are required:

- Areas where materials are to be stored must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area must be paved and sufficiently impervious to contain leaks and spills.
- Where feasible, the storage area should have a roof or awning to minimize collection of stormwater within the secondary containment area.

7. PROPERLY DESIGN TRASH STORAGE AREAS

A trash storage area refers to an area where a trash receptacle or receptacles are located for use as a repository for solid wastes.
Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas must meet the following *structural BMP* requirements:

- Trash container areas must have drainage from adjoining roofs and pavement diverted around the area(s).
- Trash container areas must be screened or walled to prevent off-site transport of trash.

8. PROVIDE PROOF OF ONGOING BMP MAINTENANCE

Improper maintenance is one of the most common reasons why water quality controls will not function as designed or which may cause the system to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP, and what equipment is required to perform the maintenance properly. As part of project review, if a project applicant has included, or is required to include, treatment control BMPs in project plans, the Permittee shall require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits.

For all properties, this verification will include the developer's signed statement, as part of its project application, accepting responsibility for all structural BMP maintenance until the time the property is transferred and, where applicable, a signed agreement from the public entity assuming responsibility for structural BMP maintenance. This transfer of property must have conditions requiring the recipient to assume responsibility for maintenance of any treatment control BMPs to be included in the sales or lease agreement for that property, and will be the owner's responsibility. For residential properties where the treatment control BMPs are located within a common area which will be maintained by a homeowner's association, language regarding the responsibility for maintenance must be included in the projects conditions, covenants and restrictions (CC&R's). Printed educational materials will be required to accompany the first deed transfer to highlight the existence of the requirement and to provide information on what stormwater management facilities are present, signs that maintenance is needed, how the necessary maintenance can be performed, and assistance that the Permittee can provide. It will also encourage the transfer of this information with subsequent sale of the property.

If treatment control BMPs are located within a public area proposed for transfer, they will be the responsibility of the developer until they are accepted for transfer by the County or other appropriate public agency. Treatment control BMPs proposed for transfer must meet design standards adopted by the public entity for the BMP installed and should be approved by the County or other appropriate public agency prior to its installation.

9. DESIGN STANDARDS FOR TREATMENT CONTROL BMPS

Treatment control BMPs selected for use at any project covered by this SUSMP shall meet the design standards of this Section unless specifically exempted.

a. Post-construction Treatment Control BMPs shall be designed to:

A. mitigate (infiltrate or treat) storm water runoff from either:

1. each runoff event up to and including the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

2. the volume of annual runoff based on unit basin storage water quality volume, to achieve 85 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or

3. the volume of runoff produced from each and every storm event up to and including 0.75 inch of rainfall, prior to its discharge to a storm water conveyance system, or

4. the volume of runoff produced from each and every storm event up to and including a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event,

AND

B. control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency.

The area of roofing surfaces may be excluded from the total area for calculation of rainfall or runoff volume to be treated provided:

a. the roofing materials will not be a source of pollutants of concern in storm water, and

b. storm water from the roofing surfaces is diverted directly to a storm water conveyance system, and

c. roof based exhaust systems, vents, filters, and air pollution control devices will not present a significant source of pollutants of concern in storm water, and

d. the storm water conveyance system does not directly or indirectly discharge to a natural stream or unlined channel or channel segment scheduled for restoration.

Exclusions

Restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the requirements of this Section.

10. PROVISIONS APPLICABLE TO INDIVIDUAL PRIORITY PROJECT CATEGORIES

A. 100,000 SQUARE FOOT COMMERCIAL DEVELOPMENTS

1. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water runon or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

Vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, consider including in the project plans an area for washing/steam cleaning of vehicles and equipment. If such an area is included in the site design, it must meet the following:

- This area must be self-contained, covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer.

B. RESTAURANTS

1. PROPERLY DESIGN EQUIPMENT/ACCESSORY WASH AREAS

Outdoor equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must meet the following:

- This area must be self-contained, equipped with a grease trap, and properly connected to a sanitary sewer.
- If this wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer.

C. RETAIL GASOLINE OUTLETS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. The project plans must include the

following BMPs:

- Fuel dispensing areas should be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.
- Fuel dispensing areas must be paved with portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable.
- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

D. AUTOMOTIVE REPAIR SHOPS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. Therefore, design plans, which include fueling areas, must contain the following:

- Fuel dispensing areas should be covered with an overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area.
- Fuel dispensing areas must be paved with portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water.
- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

Vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. To alleviate this problem, consider including in the project plans an area for washing/steam cleaning of vehicles and equipment. If such an area is included in the site design, it must meet the following:

- This area must be self-contained, covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or to a permitted disposal facility.

4. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

E. PARKING LOTS

1. PROPERLY DESIGN PARKING AREA

Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that deposit on these surfaces from motor vehicle traffic. These pollutants are directly transported to surface waters.

- Reduce impervious land coverage of parking areas
- Infiltrate runoff before it reaches storm drain system.
- Treat runoff before it reaches storm drain system

2. PROPERLY DESIGN TO LIMIT OIL AND PERFORM MAINTENANCE

Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks.

- Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces , sports event parking lots, shopping malls, grocery stores, discount warehouse stores)
- Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal, and system fouling and plugging prevention control

11. WAIVER

A Permittee may, through adoption of an ordinance or code inc incorporating the treatment requirements of the SUSMP, provide for a waiver from the requirement if impracticability for a specific property can be established. Recognized situations of impracticability include (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because an underground source of drinking water is less than 10 feet from the soil surface. Any other justification for impracticability must be separately approved by the Regional Board Executive Officer before it becomes recognized and effective. A waiver granted to any development or redevelopment project may be revoked by the Regional Board Executive Officer for cause and with proper notice upon petition.

If a waiver is granted for impracticability, the Permittee must require the project proponent to transfer the savings in cost, as determined by the Permittee, to a storm water mitigation fund to be used to promote regional or alternative solutions for storm water pollution in the storm watershed and operated by a public agency or a non-profit entity.

12. LIMITATION ON USE OF INFILTRATION BMPS

Three factors significantly influence the potential for storm water to contaminate ground water. They are (i) pollutant mobility, (ii) pollutant abundance in storm water, (iii) and soluble fraction of pollutant. The risk of contamination of groundwater may be reduced by pretreatment of storm water. A discussion of limitations and guidance for infiltration practices is contained in, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94/051, USEPA (1994).*

In addition, the distance of the groundwater table from the infiltration BMP may also be a factor determining the risk of contamination. A water table distance separation of ten feet depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic.

Infiltration BMPs are not recommended for areas of industrial activity or areas subject to high vehicular traffic (25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway) unless appropriate pretreatment is provided to ensure groundwater is protected and the infiltration BMP is not rendered ineffective by overload.

13. ALTERNATIVE CERTIFICATION FOR STORM WATER TREATMENT MITIGATION

A Permittee may elect to accept a signed certification that the plan meets the criteria established herein and that the plan preparer has undergone training on designing BMPs to meet the numerical mitigation criteria, in lieu of conducting detailed BMP review to verify treatment control BMP adequacy. The training must have been conducted by an organization with storm

water BMP design expertise (e.g., a University, American Society of Civil Engineers, American Society of Landscape Architects, or the California Water Environment Association) with the training and curriculum accepted by the Regional Board Executive Officer. For the certification to be valid, training must have been received not more than two years prior to the signature date on the plan.

SUGGESTED RESOURCES	HOW TO GET A COPY
Start at the Source (1999) by Bay Area Stormwater Management Agencies Association Detailed discussion of permeable pavements and alternative driveway designs presented.	Bay Area Stormwater Management Agencies Association 2101 Webster Street Suite 500 Oakland, CA 510-286-1255
Design of Stormwater Filtering Systems (1996) by Richard A. Claytor and Thomas R. Schuler Presents detailed engineering guidance on ten different stormwater filtering systems.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Better Site Design: A Handbook for Changing Development Rules in Your Community (1998) Presents guidance for different model development alternatives.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Design Manual for Use of Bioretention in Stormwater Management (1993) Presents guidance for designing bioretention facilities.	Prince George's County Watershed Protection Branch 9400 Peppercorn Place, Suite 600 Landover, MD 20785
Operation, Maintenance and Management of Stormwater Management (1997) Provides a thorough look at stormwater practices including, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	Watershed Management Institute, Inc. 410 White Oak Drive Crawfordville, FL 32327 850-926-5310

California Storm Water Best Management Practices Handbooks (1993) for Construction Activity, Municipal, and Industrial/Commercial Presents a description of a large variety of structural and good housekeeping BMPs.	Los Angeles County Department of Public Works Cashiers Office 900 S. Fremont Avenue Alhambra, CA 91803 626-458-6959

TABLE 1 (Continued)

SUGGESTED RESOURCES	HOW TO GET A COPY
Second Nature: Adapting LA's Landscape for Sustainable Living (1999) by Tree People Detailed discussion of BMP designs presented to conserve water, improve water quality, and achieve flood protection.	Tree People 12601 Mullholland Drive Beverly Hills, CA 90210 818-753-4600 (?)
Florida Development Manual: A Guide to Sound Land and Water Management (1988 Presents detailed guidance for designing BMPs	Florida Department of the Environment 2600 Blairstone Road, Mail Station 3570 Tallahassee, FL 32399 850-921-9472
Stormwater Management in Washington State (1999) Vols. 1-5 Presents detailed guidance on BMP design for new development and construction.	Department of Printing State of Washington Department of Ecology P.O. Box 798 Olympia, WA 98507-0798 360-407-7529
Maryland Stormwater Design Manual (1999) Presents guidance for designing storm water BMPs.	Maryland Department of the Environment 2500 Broening Highway Baltimore, MD 21224 410-631-3000
Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (1993) Report No. EPA–840-B-92-002. Provides an overview of, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	National Technical Information Service U.S. Department of Commerce Springfield, VA 22161 800-553-6847

Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide (Best Management Practices Handbooks (1998) Presents guidance for design of storm water BMPs	California Department of Transportation P.O. Box 942874 Sacramento, CA 94274-0001 916-653-2975

TABLE 2: Example Best Management Practices (BMPs)

The following are examples of BMPs that can be used for minimizing the introduction of pollutants of concern that may result in significant impacts, generated from site runoff to the storm water conveyance system. (See Table 1: Suggested Resources for additional sources of information):

- Provide reduced width sidewalks and incorporate landscaped buffer areas between sidewalks and streets. However, sidewalk widths must still comply with regulations for the Americans with Disabilities Act and other life safety requirements.
- Design residential streets for the minimum required pavement widths needed to comply with all zoning and applicable ordinances to support travel lanes; on-street parking; emergency, maintenance, and service vehicle access; sidewalks; and vegetated open channels.
- Comply with all zoning and applicable ordinances to minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. The radius of cul-de-sacs should be the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds should be considered.
- Use permeable materials for private sidewalks, driveways, parking lots, or interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.).
- Use open space development that incorporates smaller lot sizes.
- Reduce building density.
- Comply with all zoning and applicable ordinances to reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
- Comply with all zoning and applicable ordinances to reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas.
- Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the storm water conveyance system.
- Vegetated swales and strips
- Extended/dry detention basins
- Infiltration basin
- Infiltration trenches
- • Wet ponds
- Constructed wetlands
- • Oil/Water separators
- • Catch basin inserts
- • Continuous flow deflection/ separation systems
- • Storm drain inserts
- Media filtration
- • Bioretention facility
- Dry-wells
- Cisterns
- • Foundation planting
- Catch basin screens
- Normal flow storage/ separation systems
- Clarifiers
- Filtration systems
- Primary waste water treatment systems

Administrative Record: **SWRCB/OCC Files A-1280, A-1280(a), A-1280 (b)**

VOLUME 04 & 04 A

Doc. No	Item	Date	Document
	____	01/26/00	Binder for NRDC's Presentation on Item 11, SUSMP Mitigation Plans of the California Regional Water Quality Control Board, Los Angeles Region, 427th Regular Board Meeting
	1	01/14/00	Letter to California Regional Water Quality Control Board, Los Angeles Region from NRDC regarding Proposed Model SUSMP Plans
	A	09/09/99	Exhibit A- Letter to California Regional Water Quality Control Board, Los Angeles from NRDC
	B		Exhibit B- A Guide to Better Site Planning
	C		Exhibit C- Los Angeles County Requirements
	D	12/03/99	Exhibit D- Storm Water Report by Los Angeles & San Gabriel Watershed Council- Final Draft
	E	04/22/99	Exhibit F- Resolution 99-03 Approving BMPs for SUSMP in LA County
	F	01/13/00	Exhibit G- Supplemental Declaration of Richard R. Horner
	G	01/11/00	Exhibit H- Letter to California Regional Water Quality Control Board, Los Angeles from Centers for Watershed Protection supporting ¾ inch standard
	H	08/94	Exhibit I- Published Report on Urban Runoff
	I		Exhibit J- Structural BMP Expected Pollutant Removal Efficiency Table
	J		Exhibit K- Published Report on the Effectiveness of Two Storm Water Trash Trapping Systems
	K		Exhibit L- Typical Base Capital Construction Costs for BMPs Table
	L		Exhibit M- Based Costs of Typical Applications of Storm Water BMPs Table

Exhibit E - Stormwater infiltration - by Bruce K. Ferguson

NATURAL RESOURCES DEFENSE COUNCIL

January 14, 2000

VIA FACSIMILE (w/o enclosures) and *U.S. Mail*

Executive Officer and Members of the Board
California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Proposed Model Standard Urban Storm Water Mitigation Plans (SUSMPs)
Los Angeles County Municipal Stormwater Permit (NPDES No. CAS0061654)

Dear Mr. Dickerson and Members of the Board:

The Natural Resources Defense Council ("NRDC") is a national environmental organization with over 400,000 members, approximately 35,000 of whom live within the Los Angeles region. NRDC has reviewed the "Proposed Standard Urban Storm Water Mitigation Plan" (the "Proposal") issued on December 7, 1999 as a proposed "model program" of the Los Angeles County Municipal Storm Water Permit (the "Los Angeles Permit"), and as the remaining unfinished element of the Long Beach Municipal Storm Water Permit (the "Long Beach Permit"). We submit the following comments[1] on behalf of NRDC, Heal the Bay, the Santa Monica BayKeeper, and their respective members (collectively, "NRDC").

Introduction

NRDC Position

While NRDC strongly supports the Regional Board Staff's retention of the 0.75-inch numerical standard initially embraced in its August, 1999 proposal, we are extremely disappointed that Staff has included a host of exceptions, exemptions, and general limitations on the scope of the program that, collectively, render that numerical standard virtually meaningless. Taken as a whole, these limitations so severely undermine the impact of the numerical standard that it is genuinely questionable whether that standard will ever actually be effectuated. It appears that the Regional Board Staff ("Staff") has maintained the numerical standard only as a token concession to the requirements of the Clean Water Act, while essentially capitulating to the cries of those municipalities who are reflexively opposed to the idea of having to implement such a standard.

[1] In addition, NRDC joins in the comments submitted by Heal the Bay, in its letter of January 14, 2000, and those submitted by the Santa Monica Mountains Conservancy, in its letter of December 16, 1999. We also hereby incorporate our previous comments, submitted with our letter of September 9, 1999 ("September Letter"), attached hereto (without exhibits) as Exhibit A, which, in turn, incorporated the comments submitted by the Santa Monica BayKeeper on the same date, and those submitted by Heal the Bay on September 7, 1999.

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These exceptions, exemption, and general limitations are collectively so significant that they must be eliminated if the Proposal is to have any meaningful impact on local water quality. **We therefore urge the Regional Board to adopt a revised version of the current Proposal that includes no such limitations.**[2]

The approval of the Proposal without exceptions is of critical importance to the future of the region's water quality. As we noted in the September Letter, the Center for Watershed Protection (the "Center"), one of the preeminent national authorities on watershed management, has determined that "a fundamentally different approach toward development [is] needed to reliably protect streams and other aquatic resources." Site Planning for Urban Stream Protection (Center, Dec. 1995) at 1, attached hereto as Exhibit B. Indeed, **development planning is generally recognized as one of the most critical aspects of any stormwater management program, and specific performance standards are essential to the effectiveness of these programs.**

Thus, in sum:

(1) NRDC strongly agrees with Staff's proposal to include a numerical standard in the Standard Urban Stormwater Mitigation Plan ("SUSMP").

(2) NRDC also supports, as minimally-acceptable, the specific standard selected. The wealth of experiences and data from around the country, as described more fully below, lead undeniably to the conclusion that such a standard is eminently feasible, from a practical perspective; well supported, both scientifically and technically; and already broadly embraced in practice.

However, NRDC strongly opposes:

(1) the suite of exceptions, exemptions, and limitations on the scope of this program, which effectively gut the Proposal and render it as a paper exercise with very little real-world impact

Structure of this Letter

In order to protect receiving waters from ever-increasing amounts of development-related stormwater pollution, an effective development planning program must include, among other things, two elements: it must contain a specific design standard that will ensure the adequate sizing of structural best management practices ("BMPs"), and it must establish an implementation system to ensure that the standard selected is put into place. This letter is divided into two major sections, following that two-part division, with multiple subsections within each.

[2] Because of the different manner in which the Los Angeles Permit and the Long Beach Permit are being handled, the Regional Board should actually adopt the revised version of the Proposal recommended herein (for Long Beach) and instruct the Executive Officer to do the same (for Los Angeles).

The first major section of this letter addresses the implementation system. It explains in detail how the current Proposal takes away with one hand the protections that it appears to establish – via the adoption of a numerical sizing standard – with the other. We describe six separate categories of exceptions, exemptions, and general limitations that appear throughout the Proposal, all of which contribute to the weakening, and eventual complete evisceration, of the numerical standard adopted in the Proposal.

The second major section of this letter addresses the numerical standard proposed by Staff. We begin by providing compelling, indeed overwhelming evidence, supporting the practicability, effectiveness, and reasonable costs associated with the 0.75-inch standard. We also respond to some of the objections raised by many of the municipalities during the September 16, 1999 hearing. In each case, the municipalities decried an alleged lack of evidence to support the numerical standard; and in each case, we respond by referencing just a small fraction of the plethora of existing evidence from sources ranging from academia, to industry, to government, all of which support the standard as necessary, cost-effective, and reasonable overall.

The Limitations on the Scope of the Program Vitiate its Effectiveness

The current Proposal contains numerous exemptions, definitional limitations, and other provisions that could result in a program very different than the one that appears from the recital of the 0.75-inch design standard set forth in Section 9.A. Six major categories of limitations are discussed below. These sections must be modified substantially, if not eliminated completely, if the Proposal is to have the beneficial and necessary effect for which it has the potential.

Problem #1: The Proposal Needs to be Broadened in its Application

The proposed SUSMP only applies to a short list of project types. Proposal at 2-3. We are pleased to see that the Regional Board expanded the type of projects to which the SUSMP requirements apply to include parking lots and environmentally sensitive areas. Proposal at 3. However, there are many more types of projects that have the potential to add significant pollutants to municipal stormwater.

Request: We once again request that the Regional Board **adopt the full list of project and activity types used by Los Angeles County**, in its program. See Exhibit C, from the Los Angeles County Stormwater Management Manual.

Problem #2: The Requirements Should not be Limited to "Discretionary" Projects

In addition to the short list of project types currently covered, the Proposal is further limited by the fact that it would apply only to "discretionary" projects. Proposal at 2. As we noted in our September Letter, the limitation of the SUSMP requirements and the numerical design standard to "discretionary" projects is in no way mandated by any language in the statute or the relevant permits and is a significant limitation on the scope of the program.

The SUSMP should function like any other type of building code, with its requirements applying equally to ministerial development projects and to discretionary ones. It should simply become a part of the set of requirements that apply automatically to any new development.

Request: Los Angeles County removed the limitation to "discretionary" projects from its program, and we strongly encourage the Regional Board to do the same.

Problem #3: The Proposal is Rife with Exemptions, Exceptions and Overly-Restrictive Definitions

(a) Remove the Roofing Exclusion

The significance of the numerical standard is greatly diluted by the insertion of a "rooftop exclusion" that was introduced directly by the Executive Officer without any technical support or precedent. Section 9 of the current Proposal would allow developers to divert runoff from roof tops directly to the storm drains and to take credit for that volume of runoff as if it were being treated. Such an exception would be directly contrary to the purpose of the SUSMPs. Not only would it allow treatment of less runoff, but it would actively encourage developers to increase the amount of impervious surface (in the form of roof tops) built into the development process. That is because every additional inch of roof top would enable developers to build smaller BMPs and direct more runoff straight to the stormdrains. We are aware of no similar exclusion in any program anywhere in country. **The provision is nonsensical. It would function as an affirmative attack on environmental protection and must be removed.**

Staff appears to believe that roof-top runoff will not be contaminated, thus making it appropriate to send this runoff directly into the stormdrain and reduce the volume of runoff treated on-site. The Proposal does include a few provisions to ensure that some of the most obvious contaminating influences on roof tops are not present, such as roof-based exhaust systems and air pollution control devices; however, these protections are inadequate, and, more significantly, they do nothing to address the larger issue that this exemption creates incentives directly contrary to the purpose of a stormwater management system. The following paragraphs explain each of these points in more detail.

First, the only safeguard against pollution in the rooftop runoff is the limitation of the exclusion to cases in which: (1) "roofing materials will not be a source of pollutants of concern;" and (2) "roof based exhaust systems, vents, filters, and air pollution control devices will not present a significant source of pollution." Proposal at 9. The Proposal neither explains who will make these determinations, nor how they will be made. There is no explanation of what it means for roofing materials to be a source of pollutants of concern; there is no definition of "significant source of pollution" or guidance for assessing whether the structures at issue would act as such a source. Because of the vagueness of this exclusion, it provides essentially no protection against polluted roof-top runoff flowing freely into the storm system, exempt from all the otherwise-applicable treatment requirements.

Second, the Proposal makes no provision for public notice or comment on these decisions. Thus, it opens the door for decision-making that could significantly undermine the effect of the numerical standard, and that would do so without the ability for any public review or accountability. This violates Clean Water Act public participation requirements. See 40 C.F.R. §§ 25.3, 25.4, 124.5(c), 122.62, and Part 124; see also Hampson v. Superior Court, 67 Cal. App. 3d 472, 484 (1977) (granting of discretionary exemption requires regional board review).

Third, there is no protection against, or even recognition of, the potential polluting effects of aerial deposition. Studies are underway to assess the significance of this source of pollution, but the Proposal effectively prejudges the results of these studies and encourages developers to increase the area of roofing, thus increasing the amount of runoff sent directly to the stormdrains laden with any pollutants that have settled on those roofs. The aggregate amount of pollution from these roof tops may well be a significant contributor to the pollution in our receiving waters and may prevent municipal governments from meeting their responsibilities to reduce the pollution entering the receiving waters from the ends of their storm drains. It will undoubtedly make meeting those requirements more difficult. Still, the proposal completely discounts, or ignores, this source of stormwater pollution, and thus is arbitrary and capricious and without any support in the record.

Fourth, even if the water could be proved to be pristine, this provision encourages additional flow problems and a further deviation from the natural water cycle. A stormwater management program must take into account both water quality *and* water quantity concerns. A comprehensive management plan considers the entire hydrologic cycle, including infiltration and evaporation, and does not simply focus on getting rid of the water as quickly as possible. See "Storm Water: Asset or Liability," S. Dallman and T. Piechota (Dec., 1999), attached hereto as Exhibit D, see, also, "Stormwater Infiltration," B. Ferguson, 1998, presented at Urban Storm Water Management in the Southwest Conference sponsored by U.S.E.P.A., Long Beach, California, attached hereto as Exhibit E. In 1928, only five percent of the rainfall in the Los Angeles area translated into runoff in the Los Angeles River. In the 1990s, that ratio has reached fifty percent. "Storm Water: Asset or Liability" at 8. If we continue to increase the amount of rainfall that we convert to runoff, at the same time development continues to increase, we will not only exacerbate our existing water quality problem, but we will also create a flood control threat that is beyond the capacity of our current flood control system to handle.

In sum, this exclusion is riddled with problems. It will reduce, if may totally eliminate, the pollution-control benefit that the numerical standard would otherwise provide. It will encourage environmentally destructive design practices. It will subvert public accountability. And it will exacerbate our flood control problem. **This exclusion must be removed.**

(b) Modify "Retail Gasoline Outlet" definition, as specified below

The Proposal states that gas stations with associated convenience stores are to be classified based on their "primary" activity. Proposal at 3. A huge percentage of gas stations today have convenience stores associated with them. These gas stations have just as much potential to generate stormwater pollution as gas stations without associated convenience stores, and there is no reason why a gas station should be able to avoid compliance with stormwater regulations by adding in a convenience store.

Furthermore, like the roofing exclusion, this provision provides no guidance on how to determine a facility's "primary activity." Without any limitations on that phrase, this exemption could quickly become an avenue to relieve most gas stations from the requirements of the SUSMP. **Any pumping station, regardless of whether it has an associated convenience store, should have to meet the requirements of this SUSMP.**

Finally, we note that definitional limitations such as this one and the ones discussed in the following two sections are particularly troubling because they do not simply relieve the excluded facilities from the requirements of the numerical design standard; they seem to remove those facilities from *any* of the facility-specific requirements enumerated in section 10, see Proposal at 9-12. Consequently, even the most basic design requirements of that section, such as the requirement to cover fueling areas, would not apply. There is no excuse for removing such basic requirements.

(c) Change the "Hillside" definition, as specified below

The Proposal establishes three criteria, all of which must be satisfied, for an area to qualify as a "hillside." The definition is both overly restrictive and dangerously vague. Los Angeles County's stormwater management program lists three similar criteria, but meeting *any one* of these three criteria suffices to qualify as a "hillside." Furthermore, criteria such as "erosive soil conditions" are defined in the Los Angeles County program, whereas the current Proposal provides absolutely no guidance for determining whether soil conditions are erosive, nor does it specify who would make such a determination.

Request: This definition should be modified to read as follows: "'Hillside' means property located in an area that has any of the following characteristics, or where the planned development has any of the following characteristics:

"location in an area known to have erosive soil conditions as identified in the *Los Angeles County Department of Public Works Hydrology/Sedimentation Manual*;

"grading will occur on any natural slope where the natural slope is 15% or greater; or

"plans include cut or fill slopes that are 30 feet high or greater."

(d) Modify "Automotive Repair Shop" definition, as specified below

The Proposal defines automotive repair shops based on standard industrial classifications (SIC codes). Proposal at 3. In so doing, it provides exceptions for SIC codes 5013 (essentially wholesale parts suppliers), 5014 (wholesale tire suppliers), and 5541 (retail gas stations) that are unnecessarily and unacceptably broad, as well as being vague in many cases. For example, facilities providing supplies and new parts (code 5013) are exempted as long as they do not store hazardous substances or recycled oil outside; however, the definition does not define "hazardous substances," a term that has different meanings in different contexts even within the area of water quality law. The phrase should be defined to include any substance designated in 40 C.F.R. part 116, pursuant to section 311 of the Clean Water Act, which is how it is defined for the NPDES program generally. See 40 C.F.R § 122.2.

Moreover, there are many types of automotive-related supplies that may not qualify as hazardous substance, but that may nevertheless contribute pollutants of concern to the receiving waters if left outside to come in contact with runoff. Any outside storage of automotive supplies should suffice to impose the requirements related to automotive repair shops on this category of facility.

Similarly, tire and tube suppliers (SIC code 5014) are excluded from categorization as "automotive repair shops" as long as they do not engage in repair work. This should be clarified to include tire and tube installation and should include the outside storage of other automotive supplies or hazardous materials as well.

Finally, the Proposal excludes retail gasoline stations (SIC code 5541) as long as they do not perform any onsite repair work. They should only be excluded if they meet all of the prior criteria, meaning they not only do they perform no onsite repair work, but they do no installation of new parts or upgrades, and they do not store any hazardous substances (properly defined) or other automotive supplies outside.

Request: Modify the exceptions provided for facilities with SIC codes 5013, 5014, and 5541 so that they are excepted *only* if they perform none of the pollution-producing activities described above.

(e) Remove the small restaurant exemption

Section 9 of the Proposal concludes by completely excluding small restaurants (those of less than 5,000 square feet) from the BMP sizing requirements. However, there is no necessary correlation between the size of a restaurant and the amount of pollution it produces. A small restaurant can produce much greater storm water pollution than a large one, depending on the materials they use and their source control practices. All restaurants should be required to meet the same standards with respect to the runoff generated by their sites. Because smaller sites generate less runoff, the burden on them will automatically be proportionately smaller.

Problem #4: The Waiver Provision is Illegal, in Addition to Being Bad Policy

Section 11 of the Proposal provides for a waiver system based on "impracticability." Proposal at 13. It would allow municipalities to adopt a waiver system in which any developer who could show impracticability could avoid the requirements of the SUSMP. There are several problems with this provision; however, they fall into two general categories: (1) the Proposal's explicitly-recognized situations of impracticality make no sense, and (2) as written, the provision is illegal. Consequently, **the provision must be significantly modified, if not removed.**

The "recognized situations of impracticability" are inappropriate

The first problem with the waiver provision is that it establishes three "recognized situations of impracticability," two of which are based solely on site conditions that make infiltration impractical. For example, one of the three bases for an impracticability waiver is "unfavorable or unstable soil conditions at a site to attempt infiltration." This basis appears to accept the misguided arguments of so many of the municipalities and to ignore the fact that there is a long list of BMPs available to developers, with only a tiny percentage relating to infiltration. Thus, even if soil conditions at a given location were not appropriate for infiltration, the current development planning program provides developers with myriad other options to manage their runoff. There is no reason that they should be able to use the soil conditions as an excuse to avoid having to perform any other available means of mitigation (including treatment) of their polluted runoff.

The third factor in the list of the three "recognized situations of impracticability" – risk of groundwater contamination – is inappropriate for the same reason. If the groundwater is at risk, then developers can choose from a wide array of alternative BMPs that do not involve infiltration at all. Furthermore, these conditions ignore the fact that there is a separate section within the Proposal specifically addressing limitations on the use of infiltration. See Proposal § 12, at 13. Thus, there is no danger that, without the ability to obtain this waiver, developers will infiltrate where doing so would be inappropriate.

This section would illegally and unwisely provide the Executive Officer with unbridled discretion to approve any other justification for impracticability

Going beyond the "recognized situations of impracticability," however, this section also allows the Executive Officer to approve "any other justification for impracticability." Proposal at 13. It is not only unwise, from a policy perspective, to provide such unfettered discretion to the Executive Officer, but it also violates the principle of public notice and opportunity to comment, and constitutes an illegal delegation of the Regional Board's authority.

First, it is inappropriate and unwise to provide the Executive Officer with the power to wield such behind-the-scenes, discretionary decision-making authority. Particularly now, with the current controversy over Staff's independent and unreviewed actions – now on appeal to the State Board – it would be a mistake to allow the Executive Officer to grant exemptions at his sole discretion. This provisions creates significant potential for abuse.

Second, the failure to provide a means for public review and comment violates federal regulations applicable to state NPDES programs. Federal law requires that any change to an NPDES permit that does not meet one of the criteria for a "minor modification" must go through public notice and comment proceedings. 40 C.F.R. § 122.62 and 122.63. The granting of an exemption for other than purely factual reasons can constitute a permit modification. Cf. Hampson v. Superior Court, 67 Cal. App. 3d 472, 483-84 (1977).

Third, the delegation of such authority to the Executive Officer, without any provision for Regional Board review, violates the limitations on the Regional Board's ability to delegate its duties. See Cal Water Code § 13223. This statute prohibits the Regional Board from delegating its power to modify waste discharge requirements ("WDRs"). The SUSMP is a provision of an NPDES permit and of a WDR. Furthermore, in a similar situation, Hampson specifically held that, although a regional board resolution could authorize the board's executive officer to make a *preliminary* determination regarding one's eligibility for an exemption, the regional board still had the power *and duty* to review that determination if it would constitute a modification of the waste discharge requirement. Id.

In sum, this waiver provision, which could exempt an unlimited number of developments, is illogical, unwise, and, as written, illegal. **The provision must be significantly modified, if not removed.**

Request: Modify this provision to allow dischargers to seek variances for a showing of impracticability made to, and approved by, the Regional Board.

Problem #5: The SUSMP Should not Allow Self-Certification of Compliance

Section 13 allows developers to certify that they have complied with the requirements of this SUSMP, thus avoiding any municipal or Regional Board review of their development plans. Proposal at 13. Such a provision would be an abdication of the Regional Board's responsibilities under the stormwater program, and **this provision should be removed.** In no other area does the Regional Board allow the regulated community to completely remove itself from regulatory oversight. At a minimum, there must be a mandatory spot checking system so that municipalities retain some sort of oversight over these otherwise-completely unregulated developments.

This section also states that the Executive Officer will decide on the acceptable training and curriculum. This, too, exceeds the Regional Board's authority to delegate duties to the Executive Officer. Just as model programs under the Los Angeles Permit had to come back before the Regional Board for approval, any training program proposed by the Executive Officer as an element of this permit's requirements must be approved by the Regional Board before it is effective.

Problem #6: The Section on Conflicts with Local Practices Vitiates the Proposal

Finally, page 5 of the Proposal allows local practices to override the requirements of the SUSMP as long as the local practices would not "defeat or circumvent the intent of the SUSMP requirements." This vague standard is, once again, an invitation for abuse. Since the cover letter describes the purpose of the SUSMP as being "to ensure that storm water pollution is addressed . . . by incorporating [BMPs] in the design phase of new development and redevelopment," one could interpret this exemption as allowing local practices to trump the requirements of the SUSMP as long as they require the incorporation of *some* BMPs in the design phase. Since this is already required under the general development planning program adopted by the Regional Board in January of 1999, this may vitiate the entire SUSMP.

The SUSMP requirements should be implemented like any other program. There is no reason why inconsistent existing practices should trump the SUSMP. **This provision must be eliminated.**

Conclusion

In sum, Staff has proposed a host of alternatives, exemptions, and limitations that, as a whole, threaten to completely negate all of the benefits that the numerical design standard would otherwise produce. There is no justification for retreating from that design standard or providing a series of "back doors" through which developers can avoid it. The proposed standard is entirely reasonable. Indeed, as the following section demonstrates, it is far less restrictive than the standards being adopted by hundreds of other municipalities all over the country. If anything, it should be stronger.

The Proposed Numerical Standard is Necessary and Entirely Reasonable

This is the second time that Staff has recommended the inclusion of a numerical standard within the SUSMP to guide BMP-design and ensure adequate mitigation of stormwater pollution in development planning. Furthermore, Staff **both times** proposed that the numerical standard to be included should be based on the 85th percentile 24-hour runoff event and on the maximized capture storm water volume for the area, or, in the alternative, a 0.75-inch storm size standard. See Proposal § 9.A, at page 8, and Public Notice No. 99-047 (Aug. 16, 1999) at 2-3. This is the minimum acceptable standard for development planning in the Los Angeles area,[3] and it provides a good starting point for the implementation of this aspect of the Los Angeles and Long Beach Permits.

NRDC also recognizes that the current Proposal provides two additional methods for calculating the exact standard to be applied to any given development. See Section 9.A. Thus, Staff has provided maximum flexibility to developers and municipalities while still ensuring a minimally-adequate level of mitigation of stormwater pollution. **NRDC supports the use of this numerical standard and its formulation in the current Proposal.**

The first section below provides a sense of just how reasonable the proposed numerical standard is in comparison to other programs being implemented across the country. It also relays the results of a survey of similarly-structured programs that are being implemented in thirty-two different geographical areas around the country.

The other two sections address concerns that were raised by several municipalities at the September 16, 1999 hearing regarding the technical effectiveness, and the *cost*-effectiveness, of the BMPs in the program. Their complaints generally took the form of alleging – without any evidence – that there was a lack of data to support the use of these BMPs. As we demonstrate below, this claim is completely fallacious, as there is, and has been for years, an incredible wealth of data supporting both the effectiveness, and the cost-effectiveness, of these BMPs.

In responding to these municipalities' concerns, it bears repeating that the selection of BMPs is **not even at issue** in this proceeding, as the Regional Board has already adopted a list of BMPs for the development planning program under the Los Angeles Permit. See Regional Board Resolution No. 99-03, April 22, 1999, attached as Exhibit F. Thus, the Regional Board has already determined that the BMPs in this program are both cost-effective and appropriate. We nevertheless review the wealth of data regarding the effectiveness and cost-effectiveness of the structural BMPs approved by the Regional Board last April, in response to these concerns.

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[3] As indicated in the September Letter, NRDC believes that the threshold should actually be higher. We believe that new development projects should be designed to mitigate all the runoff generated by storms of up to either 1.0-inch or the size of a one-year, 24-hour storm, whichever is greater. Many areas around the country use a 1.0-inch standard; many others use the six-month or one-year, 24-hour storm standard; and still others require BMPs in new and redevelopment to be designed with sufficient capacity to ensure that they capture 90% of the stormwater generated. See, e.g., Table 1, on page 13. Given the hydrology of the Los Angeles area, any of these standards would translate to at least a 1.0-inch storm.

Hundreds of Municipalities Across the Country Use Similar or Stronger Standards

At the September 16, 1999, hearing at which the Regional Board heard testimony on this issue, representatives of several municipalities, as well as the building industry, decried the alleged difficulties of implementing the proposed numerical standard and the alleged hardships that would befall them and (in the case of the municipalities) their constituents, if this standard were to be adopted. None of the speakers presented any evidence in support of their "parade of horrors" scare tactics. Instead, they simply – and incorrectly – implied that there was no basis for the standard that Staff had recommended.

As we showed in great detail in our September Letter, not only was there a basis, but a technically-sound, environmentally-critical basis for adopting a standard at least as stringent as the one proposed by Staff. Furthermore, there are literally hundreds of municipalities across the country already employing such standards.

Many municipalities have structured their standards in ways that make them difficult to compare. However, one of the nation's leading experts in stormwater management engineering, Dr. Richard Horner, has noted that, although there are myriad ways of articulating a standard for BMP design, in his professional judgment, "the majority of municipalities that have a numerical standard [such as the one listed in the current Proposal] have a **more stringent one than Los Angeles County's**." See Supplemental Declaration of Richard R. Horner ("Horner Suppl. Decl.") ¶ 7, attached hereto as Exhibit G (emphasis added). And in fact, **three of the Nation's leading stormwater experts have all submitted affidavits or letters supporting the use of this standard**. See Exhibit H.

Moreover, the legal standard for municipal stormwater pollution management requires that this Development Planning program be structured so as to reduce pollutants in stormwater to the "maximum extent practicable." 33 U.S.C. § 1342(p)(3)(B)(3); Los Angeles Permit, Part II, at page 12. Given this standard, the fact that other municipalities are implementing more stringent standards, **in and of itself**, should suffice to show that this is a practicable option and therefore **must** be implemented.

Presented below, in Table 1, is a partial listing of several hundred municipalities around the country that employ more stringent standards than the one currently proposed by Staff. Table 2 lists additional municipalities that employ equally stringent or more stringent standards, depending on the situation. This list is by no means comprehensive – it comes from an academic survey of 32 city, county, regional, and state programs[4] – however, it serves as an indication of how common the proposed approach is.

[4] Institutional Aspects of Urban Runoff Management: A Guide for Program Development and Implementation, Watershed Management Institute, Inc. (1997).

Table 1 – Standards Exceeding the Los Angeles County Standard of Runoff from the First 0.75 Inches of Rain:

Municipality or Municipalities	Design Standard for Treatment Control BMPs	Equivalency to Standard Proposed for Los Angeles
All municipalities in the "Puget Sound Basin," which encompasses a 12-county region, and **well over 100 individual municipalities.**	Runoff from 6-month, 24-hour rainfall.	**1.2 inches** for the Seattle area; a similar amount in most other highly urbanized areas (A few smaller urban areas have either heavier or lighter rainfall, but all have a standard exceeding Los Angeles County's.)
Clark County, Washington	Runoff from 6-month, 24-hour rainfall.	Approximately **1.2 inches**.
State of New Jersey **(all municipalities)**	Runoff from first 1.25 inch of rainfall occurring in 2 hours, or runoff from 1-year, 24-hour rainfall event, whichever is greater.	**1.25 inches or greater**
State of Delaware **(all municipalities)**	First 1 inch of runoff	**Greater than 1.0 inch**
State of Maryland (proposed new standard for **all municipalities**)	Runoff from 90% of average annual rainfall	Approximately **1 inch** of rain in most places in the state.
Northeast Illinois Planning Commission (Metropolitan Chicago)	Runoff from first 2 inches of rainfall (except runoff from 6-month [unstated duration] rainfall event for swales)	**2.0 inches**, except for swales, which could be more or less.
Austin, TX	First 0.5 inch of runoff + 0.1 inch of runoff for every 10% of impervious area above 20%	**1.3 inches or greater**.

Orlando, FL	First 0.5 inch of runoff, or runoff from first 1 inch of rainfall, whichever is greater.	**1 inch or greater**.
Winter Park, FL	First 1 inch of runoff	**Greater than 1 inch**.

Table 2

Standards Exceeding the Los Angeles County Standard (Runoff from First 0.75 Inches of Rainfall) Under All or Most Circumstances:

Municipality or Municipalities	Design Standard for Treatment Control BMPs	Equivalency to Standard Proposed for Los Angeles
Florida (Water Management Districts and municipalities that have not adopted their own standard)	First 0.5-1.5 inch of runoff, depending on BMP, receiving water, and impervious fraction.	Greater than 0.5, almost always greater than .75, and often above 2.0.
South Florida Water Management District (Miami-West Palm Beach metropolitan areas)	Runoff from first 1.0-2.5 inches of rainfall (depending on impervious fraction) multiplied by impervious fraction.	Almost always greater than 0.75
Suwanee River Water Management District, FL	First 0.5-2 inches of runoff, depending on BMP, receiving water, and impervious fraction	Usually greater than 0.75
State of Virginia	Basic treatment volume is first 0.5 inch of runoff, but wet pond is to have wet pool volume = 3 times basic treatment volume	Usually greater than 0.75, and always greater than 0.75 for wet pools.

The Relevant BMPs Have Repeatedly Been Shown to be Highly Effective

Another concern raised by several municipalities at the September 16, 1999 hearing, was over the effectiveness of the BMPs. There is no doubt that structural BMPs are a highly effective means of controlling stormwater pollution, and any uncertainty regarding the effectiveness of individual or specific BMPs has been substantially reduced by the myriad technical studies that have been performed on this subject. Indeed, contrary to the claims of several municipal representatives at the September 16, 1999 hearing, EPA has recently noted that "[t]here has been a great deal of published data documenting the efficiency of BMPs in removing pollutants from storm water." Preliminary Data Summary of Urban Storm Water Best Management Practices, EPA (Aug., 1999) ("EPA Study") at 5-50. In fact, there have been "[s]everal nationwide monitoring programs . . . to evaluate the performance of storm water BMPs," as well as data in the professional literature and "a large amount of data . . . collected by various cities and municipalities as part of the storm water permitting program." Id. at 5-46 – 5-48. Indeed, some of the data recounted below has been known for over 15 years, making the municipalities; claims perplexing. See, e.g., U.S. EPA, *Results of the Nationwide Urban Runoff Program (Volume 1-Final Report)*, December, 1983, at 6-1 – 6-64.

In addition, two separate groups have developed databases on the issue of BMP effectiveness. "The Center for Watershed Protection ... has prepared a database containing BMP performance data for 123 structural BMPs," id. at 5-47, and the American Society of Civil Engineers ("ASCE") has developed what EPA refers to as "a comprehensive database on BMP performance." www.epa.gov/OST/stormwater, visited on Dec. 10, 1999. The Center concluded that "there is enough data to select specific BMP groups on the basis of their comparative ability to remove specific pollutants." "Comparative Pollutant Removal Capability of Urban BMPs: A Reanalysis," Watershed Protection Techniques; Vol. 2, No. 4, June 1997, Technical Notes – Stormwater BMPs; Technical Note 95 at 520.

Although a complete literature review and summary is beyond the scope of this letter, the attached excerpt from Fundamentals of Urban Runoff Management: Technical and Institutional Issues, R. Horner, J. Skupien, E. Livingston, and H. Shaver (Aug., 1994), see Exhibit I, reports the results of several in-depth studies on BMP effectiveness. The information is provided as exemplary of the sort of data that has been generated regarding the effectiveness of BMPs. It is by no means the only source of information on the subject. It is but one example of the sort of detailed information that has been developed to characterize the effectiveness of structural BMPs. Some of the conclusions of the report are summarized below. Additionally, Table 5-7 from the EPA Study, attached hereto as Exhibit J, reports similar pollutant removal levels for total suspended solids, nitrogen, phosphorus, pathogens, and metals, for 10 types of BMPs.

All of the BMPs listed below are on the Regional Board's list of approved BMPs for use in the Development Planning Program under the Los Angeles Permit. See Regional Board Resolution No. 99-03, attached as Exhibit F. Thus, the following data directly reflects the effectiveness of the existing program.

A. Wet ponds

EPA's Nationwide Urban Runoff Program ("NURP") performed a comprehensive investigation of pond design and performance. Performance was found to relate best to volume ratio (the ratio of pool storage volume to mean storm volume). Total suspended solids ("TSS") reductions were found to reach 100% with sufficient volume ratio. Similarly, lead reductions could be greater than 90%, phosphorus reductions greater than 60%, and copper and zinc reductions as high as 50%. Seattle's water quality design storm is equivalent to a volume ratio of approximately 2.5, which yields reductions in TSS of 75%, lead of over 70%, phosphorus of 50%, and copper and zinc of 40%. Fundamentals of Urban Runoff Management, R. Horner et al., Exhibit I, at 120-21.

B. Extended-Detention Dry Ponds

A 1990 study by Stahre and Urbonas analyzed several studies of long-term efficiencies for various pollutants and a 40-hour detention time. The researchers concluded that dry ponds under such conditions could remove 50-70% of TSS, 75-90% of lead, 50-90% of bacteria, 50-70% of hydrocarbons, 30-60% of zinc, 20-40% of chemical oxygen demand, and 10-20% of total phosphorus and total nitrogen. Id. at 122.

C. Vegetative Practices

A 1992 performance investigation in the Puget Sound area of Washington found grass swales can be effective in capturing solids, oils, and the least soluble metals. Over a six-storm period, the swale, with an average hydraulic residence time of nine minutes, removed an average of 83% of the TSS, 75% of oil and grease/TPH, 72% of iron, over 60% of the lead, turbidity, and T-Zn/T-Al, and even removed 30% of the *dissolved* zinc. Id. at 124.

D. Constructed Wetlands

Another 1992 study, by Strecker, considered more than 140 papers and reports and assembled detailed information on 18 locations within the United States. The study found median pollutant removals of 80.5% for TSS, 44.5% for ammonia-nitrogen (NH_3-N), 58% for total phosphorus, 83% for lead, and 42% for zinc. Id. at 128-29.

E. Sand Filters

Monitoring sand filters in Austin, Texas, Shaver reported expected pollutant removal efficiencies of 75-87% for TSS, 71-88% for lead, 49-82% for zinc, 19-61% for total phosphorus, and 36-37% for fecal coliform, among other pollutant parameters. Id. at 138.

F. Leaf Compost Filters

A leaf compost filter developed and tested by W and H Pacific (1992) showed influent event mean concentrations to be reduced, on average, by 95% in TSS, 84% in turbidity, 67%

chemical oxygen demand, 41% phosphorus, 88% zinc, and 87% total petroleum hydrocarbons, among other results. Id. at 139.

G. Catch Basin Filters

Before independent testing, "MacPherson reported concentration reductions of 90 percent for total suspended solids, 87 percent for lead, 77 percent for zinc, and 86 percent for copper." Id. at 139. Dr. Michael Stenstrom has also reported removal efficiencies of 50 to 90 percent for petroleum hydrocarbons, and up to 99 percent for sediments and trash. See Santa Monica Bay Restoration Project Catch Basin Study, 1998 (Michael Stenstrom, Ph.D., primary author).

H. Continuous Deflective Systems

Robin Allison, of the University of Melbourne, in Victoria, Australia, found continuous deflective systems, or CDS, to remove 70 to 85 percent of trash, vegetation *and* TSS. R. Allison, B.E., Ph.D., "Effectiveness of Two Stormwater Trash Trapping Systems" (1998). See Exhibit K.

I. Conclusion

There is an enormous body of detailed technical information regarding the efficiency of the various structural BMPs listed above. Because the BMPs listed above are part of the existing Development Planning program, see Regional Board Resolution No. 99-03, attached as Exhibit F, this data is directly on-point and completely supportive of the Board's decision to require that these BMPs be sized to work most effectively.

The data presented herein is also highly relevant because the pollutant parameters for which these structural BMPs have been tested – and for which they have proven to be the most effective – are the same pollutants for which the vast majority of the waters of this region are listed as impaired. The Los Angeles River, for example, is presently listed as being impaired by ammonia, coliform, lead, oil, and nutrients such as nitrogen and phosphorus, among other things, see 1998 California 303(d) List and TMDL Priority Schedule, approved by EPA, May 12, 1999 ("303(d) list") at 79-81, all of which can be effectively managed by the BMPS listed above. Even a casual review of the 303(d) list reveals that most of the contaminants listed above, including copper, lead, zinc, TSS, coliform, and nutrients, are ubiquitous problems in the Los Angeles area. Indeed, with the impending development of TMDLs for these impairments, the implementation above the above BMPS may actually soon be *mandated.*

There is Ample Data Regarding the Reasonable Costs of Structural BMPs

A. The Municipalities' Demands Regarding the Consideration of Costs Show a Fundamental Misunderstanding for the Structure of the Clean Water Act.

Several of the municipal representatives who spoke at the Regional Board's September 16, 1999, hearing on this issue complained that there was insufficient data on the costs of the

various BMPs to assess whether they should be required. If effectiveness is viewed as a measure of the benefit of a BMP, they argued that, even if we knew how effective the BMPs were, and therefore what the benefits are, the absence of cost data nevertheless meant that there was not enough data to justify the BMPs on a cost-benefit basis.

As an initial matter, it should be noted that a cost-benefit analysis is not required at this stage in the implementation of the Clean Water Act's stormwater management program. Costs, to the extent they are relevant at all, have been factored into the equation in designating the beneficial uses for the receiving waters. Once uses are designated for those water bodies, the Clean Water Act requires that sufficient controls be implemented on all sources of pollution to *assure* that those standards are attained. See, e.g., 33 U.S.C. § 1313(d)(1)(C); see, also, id. at § 1312(a). Also, once again, the BMPs at issue were selected and/or approved by the Regional Board nine months ago, see Exhibit F at 16-31, so their propriety is not in issue in this action. The only question before the Board is the appropriate sizing of the pre-approved list of BMPs that the municipalities must require of new and redevelopment regardless of how the Board acts on the instant issue.

Further, although the municipalities' objections do not relate to the propriety of adopting a numerical sizing standard, it is worth noting that this element – the development of SUSMPs with meaningful standards – is *mandated* by the Los Angeles Permit. The permit *requires* that SUSMPs and guidelines for their preparation be developed. Los Angeles Permit § III.A.1.c. It also states that, in order to implement a program for planning measures consistent with the SUSMPs, permittees "shall require that the project applicant submit an [USMP] appropriate and applicable to the project." Id. at § III.A.2. Thus, the permit requires the adoption of SUSMPs and envisions that the Regional Board will develop standards, such as the numerical standard at issue, to assessing the adequacy of the specific USMPs submitted by developers.

Finally, the statute itself, as well as the permit, requires that the Development Planning program be structured to reduce pollutants in stormwater to the maximum extent practicable. 33 U.S.C. § 1342(p)(3); Los Angeles Permit, Part II, at 12. Given the number of municipalities that are implementing more stringent sizing standards than this Regional Board is considering, see section above entitled "Hundreds of Municipalities Across the Country Use Similar or Stronger Standards," there can be no doubt that the standard before the Board is not impracticable.

B. The Economic Data is Plentiful

Even if a cost-benefit assessment were required at this stage, the municipalities' claim that there is some general dearth of economic data on the cost of BMPs is simply false. EPA's Preliminary Data Summary of Urban Storm Water Best Management Practices, supra at page 15, discusses the costs (and benefits) of stormwater BMPs, in chapter 6. Table 6-1, attached hereto as Exhibit L, lists typical base capital costs, in dollars per cubic foot of treated water volume. Using that table, and even assuming 100% imperviousness, a one-half acre development would be required to spend between approximately $675 and $8,000 to construct and install a

sufficiently-sized structural stormwater BMP(s).[5] Similarly, a 10-acre complex could be required to spend as little as $13,500 or, using the most expensive BMPs, as much as $161,000.[6]

EPA goes on to note that, in part because of economies of scale, the costs of many BMPs will vary from these numbers as the sizes increase, making it useful to assess the total cost of typical applications of each BMP. Table 6-2, attached as Exhibit M, shows the costs for the same eight BMPs for 5- and 50-acre sites.[7] These amounts are likely to be only a small fraction of the overall costs to develop lots of this size. The Center for Watershed Protection concluded that "about a third of every dollar spent on stormwater pond construction was devoted to water quality control, with the remainder spend on flood control storage." "The Economics of Stormwater BMPs; An Update," Watershed Protection Techniques; Vol. 2, No. 4, June 1997; Technical Notes – Economics; Technical Note 90 at 496. Furthermore, the Regional Board Staff itself performed "BMP cost calculations for an actual site in Los Angeles in the process of development and determined that the mitigation criteria cost is **less than 0.5 percent of the project cost.**" Staff's "Summary of Comments Received and Response," Dec. 7, 1999, at 3.

In any event, the wealth of data regarding the costs of BMPs should put to rest the notion that such data is unavailable.

[5] 0.75 inches of rain on a 100% impervious surface would generate 0.75 inches (or 0.0625 feet) of runoff. One-half acre is 21,500 square feet. 0.0625 feet of water over 21,500 square feet yields 1,344 cubic feet of water, which, when multiplied by .5 to 6 (the approximate range of costs reported in Table 6-1) yields costs of between $672 and $8,064.

[6] Again assuming 100% imperviousness, since ten acres is 430,000 square feet, the site would yield 26,875 cubic feet of water. Multiplied by .5 and 6, that volume yields costs of $13,437 and $161,250.

[7] As EPA's data ranges from two to nine years old, these numbers should be adjusted for inflation, in addition to a further adjustment for regional factors.

Recommended Changes

The following is a proposed resolution for the Regional Board's adoption. Adoption of this resolution would affirm the well-supported numerical standard proposed by Staff while eliminating the exemptions and scope limitations that will undoubtedly hamper the effectiveness of this program.

The Regional Board hereby adopts the current Proposal from Staff with the following modifications:

1. Remove the roofing exclusion from section 9, on page 9.

2. Remove the final paragraph within section 9, which excludes small restaurants (those of less than 5,000 square feet) from the requirements established in that section.

3. Modify Section 11, on Waivers, to allow dischargers to seek variances only upon a showing of impracticability made to, and approved by, the Regional Board, following adequate public notice and opportunity for public comment.

4. Remove section 13, allowing self-certification of compliance.

5. Remove the section on page 5 entitled "Conflicts with Local Practices."

6. Expand the scope of the program to include all the project and activity types covered by Los Angeles County's program, including removal of the limitation to discretionary projects, by doing the following: (a) change the sentence in the last full paragraph on page 2 of the Proposal from:

"This SUSMP applies to projects that are Priority Projects (Discretionary Projects) as defined by the NPDES Permit;" to read:

"This SUSMP applies to all project and activity types described in attachment 1;" and

attach the list from the Los Angeles County Stormwater Management Manual, see Exhibit C, as attachment 1.

(b) Remove the word "discretionary" from the beginning of the last line on page 2 of the Proposal.

(c) Remove the top paragraph from page 5, defining "Discretionary Project."

7. Modify the definition of "Retail Gasoline Outlet" on page 3 of the Proposal to say that any commercial facility that includes a pumping station qualifies as a retail gasoline outlet subject to the requirements applicable to such entities. If other facilities, such as convenience stores, are associated with the pumping station, the requirements for gas stations only apply to the area around the pumping station, which will be the greater of the area 50 feet outward from the outer-most pumping stations or half way to the associated facilities.

8. Modify the definition of "Hillside" on page 3 so that it reads as follows: "'Hillside' means property located in an area that has any of the following characteristics, or where the planned development has any of the following characteristics:

"location in an area known to have erosive soil conditions as identified in the *Los Angeles County Department of Public Works Hydrology/Sedimentation Manual*;

"grading will occur on any natural slope where the natural slope is 15% or greater; or

"plans include cut or fill slopes that are 30 feet high or greater."

9. Modify the definition of "automotive repair shop" as follows:

(a) Facilities with SIC code 5013 are exempted only if they do not store hazardous substances (meaning any substance designated in 40 C.F.R. part 116, pursuant to section 311 of the Clean Water Act), recycled oil, or automotive-related supplies, outside.

(b) Facilities with SIC code 5014 are excluded only if they do not engage in repair work or tire and tube installation and do not store automotive supplies or hazardous materials (defined as any substance designated in 40 C.F.R. part 116, pursuant to section 311 of the Clean Water Act) outside.

(c) Facilities with SIC code 5144 are excluded only if they meet all of the prior criteria, meaning they not only do they perform no onsite repair work, but they do no installation of new parts or upgrades, and they do not store any hazardous substances (as any substance designated in 40 C.F.R. part 116, pursuant to section 311 of the Clean Water Act) or other automotive supplies, outside.

* * *

Thank you for the opportunity to comment on the Regional Board Staff's proposed SUSMP for the Los Angeles and Long Beach Permits. If you have any questions regarding any of the above, feel free to contact Alex Helperin at (323) 934-6900.

Sincerely,

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Senior Attorney
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Alex N. Helperin
Attorney
Natural Resources Defense Council

Steven E. Fleischli
Executive Director
Santa Monica BayKeeper

Mark Gold
Executive Director
Heal the Bay

cc: Felicia Marcus, Regional Administrator, USEPA, Region IX
Winston H. Hickox, Secretary of Environmental Protection, Cal/EPA
Alexis Strauss, Director, Water Program, USEPA, Region IX

Enclosures

NATURAL RESOURCES DEFENSE COUNCIL

September 9, 1999

VIA FACSIMILE (w/o enclosures)

Dr. Xavier Swamikannu
California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Proposed Model Standard Urban Storm Water Mitigation Plans (SUSMPs)
Los Angeles County Municipal Stormwater Permit (NPDES No. CAS0061654)

Dear Dr. Swamikannu:

The Natural Resources Defense Council ("NRDC") has reviewed the "Standard Urban Storm Water Mitigation Plans submitted to the Executive Officer under the municipal storm water permit for Los Angeles County and Cities" (the "SUSMPs") and the Regional Board staff ("Staff") recommendation to the Executive Officer regarding approval of those SUSMPs. We hereby join in the comments submitted by Heal the Bay, in its letter of September 7, 1999, and in those submitted by the Santa Monica BayKeeper, in its letter of September 9, 1999, and also submit the following additional comments on behalf of NRDC and its members.

Introduction

The Center for Watershed Protection (the "Center") has noted that "[c]ommunities across the nation are finding that their water resources are degrading in response to growth and development." Rapid Watershed Planning Handbook (Center, Oct. 1998) at xiii, attached hereto as Exhibit A.[1] The Center's "four-year effort to examine new ways to reduce pollutant loads and protect aquatic resources" revealed that "a fundamentally different approach toward development [is] needed to reliably protect streams and other aquatic resources." Site Planning for Urban Stream Protection (Center, Dec. 1995) at 1, attached hereto as Exhibit A. **Development planning is generally recognized as one of the most critical aspects of any stormwater management program, and specific performance standards are essential to the effectiveness of these programs.**

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[1] All exhibits will be submitted separately from the original, facsimile version of this letter.

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Staff's Recommendation

Given the importance of this program, NRDC strongly agrees with Staff's recommendation to include a numerical standard in the SUSMPs to guide BMP-design and ensure adequate mitigation of stormwater pollution in development planning. NRDC also supports the specific numerical standard recommended by Staff – the 85th percentile 24-hour runoff event, based on the maximized capture storm water volume for the area, or, in the alternative, a 0.75-inch storm size standard. This is the minimum acceptable standard for development planning in the Los Angeles area,[2] and it provides a good starting point for the implementation of this aspect of the Los Angeles County Municipal Stormwater Permit (NPDES No. CAS0061654) (the "Permit").

Basis for 0.75-Inch Standard

As you know, NRDC and the Santa Monica BayKeeper successfully sued the County of Los Angeles ("County") in 1994 over its failure to comply with the then-applicable Los Angeles Municipal Stormwater Permit. In settlement of that lawsuit, the County agreed to develop a comprehensive stormwater management program. That program is now outlined in the County's Storm Water Program Implementation Manual ("County Manual"), and the SUSMPs established therein impose a 0.75-inch standard. County Manual, Volume VII, Appendix C, attached hereto as Exhibit B.

The 0.75-inch standard was not chosen at random, but was the product of extensive discussion and negotiation, and the counsel of Dr. Richard Horner, a professor at the University of Washington, and one of the foremost experts in the field of stormwater management. See Exhibit C. Dr. Horner concluded that a higher standard would be preferable, but that the 0.75-inch standard would be a minimally-acceptable standard for the Los Angeles area. Consequently, this or a more stringent standard should be adopted for all other permittees under the Permit.

Similarly, the 85th percentile 24-hour runoff event, based on the maximized capture storm water volume for the area, is also based on sound science and the recommendation of stormwater management experts. Dr. Robert Brashear, Ph.D., P.E., of Camp Dresser & McKee suggested this as one of the three legitimate methods for calculating a development planning stormwater mitigation standard when he spoke at the August 10, 1999 workshop on this subject. It is therefore an appropriate alternative to the 0.75-inch standard.

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[2] NRDC believes that the threshold should actually be higher. We believe that new development projects should be designed to mitigate all the runoff generated by storms of up to either 1.0-inch or the size of a one-year, 24-hour storm, whichever is greater. Many areas around the country use a 1.0-inch standard, and many others use the six-month or one-year, 24-hour storm standard, such as the Puget Sound basin; Orlando and Winter Park, FL; and the States of New Jersey and Delaware. Another possible standard is to require that stormwater treatment facilities be designed with sufficient capacity to ensure that they capture 90% of the stormwater generated. Given the hydrology of the Los Angeles area, any of these standards would translate to at least a 1.0-inch storm.

These numbers are not only supported by experts in the field. They have been derived using well-recognized technical sources and uncontroversial assumptions. Exhibit D, from the California Storm Water BMP Handbooks, relates to the third method of calculating a numeric standard mentioned above in footnote 2 (based on a percentage of storm water volume captured). It demonstrates an analysis based on the STORM model, giving basin volume (not rainfall volume) in relation to a directly connected impervious area ("DCIA"). By using the 100% DCIA curve, one can approximate rainfall volume (i.e., all or almost all runs off and must be stored). The horizontal axis is in acre-ft/acre. Multiplying the numbers there by 12 gives inches. You can see that a 90% capture goal on the 100% DCIA curve requires about 0.09 acre-ft/acre, which, when multiplied by 12, results in 1.08 inches of storage.

The County's adoption of the 0.75-inch standard translates into an 80% capture rate. Looking again at the attached chart from the STORM model, an 80% capture rate translates to about .064 acre-ft/acre, which comes out to about 0.75 inches of storage. Similarly, an 85% capture rate would be about 0.95 inches. Various municipalities across the country, such as those in the Puget Sound basin; Clark County, WA; Orlando and Winter Park, FL; and the Northeast Illinois Planning Commission, employ between an 80% and a 90% (or greater) capture rate, when using capture rate as the basis for determining minimum retention capacity.

The County Adopted the 0.75-Inch Standard but has Inexplicably Removed it from the Proposed SUSMPs

Although the County adopted the 0.75-inch storm size standard in its own standard urban storm water mitigation plans, in its role as Principal Permittee under the Permit, it *removed* that numerical standard from the SUSMPs that it submitted to the Executive Officer, which are currently under consideration. As Tom Kennedy, representing the Los Angeles Countywide Permit Subcommittee, admitted at the workshop on August 10, 1999, the lowering and eventual removal of that performance standard was based on a political compromise, rather than on any scientific or environmental considerations. Thus, just as Heal the Bay expressed concern over the lack of a numerical standard, NRDC objects to the County's removal of the 0.75-inch standard and supports Staff's recommendation to re-insert it.

The 0.75-Inch Standard is Supported by Other Stormwater Management Programs

The use of a 0.75-inch (or larger) storm size as a minimum standard for the stormwater mitigation requirement in a development planning program is well supported by the experiences and policies of other municipalities around the Country. For example, Montgomery County, Maryland requires the implementation of structural BMPs sufficient to manage a 1.0-inch rainfall event according to infiltration standards/specifications; or to provide for a permanent pool equal to or greater than ½-inch of runoff from the drainage area; or to provide 24 hour detention and release of the total volume of runoff resulting from a 1 year storm or a 1 inch rainfall.

Montgomery County Regulation No. 5-90, § 4.B.3, attached hereto as Exhibit E. The city of Alexandria, Virginia has a "zero additional pollutant loading" standard. City of Alexandria Municipal Code § 13-117(A), attached hereto as Exhibit E. Right here in Los Angeles County, the city of Santa Monica's stormwater ordinance requires that parking lots be designed to be able to contain one inch of precipitation in a twenty-four hour period. Santa Monica City Municipal Code § 7.10.060(b)(3), attached hereto as Exhibit E. Accordingly, Staff's recommendation that the Executive Officer include the 0.75-inch numerical standard, or the 85th percentile 24-hour runoff event, into the SUSMPs represents a modest but appropriate initial performance standard for the implementation of a development planning stormwater pollution mitigation program in Los Angeles County.

In sum, the 0.75 inch standard is supported by sound science, the experience of other municipalities, and the precedent set by Los Angeles County itself, the principal permittee under the Permit. Given the existing precedents, the feasibility of its implementation, and the scientific bases for this standard, it is the lowest threshold that could possibly satisfy the Clean Water Act requirement to "reduce pollutants in discharges to the maximum extent practicable." 33 U.S.C. § 1342(p)(3)(B)(iii). Thus, there is every reason why the Executive Officer should adopt Staff's recommendation and insert that standard into the SUSMPs.

Scope of Application

As NRDC has repeatedly commented, the development planning program in general, and the numerical stormwater volume retention/mitigation standard, specifically, should apply much more broadly than simply to discretionary projects or the six types of development represented in the SUSMPs.[3] Once again, the County's program is both instructive and precedent-setting on the issue of scope of application. The County's program includes a list of over 20 types of projects and activities to which its stormwater review process, and its numerical mitigation standard, apply. See County Manual, Volume VII, pages 3-1 to 3-3, attached hereto as Exhibit F. Any standard adopted as part of the model SUSMPs should apply to a similar range of projects and activities.

Receiving Water Limits and Anti-Degradation Requirements

Of course, as a performance standard, Staff's recommendation is separate from the water quality-based standards that continue to apply separately and to establish – albeit indirectly – the independent requirement that whatever technology is implemented must be sufficient to ensure that stormwater and urban runoff do not introduce pollutants into the receiving waters at levels that "will cause, have the reasonable potential to cause, or contribute to an excursion above any .

[3] See, e.g., NRDC's January 8, 1999 letter re "Los Angeles County Proposed Model Development Planning Program," and NRDC's June 18, 1999 letter re "Tentative City of Long Beach Municipal Storm Water Permit."

. . water quality standard." 40 C.F.R. § 122.44(d)(1)(i). If the performance standard recommended by Staff fails to ensure the protection of beneficial uses and other aspects of receiving water quality standards, additional, or more aggressive, mitigation measures may be required.

Similarly, anti-degradation requirements prohibit the reduction of water quality from current levels. 40 C.F.R. § 131.12(a)(2). Thus, this requirement serves as an independent check to ensure that whatever performance standard is adopted protects the receiving waters from any degradation of water quality. Thus, if the current performance standard results in a lowering of water quality, it may have to be strengthened based on these regulations as well.

Requested Changes to Specific Language/Proposal

NRDC notes that Staff's recommendation is for the Executive Officer to "[i]ncorporate in, 'SUSMP Section 3. Minimize Storm Water Pollutants of Concern,' numerical mitigation measures for BMP design criteria . . ." Regional Board "Notice of Public Hearing" (August 16, 1999) ("Notice") at 2. In the interests of clarity and simplicity, we would recommend that the Executive Officer simply *replace* the non-numerical standard currently listed in the SUSMPs with the numerical standard recommended by Staff, rather than maintaining the current structure and trying to "incorporate" the numerical standard into it. Mere incorporation of the numerical standard into the existing structure would result in two separate standards and likely confusion. Included as Attachment 1 to this letter is a redlined version of "SUSMP Section 3. Minimize Storm Water Pollutants of Concern," from the 100+ Home Subdivision SUSMP, providing an explanation of how this language could be inserted.

In addition, as Staff noted in its recommendation, the SUSMPs for automotive repair facilities, retail gasoline outlets, restaurants, and hillside located single-family dwellings do not require treatment control BMPs. They also do not include a section entitled "Minimize Storm Water Pollutants of Concern," as the other three SUSMPs do. Because Staff recommended that this discrepancy be rectified, and because of the language of Staff's recommendation regarding numerical standards (to include "numerical mitigation measures for BMP design criteria"), we interpret that recommendation to apply to all seven SUSMPs. This will necessitate the addition of a section, analogous to the one reproduced in Attachment 1, into the four SUSMPs currently lacking such a section.

Thank you for the opportunity to comment on the County's proposed SUSMPs and on the Staff's recommended action with respect to them. If you have any questions regarding any of the above, feel free to contact Alex Helperin at (323) 934-6900.

Sincerely,

David S. Beckman
Alex N. Helperin

Enclosures

Introduction

A Guide to Better Site Planning

This guide represents the culmination of a four–year effort to examine new ways to reduce pollutant loads and protect aquatic resources through non–structural practices and improved construction site planning. During the project it was quickly realized that a fundamentally different approach toward development was needed to reliably protect streams and other aquatic resources. This guide describes a new approach to site planning and recommends how it can be implemented at the local level. A recurring theme is that the new site planning approach makes more environmental and economic sense than traditional subdivision codes.

This guide is aimed at all those who participate in site planning at the local level—plan reviewers, developers, engineers, landscape architects, local officials, and concerned citizens. It is hoped that each participant can find some useful ideas within the guide to improve the quality and outcomes of site plans.

Organization

The guide is organized into seven main chapters:

1. A Stream Protection Strategy
2. The Importance of Imperviousness
3. Watershed–Based Zoning
4. Stream Protection Clusters
5. The Architecture of Stream Buffers
6. Headwater Streets
7. Green Parking Lots

The first chapter, *A Stream Protection Strategy*, outlines a comprehensive framework for effective stream protection at the local level that utilizes an integrated development review process through each stage of the development cycle. The many advantages of this resource–driven approach are then described. Next, the chapter documents how three decades of traditional development standards and subdivision codes have not served their purpose. These outdated regulations result in needless impervious area, consumption of green space, and inadequate protection of resource areas and streams. A strong case is made that modest reforms of inflexible local development regulations can produce significant improvements in the future quality of streams and the community.

Chapter 2, *The Importance of Imperviousness*, is a thorough review of natural research on the impact of imperviousness on aquatic systems. The review concludes that even relatively low levels of impervious cover can produce significant and often irreversible impacts on streams and other aquatic resources. A key theme is that impervious cover can be used as a quantitative measure to test the effectiveness of site planning practices.

Chapter 3, *Watershed-Based Zoning*, examines how the measurement of impervious cover can

be a more reliable and enforceable link between individual site plans and the larger watershed in which they are built. An urban stream classification scheme based on future impervious cover is outlined and the merits of impervious cover are then discussed as the basis for watershed–based zoning. The chapter outlines the steps needed to institute watershed–based zoning at the local level and concludes with a discussion on how specific stream protection strategies can be adapted within individual subwatersheds.

Chapter 4, *Stream Protection Clusters*, examines a series of alternative development patterns that can sharply reduce the amount of impervious cover created at a site. These development patterns concentrate on cluster development in a smaller area served by a shorter road network. Many localities already allow cluster development; however, it has seldom been used for the explicit purpose of reducing impervious area. A new model for cluster development is presented that can be easily implemented by local governments to build more attractive and economic communities.

Chapter 5, *The Architecture of Stream Buffers*, documents the critical importance of buffers in the urban landscape. Twenty key benefits of buffers are reviewed. In addition, the chapter documents the experience that local governments have had in implementing effective stream buffer programs. The chapter concludes with detailed, but flexible performance standards that ensure that buffers are protected and maintained through each stage of the development cycle.

Chapter 6, *Headwater Streets*, investigates the potential of reducing imperviousness through narrower residential streets, smaller cul–de–sacs, and shorter driveways. Present local road design standards have resulted in needless impervious cover and unsafe speeds. A revised residential street classification system is presented that forms the basis for more effective performance standards for street design. The chapter also provides guidance on integrating structural practices along streets to provide the most effective control of runoff quality.

In the last chapter, *Green Parking Lots*, further reduction of impervious cover is possible in new commercial parking lot design. The "green parking" approach downsizes parking areas, thus limiting the creation of unnecessary impervious cover while still providing convenient access for motorists. A strong case is made that current local parking codes result in parking lots that are much larger than needed. From the experience of local planners, new performance criteria are proposed to curb excess parking, utilize smaller parking stalls, and design more effective best management practices (BMPs) for parking lots.

A glossary at the end of the guide provides definitions of the many planning and engineering terms involved in site planning.

The guide illustrates how innovative site planning tools can be integrated into the overall BMP system for a development site. Such tools act to reduce impervious area, protect resource protection areas, and retain

green space. Most importantly, the guide makes a strong case that when these tools are applied together, the result is generally better for the community, the stream and the developer.

Many of the issues in this manual are explored in greater depth in a series of four guidance documents that are available from MWCOG.

- Riparian Buffer Strategies for Urban Watersheds
- Cluster Development Strategies for Urban Watersheds
- Residential Street Strategies for Urban Watersheds
- Clearing and Grading Strategies for Urban Watersheds

Author's Note

The purpose of this guide is to present a new way of thinking about site planning to better protect streams. As a result, the guide is peppered with many numerical examples of new performance criteria. While these new criteria are thought to be an improvement over existing subdivision codes and standards, it is important to carefully and critically evaluate each one within the context and character of the existing community or region. After all, it has been the uncritical acceptance of design standards in the past that has often led to many present stream protection problems.

Acknowledgements

The production of this guide was primarily funded by the U.S. Environmental Protection Agency (EPA) Office of Wetlands, Oceans and Watersheds, with matching funds from the MWCOG. The Center for Watershed Protection also contributed funds to complete the effort. The guide could never have been produced without the cooperation, insights and experience of over 200 local planning agencies from 43 US states. Staff members of these agencies participated in surveys, provided literature and ordinances, and gave advice over the phone. The help of these agencies, listed below, is gratefully acknowledged.

Thanks are also extended to EPA staff whose guidance and patience were instrumental in completing this guide. They include Anne Beier (project officer), Robert Goo, Rod Frederick, and Dov Weitman, as well as each of EPA's regional nonpoint source coordinators.This guide also reflects the hard work of a number of MWCOG staffers, including Lorraine Herson–Jones, Kathy Corish, Maureen Heraty, Lynne Stabenfeldt, Peter Kumble, Mark Pfoutz and many others. Their input is gratefully acknowledged.

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Disclaimer

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Points of view expressed in this guide do not necessarily reflect the views or policies of the EPA or MWCOG.

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City of Juneau

Arizona

City of Scottsdale
City of Tempe
Maricopa County
Pima County

Arkansas

City of Little Rock
Fayetteville
Town of Maumelle

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California Coastal Commission
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Missouri

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Montana

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Missoula County
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City of Lincoln
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New Hampshire Office State Planning
Town of Ashland
Town of Exeter
Town of Gilford
Town of Pembroke
Town of Plymouth
Pemigewaset River Council

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WI Shorelands Protection Program

Wyoming

Teton County

3.1 CATEGORIZATION OF DEVELOPMENT PROJECTS

Beginning June 1999, the DPW divisions that have responsibility for review of development project plans will categorize proposed projects as "Planning Stormwater Priority Projects" or "Planning Stormwater Exempt Projects" with respect to the potential for a significant effect on stormwater quality. Planning Stormwater Priority Projects shall be required to incorporate appropriate post-construction BMPs into project plans prior to the issuance of any building or grading permit.

In order to categorize a project as a Planning Stormwater Priority Project or a Planning Stormwater Exempt Project, project type, characteristics, and activities will be assessed for potential contribution to stormwater pollution. The DPW Building and Safety/Land Development Division shall conduct a screen check for projects utilizing a standardized checklist ("Priority/Exempt Checklist") that lists project type and project characteristics and activities that are believed to be significant potential contributors to stormwater pollution. The Priority/Exempt checklist that shall be used for categorizing projects as a Planning Stormwater Priority Project or a Planning Stormwater Exempt Project is shown in Figure 3-1 and included in Appendix A.

In utilizing the Priority/Exempt Checklist, a commercial or industrial development of 100,000 or more square feet shall be based on total impermeable area as opposed to lot size or building footprint. This interpretation shall be used because of the intent to manage storm water runoff from paved areas associated with buildings. A restaurant is a facility that would use the Standard Industrial Classification (SIC) code of 5812 and an automotive repair shop is a facility that would use one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. Hillside development shall be defined as development having any of the following characteristics:

- location in an area known to have erosive soil conditions as identified in the *Los Angeles County Department of Public Works Hydrology/Sedimentation Manual*;
- grading on any natural slope where the natural slope is 25% or greater; or
- plans include cut or fill slopes that are 30 feet high or greater.

Since the County's Department of Regional Planning also has a fundamental role in approval of development projects, a process has been developed to incorporate the screen check for

categorizing projects as a Planning Stormwater Priority Project or a Planning Stormwater Exempt Project early in the planning stages of "discretionary"[1] projects. A flowchart depicting this process is provided as Figure 3-2.

[1] Section 15357 of the California Environmental Quality Act Guidelines defines "discretionary project" as a project which requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.

FIGURE 3-1. CHECKLIST FOR CATEGORIZING PROJECTS AS PLANNING STORMWATER PRIORITY OR PLANNING STORMWATER EXEMPT

Project Name: ______________________

Project Location: ______________________

The project is a Planning Stormwater Priority Project if any of the project types listed in Part A or any of the project characteristics or activities listed in Part B are applicable.

Part A. Type of Proposed Project:	Check If Applicable
A 100+ home subdivision	
A 10-99 home subdivision	
A 100,000+ square-foot commercial or industrial development	
An automotive repair shop (SIC codes 5013, 5014, 5541, 7532-7534, and 7536-7539)	
A retail gasoline outlet	
A restaurant (SIC code 5812)	
A hillside-located single-family dwelling	

Part B. Project Characteristics or Activities:	Check If Applicable
Automotive or equipment repair and/or maintenance	
Car wash	
Automotive or equipment washing or cleaning area(s)	
Gas station or fuel dispensing	
Parking lot with 25 or more parking spaces	
Outdoor material or waste handling or storage	
Chemical handling and/or storage of petroleum products, paints, solvents, concrete, or hazardous waste	
Outdoor equipment or product fabrication including welding; cutting; sawing; metal fabrication; assembly; application of paints, coatings, or finishes; pre-cast concrete fabrication; etc.	
Outdoor areas for equipment or machinery repair and/or maintenance	
Dry cleaning factory	
Food service	
Food processing plant	
Hospitals, laboratories, or other medical facilities	
Nursery (plant materials)	
Animal slaughtering	
Animal confinement, pet care facilities, stables, kennels, etc.	
Public recreation uses such as tennis courts, swimming pools, golf courses	
10 or more dwelling units	
Hillside location	
Landscaped areas > 5 acres, including cemeteries, golf courses, etc.	
Location adjoining to, bisected by, or discharging to a designated environmentally sensitive area[2], riparian corridor, or wetland	

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[2] "Environmentally sensitive areas" may be, but not limited to, wetlands, habitats of endangered, threatened, or rare species; wildlife dispersal or migration corridors; areas of locally-designated species such as heritage trees; or locally-designated natural communities such as oak forest or coastal habitat.

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PREFACE

The evolution of this booklet has a long history. From the very beginnings of the Los Angeles & San Gabriel Rivers Watershed Council, alternative ways of managing storm water has been a major topic of conversation. We have acknowledged the great engineering feats that have tamed the occasional wild and raging storms that have done so much damage to lives and property in the past. And we have acknowledged that thinking and policies must change over time. The first step toward making some needed policy changes is to describe alternative ways of managing storm water in our own local context.

The Problem

We are facing a growing population in need drinking water and, with that growing population, ever increasing water quality problems in the watershed. We can address both of these problems, and storm water too by capturing more water high up in the watershed for ground water recharge to augment our drinking water supply. And by restoring wetlands and riparian habitat, we can help reduce our water quality problems. We can also positively impact our residents quality of life, soften the hard urban landscape, improve property values near the restored habitat, and encourage the redevelopment of some worn out parts of our cities. (See our Vision Statement for a more detailed explanation of the interrelationship of all of these issues.)

The Process

Two very talented academicians from UCLA donated their time and intelligence to write this paper, for which we are very grateful: Suzanne Dallman and Tom Piechota. A first draft was presented at our Stakeholders meeting March 17, 1999, when 35 copies were made available for people to take home, review, comment upon and criticize. The paper was put up on Dr. Piechota's web site at UCLA. A final draft was reproduced for all those who came and participated in our May 1 Conference. This paper was the main topic of discussion at the conference. Subsequent comments were received and incorporated into this document as well.

It has now been edited to make it a little more user friendly, and a few of the ideas have been expanded upon. More photos and diagrams have been added.

Follow up Research

Follow up research is clearly needed in several areas. We need to determine where it is appropriate to use permeable paving materials based on soil types and nearness to groundwater. We will be developing our GIS capability to be able to do this. We need a study to determine just how much water can be captured to augment our drinking water supply, especially if we can prevent runoff from all storms of less than one inch. We need to determine which facilities already built can be modified to serve multiple purposes. And we need to identify open spaces such as at freeway interchanges or under power line rights of way that could be transformed.

Research is also needed into how best to amend the Uniform Building Code so that all storm water does not have to be directed to the street and to the ocean. More cities should adopt ordinances similar to those of Santa Monica and Calabasas that require storm water be retained on site. The use of cisterns, gray water, and mulch should be expanded. The grading permitted on hillside building sites should be more closely regulated, and the amount of permeable paving increased. For starters.

Thanks. An Appreciation

Many people have given us comments, but there are a few people who have expended enormous time and energy to help make this paper as good as it is. Besides our authors, Michael Drennan, Carl Blum, Rick Sase and TreePeople's Andy Lipkis must be acknowledged. And our funders without whom this publication could not be published: US EPA Region IX, and Union Bank of California. Many thanks for all your assistance, your encouragement and your support.

Dorothy Green, Editor.

Introduction

It is ironic that modern cities tend to shunt away the rain that falls on them while they import fresh water from distant streams and reservoirs.

-- Ferguson and Debo 1990

The purpose of this paper is to educate the public about the relationship between urbanization and the natural rainfall cycle in the Los Angeles area. As we develop a greater understanding of the natural systems within which we live, and our impact on them, it will hopefully become clearer how to develop a healthier balance between us and those systems.

Land use changes can have a profound impact on natural hydrologic processes. The effects of urbanization on watershed hydrology probably represent the most extreme forms of disturbance. Urbanization alters flow pathways, water storage, pollutant levels, and rates of evaporation, infiltration and surface runoff. It can also alter the timing and extent of flooding, the sediment yield of rivers, and the suitability and viability of aquatic habitats.

It has long been the public perception that storm water runoff in an urban setting is a liability, and large flood control structures are necessary to get rid of the water as quickly and efficiently as possible. That is why public agencies have designed and constructed flood control facilities with one primary objective: the protection of life and property. While ridding our cities of storm water is the most important objective of flood control and storm water management, it is time for traditional engineering approaches to broaden their scope. Storm water runoff can also be viewed as an asset. It can be used to replenish underground aquifers and to enhance recreational opportunities and wildlife habitat. To view storm water as a multi-use resource, a comprehensive watershed management plan is required that accounts for all of the physical characteristics and constraints of the watershed and the long-term effects of urbanization.

This paper describes some of the impacts of urbanization on the natural system in the Los Angeles area, and some efforts underway to reverse some of those impacts. While this discussion is in no way exhaustive, it is intended to provide examples for others to consider when making decisions within their various professions about how best to accomplish their objectives. These examples show how it may be possible to live in a more environmentally sustainable manner through changes in the way we develop and re-develop our watersheds.

Urbanization of the Watershed

The development of a comprehensive watershed management plan requires that the underlying hydrology of the watershed, both on the surface and underground, be

understood. The driving forces in the hydrologic cycle are precipitation or rain, infiltration, and evaporation. In Southern California, the majority of precipitation occurs in the winter months, December through March. In addition, there is tremendous variability of precipitation in the Los Angeles basin. During the same storm, it may rain very heavily in some places, and almost not at all in other places within the basin. A few years ago, Carson and parts of Long Beach flooded in a major storm event but most of the basin had moderate or little rainfall.

> Definition box. Hydrology: the way water flows and works in the interconnected systems above and below the land.

The Los Angeles and San Gabriel Rivers drainage basin covers 1,460 square miles, from the San Gabriel Mountains to the Pacific Ocean (Figure 1). In the mountains, the total annual precipitation is two to three times greater than the precipitation in the coastal plain.

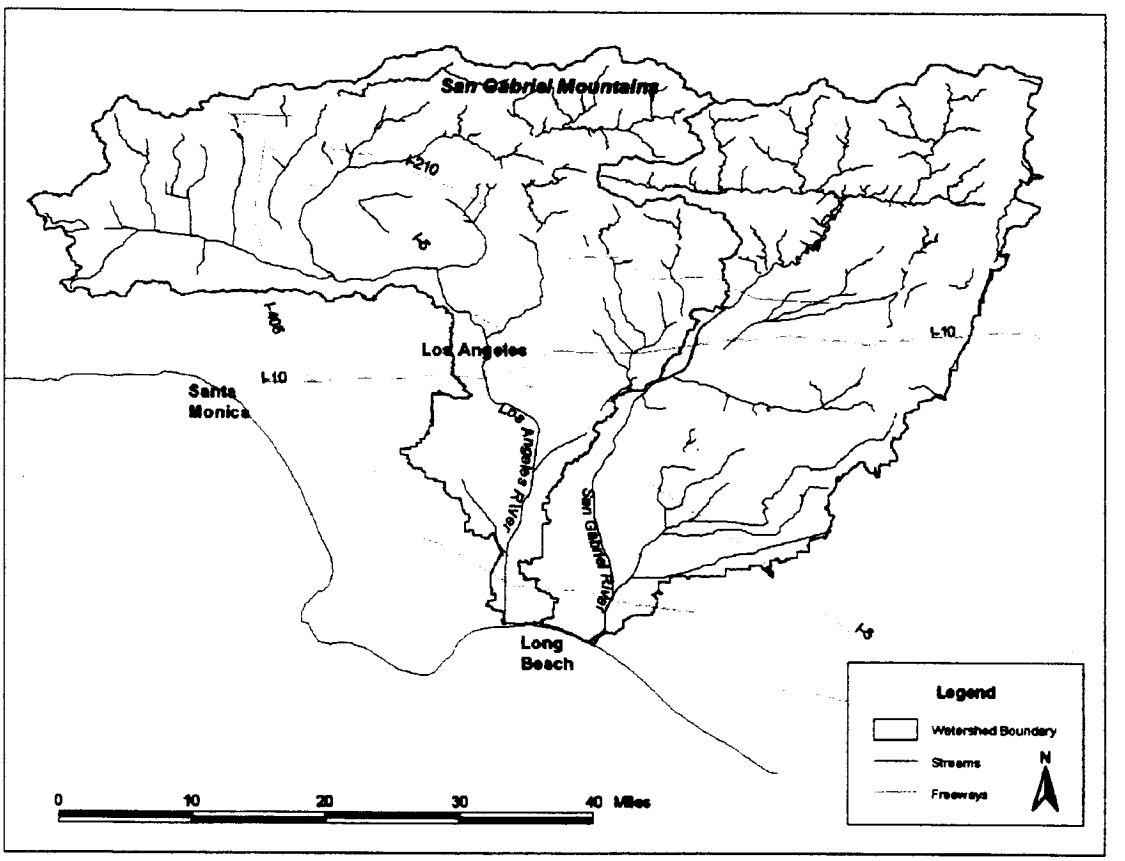


Figure 1. The Los Angeles and San Gabriel Rivers drainage basin.

A Brief History

The problem of flood control in the Los Angeles and San Gabriel Rivers watershed received little attention prior to 1914. The land in the watershed was used primarily for

agriculture and occasional flooding was just something that was accepted. In 1914, however, flooding caused significant structural damage and this captured the attention of local residents. In response, flood control reservoirs were built in the San Gabriel Mountains. By the 1930's, it was clear that more flood control facilities were needed to keep pace with the increased risk ass a result of development in flood-prone areas.

In 1934, extensive damage and loss of life occurred due to river flooding. This prompted the U.S Army Corps of Engineers to partner with the Los Angeles County Flood Control District (the County) and begin construction in 1938 of a comprehensive flood control system. This system consisted of detention/retention basins (see discussion below), channel improvements, pumping plants, and local storm drains. With minor exceptions, the river channels are concrete lined trapezoidal channels. In the upper reaches, the channels have been dug down below natural grade. In the lower reaches they are lined with levees and rip-rap. The system was designed to serve a projected population of three million. The upper watershed in the San Fernando Valley was expected to remain largely agricultural.

Photos#1and 2: trapezoidal channels, smaller entrenched channels, levees and riprap.

Increases in Runoff as the Region is Paved.

The Los Angeles and San Gabriel Rivers watershed has been the recipient of extensive development in the past 50 years. This has created a vast amount of impervious surface: areas covered with buildings, roads, driveways, parking lots and sidewalks where water cannot soak into the ground. As development has proceeded in this highly urbanized region, the natural process of rainfall runoff has been dramatically altered. Laws have also been passed requiring that the drainage from buildings be directed into the street and into the storm drain system. These factors have substantially changed the hydrology and runoff processes in the watershed. This alternation has led to a number of fundamental environmental problems including:

- decreased groundwater infiltration
- decreased evapotranspiration
- decreased stream base flows
- decreased surface runoff storage
- decreased floodplains, and wetlands
- decreased wildlife habitat and biodiversity
- increased stormwater runoff volume
- increased stormwater peak discharge rate
- increased pollutant concentrations and amounts
- increased channel erosion
- increased frequency of local flooding

Studies have shown that runoff in an area of 75-100 % impermeable cover increases by a

factor of nine or more when compared to an undeveloped area[1]. In the Los Angeles and San Gabriel Rivers basin, the storm drain system that was originally designed to convey a 100-year storm, now only provides 25 to 40 year protection in some places. The large amount of impervious surfaces in the watershed has greatly increased the volume of runoff. The peak flow is reached sooner, and is higher than before.

(Definition Box) 100-year storm: A storm that, on average, occurs once every 100 years. The probability of a 100-year storm occurring in any given year is 1%.

(Definition Box) Permeable or pervious surface is one through which water can soak down or infiltrate into the soil and into the underground aquifer. Impermeable or impervious refer to water tight surfaces such as paving or roofs from which water will run off.

(Definition) Peak flow is the maximum flow rate in a river which typically occurs a short time after the peak rainfall.

The increase in runoff due to urbanization is clearly seen in Figure 2, which presents the ratio of runoff to precipitation for the Los Angeles River watershed. From the 1930s to the mid-1960s, the percentage of rainfall that infiltrated into the ground or evaporated was more than 80%, thus 20% of the rainfall was converted into runoff. Since the mid-1960s, this ratio has steadily decreased and now approximately 50% of the rainfall is infiltrated or evaporated and the other 50% runs off to the ocean. This ratio is probably conservative. A considerable amount of runoff is diverted for recharge and retained in reservoirs, thus never reaching the river.

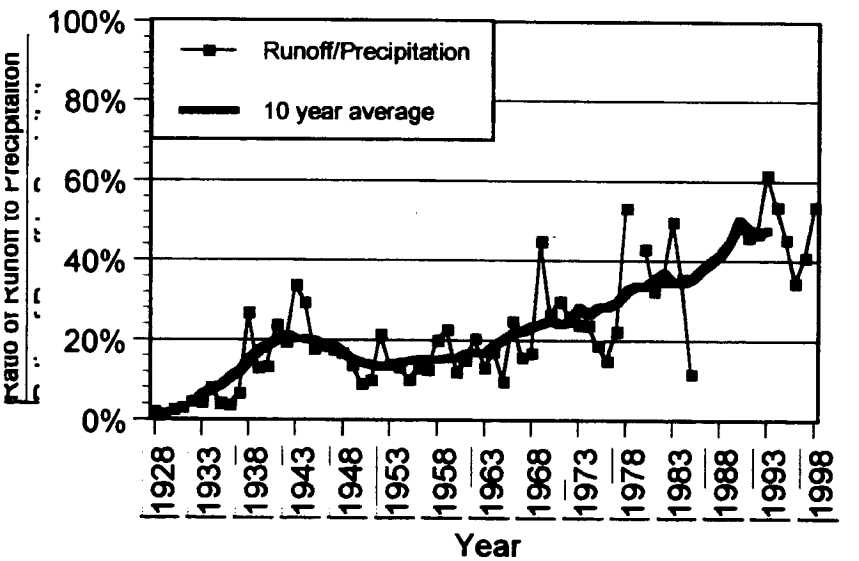


Figure 2. The ratio of annual runoff in the Los Angeles River at Firestone Blvd. to the annual precipitation at the Los Angeles Civic Center from 1928 to 1998. Data from Western Regional Climate Center.

The need for new approaches.

There is a growing realization that the traditional approaches to stormwater management have not always worked well, and in some instances the engineered solution made the situation worse. The flooding in the Mississippi River basin in 1993 forced some communities to move out of the floodplain to higher ground in order to accommodate the increase in runoff. The increase was caused development up stream, by deforestation, and by the loss of wetlands that act as giant sponges. The flood crests at St. Louis were up to 10 feet higher than a flood from an earlier storm of the same magnitude, because of the constricting effect of the upstream levees which could not contain the increased flows. Flood control channels have also created an unintended hazard to the public, in the event that someone is caught up in the swift flow of water rushing to the sea.

The following sections review traditional and non-traditional approaches to stormwater management and explore some potential opportunities for alternative stormwater management techniques in the Los Angeles and San Gabriel Rivers watershed. We are taking an approach that views stormwater as a potential asset, while at the same time maintaining the protection of life and property as the primary objective. Our focus is on ways to reduce the total volume and velocity of stormwater entering the drainage systems, primarily through techniques that capture or slow runoff at its source. This reduces the overall threat while increasing natural infiltration and local water supplies.

Traditional Approaches: Conveyance and Storage

Because natural drainage and storage processes have been altered by urbanization, stormwater management systems attempt to compensate for increased runoff and decreased infiltration, in other words, to serve as a substitute for the natural floodplain. The traditional design of stormwater systems has focused on using conveyance, usually concrete channels, and storage facilities to control runoff during a major storm event. The design of these facilities is based on historic rainfall and runoff statistics. The traditional stormwater management system consists of engineered structures such as a network of curbs, gutters, underground pipes, and open channels. Since the 1970s, there has been a trend to incorporate storage facilities (detention and retention basins) into the system to detain or retain the storm runoff. The runoff in the detention basins is released at a controlled rate into the conveyance system after the peak flow has occurred.[2]

Photo #2 of curb, gutter, catch basin.

This approach to stormwater management considers stormwater to be a liability – to be gotten rid of as efficiently as possible in channels that use the minimum required amount of space.[3] This has met the primary objective of the flood control system - the protection of property from storm runoff while, at the same time maximizing the amount of land

available for development. Most of these facilities, however, were designed for a single purpose (flood hazard mitigation) and only incorporated other uses such as recreation, or water conservation that were easily feasible.

The design criteria for these traditional stormwater systems varies depending on the magnitude of the design storm, the size of the facility, and the community's desire for a high level of flood protection. Providing the appropriate level of protection is often a political process.

(Definition Box) Design Storm: the maximum rainfall event that the system is designed to handle. Different agencies use different definitions.

- In Los Angeles County, if the drainage area is greater than 100 acres or contains a natural watercourse, then the system is designed for a 50-year storm event.
- Otherwise, in urban areas, the combination of street capacity and storm drains must afford a 25-year level of protection.
- The Federal Emergency Management Agency (FEMA) Flood Insurance program requires that all regional facilities, such as the Los Angeles River, provide 100-year flood protection. There, all finished floor elevations must equal or exceed the water surface of the predicted 100-year flood in order to qualify for federal flood insurance.

Conveyance Facilities

Conveyance facilities move water on or below the surface through a series of engineered structures. This is the oldest, most efficient, and most common approach to stormwater management. Conveyance facilities include gutters, catch basins, pipes, and open channels and have the following characteristics:

- They move water quickly through the watershed.
- They do not allow infiltration of water into the soil.
- They minimize the space needed to convey the water.
- They are economical to build and maintain.
- They are hydraulically efficient, using a minimal width of channel and the least possible surface resistance or roughness. They move the greatest amount of water with the least amount of resistance.

The impact of changing the roughness of an open channel conveyance facility is illustrated in Figure 3. It shows the roughness coefficient for a smooth concrete-lined channel, a rougher sand bottom, and an even rougher grass-lined channel. The capacity of the channel is inversely proportional to the roughness of the channel. Thus for a given channel width, if the capacity of a concrete-lined channel is 10,000 cubic feet per second (cfs), then the capacity of a grass-lined channel with the same dimensions would be reduced to 4,000 cfs. A grass-lined channel would have to be larger in size than a concrete channel to provide the same level of flood protection. A grass-lined channel that

is the same size as the concrete channel would only partially meet the flood control needs of a community. But a larger grass-lined channel or one with some habitat restored could be a multipurpose facility that could meet the flood control needs and be used for other activities during dry periods.

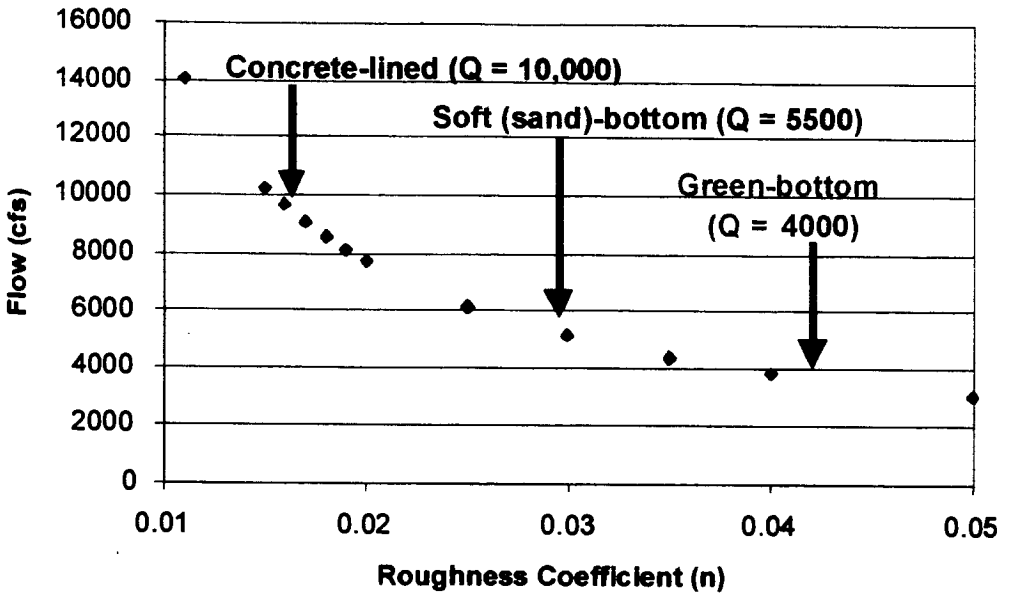


Figure 3. The effect of channel roughness on the channel capacity for a hypothetical trapezoidal channel. The x-axis is the Manning's roughness coefficient (n), Q is the design flow rate for the specified channel cross-section.

Detention Basins

Detention basins are used in a flood control system to detain a portion of the flow and slowly release the water after the peak runoff has occurred (see Figure 4). Detention basins have the following characteristics:

- They reduce peak runoff.
- The total storm water volume conveyed by the system remains unchanged.
- Multipurpose facilities, such as those used for water conservation and flood control, have a specific capacity reserved for storm water storage.
- Single purpose facilities reserve the entire basin for storm water storage.

Figure 4 demonstrates the impact of a detention basin on the magnitude of peak runoff and the change in the hydrograph (amount of runoff over time). The peak flow is substantially reduced and the shaded area in Figure 4 is the amount of runoff volume that is detained in the basin.

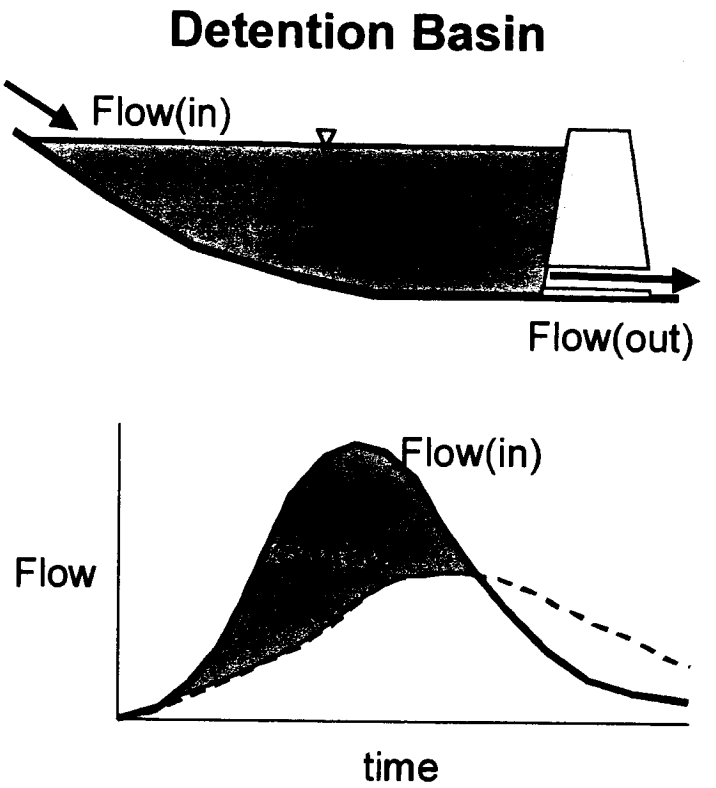


Figure 4. The impact of a detention basin on a storm hydrograph. The flow into the detention basin is the solid line and the flow out of the basin is the dashed line.

Retention or Infiltration Basins

The other type of stormwater basin used in flood control systems is a retention or infiltration basin. This type of basin reduces the total volume of storm runoff by retaining a portion of the runoff and allowing it to infiltrate and recharge the groundwater. Retention/infiltration basins have the following characteristics:[3]

- They reduce total storm water volume that is conveyed downstream.
- They reduce peak runoff.
- They help to restore the base flow in streams.

There are two types of retention or infiltration basins:

- An inline basin is located in the flow path of a channel.
- An offline basin is located outside the channel with runoff diverted into the basin.

(Definition box) base flow: the flow that is always maintained in a river due to the return flow of groundwater to the surface.[4]

Non-traditional Approaches: Reducing Volume and Velocity

Extending the Viability of Existing Stormwater Systems.

Flood control and stormwater management are evolving sciences. As new ideas develop and are adopted, the infrastructure can't easily adapt to new research findings. Traditional storm channels do not reduce the volume of water. They merely allow the flood to move elsewhere at a faster rate. Channels require continual maintenance to clear vegetation and debris that reduce the capacity and slow down the flow. The size of the system may also be inadequate, not expanding as quickly as development increases the volume of runoff. Therefore storm discharges may exceed the design capacity of the system. Since the urban floodplains are occupied, this puts more people and property at risk.[5] As our urban population increases, so do pressures on the existing storm drain system.

Therefore, reducing the volume and velocity of stormwater becomes an important and cost-effective alternative to continually expanding the existing regional stormwater system.

Benefits to be Gained by Reducing Volume and Velocity

Besides extending the viability of our existing storm drain system, other reasons for considering new approaches to stormwater management include:

- Water conservation. By increasing ground water recharge, we can become less dependent on imported water to meet our drinking water needs.
- Habitat. We have lost 95% of the wetlands in Los Angeles County and almost all of our riparian habitat due to development.
- Need for more open space and recreation. We are among the most park poor cities in the world, with only one quarter the recommended park land and open space for our population.
- Water quality. By restoring riparian habitat and wetlands, water quality can be improved in our rivers and creeks and in the ocean.
- Restoration of the natural hydrology. Restoring natural stream functions and the habitat of a stream also helps to provide erosion control and sediment management.
- Costs. It is becoming increasingly costly to build the traditional concrete box channels in already developed areas. New approaches that reduce the volume and velocity of storm water are proving to be cost effective, especially when all the multiple savings are added up.
- Greening the urban hardscape increases property values, and can encourage redevelopment nearby in the inner cities, where it is needed the most.

Muiti-Purpose Projects

As watershed management concepts gain attention, public agencies and communities are

recognizing the fact that stormwater management systems can serve more than one purpose. Single purpose conveyance systems are increasingly viewed as throwing water and money away. They typically do not address all the other watershed management concerns stated above. They also do not take into account the money that government spends, independently, on each of these other concerns. Projects in the watershed that provide multiple benefits can therefore tap into multiple sources of funds to help pay for that project, saving money and resources in the long run.

Detention basins can be used for golf courses and parks. Bicycle or equestrian trails can be added alongside stream channels. Many of the County's facilities, especially the Sepulveda Basin and Whittier Narrows already provide such multiple uses and more, and some could be modified to further enhance public use. Pan Pacific Park was designed to store storm water during major events, while providing active and passive recreation.

Photo 3: Pan Pacific Park, used as a detention basin during major storm events.

Importance of Small Storms

In addition to the traditional approach of designing systems to accommodate extreme events, newer approaches consider the idea that the more frequent small storms are significant contributors to total runoff and therefore should be evaluated when developing a stormwater management plan. Table 1 summarizes the rainfall amounts for 24-hour storms with return periods ranging from one year to 100 years.

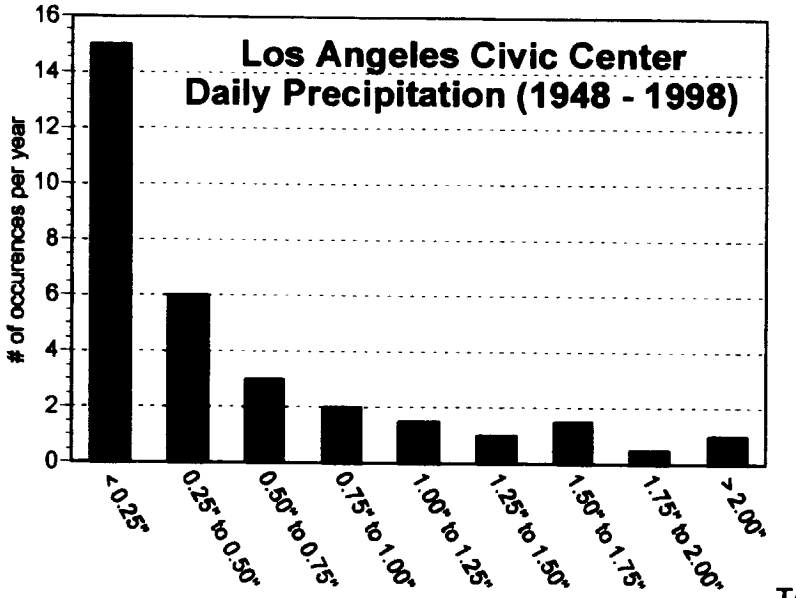
Return Period (years)	1	2	3	4	5	10	25	50	100
Rainfall Amount (inches)	1.77	2.46	2.73	2.92	3.06	3.52	4.18	4.72	5.32

Figure 5. Los Angeles Civic Center 24-Hour Precipitation for various return periods based on data from 1948-1998. Data from Western Regional Climate Center.

(Definition box) Return Period: the average recurrence of a storm of a particular size and duration, in this case for storms during a 24 hour period.

On average, a 24-hour rainfall of 2.46 inches is experienced once every two years and a 24-hour rainfall amount of 5.32 inches occurs once every 100 years. The 100-year rainfall amounts are used to design regional flood control facilities; however, the lower frequency storms should also be considered in stormwater management plans. The typical 24-hour rainfall amounts are shown in Figure 5 for the 31 days of rain that the Los Angeles Civic Center experiences on average each year. Of these 31 storms, 15 or half have rainfall amounts of less than 0.25 inches (Figure 5).

Depending on the soil type and how saturated the soil has already become, this amount of precipitation may be easily infiltrated in areas that have a permeable surface. These are the easiest places to infiltrate storm water. Therefore, one of the aims of a comprehensive stormwater management plan should be to minimize the amount of impermeable land cover. This increases opportunities for infiltration of rainfall, groundwater recharge and the reduction of overall runoff volume and velocity.



# Occurences	15	6	3	2	1.5	1	1.5	0.5	1	Total 31

Figure 6. The typical amounts of daily rainfall for an average year at the Los Angeles Civic Center based on data from 1948 to 1998. Data from Western Regional Climate Center.

SPECIFIC METHODOLOGIES

Constraints

Many of the approaches described below are primarily designed to reduce runoff volume by increasing infiltration rates. The success of these methods depends largely on the intensity of a given storm and the characteristics of the site: depth to groundwater, soil water-holding capacity, infiltration rates, and how much moisture the soil already contains. Many of these techniques also trap pollutants during infiltration. EPA studies have found that if there is sufficient clearance to the water table, many of the pollutants will be removed by the soil during percolation, causing no adverse impacts on groundwater.[6]

On-site structural methods and more efficient site designs are most commonly employed in areas of new construction or redevelopment. Reducing runoff in existing developments tends to be more expensive than when it is designed into the project, although the feasibility and cost effectiveness of retrofitting is gaining legitimacy (see TREES Project below). Providing groundwater recharge and diverting runoff for irrigation also reduces the need for imported water, another cost savings that is often overlooked.

Channel Design and Operation

Reengineering

Reengineering existing channels is expensive, and in densely urbanized areas the land may not be available. In re-developing or newly developing areas, some rethinking of traditional channel designs may be practical. As discussed earlier, the size and roughness of a channel dramatically impacts the velocity of the flow. Wider channels, which provide a greater cross-sectional flow area, will slow runoff velocity[7]. In unlined channels, reducing velocity may also increase infiltration, thus reducing the total amount of water discharged.

Temporary dams

The use of temporary dams, constructed of inflatable rubber tubing or rocks and logs provide another means of retaining flows in the channel. These small dams slow the velocity of the flow permitting water to pool behind them. When properly designed, the larger flood flows will safely spill over the dam without increasing the upstream flooding. When rubber dams are used in a channel, they can be inflated only during periods of low to moderate flows. The rubber dams can be deflated when large flows are expected in order to maximize the capacity of the channel for stormwater management purposes. Inflatable dams are in regular use by the County on the San Gabriel River to direct water into the spreading grounds now managed purposefully to capture storm water for ground water recharge.

Water Harvesting

Water harvesting is an old practice that has been continually used in many countries. County Public Works harvests as much as 90% of the San Gabriel River for ground water recharge. Water may also be harvested, or salvaged, by directing runoff toward points of use rather than diverting it into the street, into the storm drain system and into the ocean. Runoff water may be:

- detained in permanent ponds or wetlands,
- captured in tanks or cisterns,
- diverted directly into landscaped areas for infiltration,
- directed into a dry well for infiltration,
- pumped from storage into irrigation systems,

- directed into fire hydrant networks if the infrastructure permits.[8]

(Definition box) A cistern is a container set above or below ground, into which surface runoff is diverted. Cisterns can store runoff for irrigation or for emergency water supply. For household use, cisterns collect and store water from an adjacent rooftop. Newer cisterns are commonly freestanding units fabricated from plastic. There is either an open outlet or a control valve that allows it to operate in a manner similar to a detention basin. Cisterns must be covered to prevent mosquitoes from breeding and to keep out debris, and must either have a small opening or be secured to prevent access by children. To maintain capacity, the cistern must be cleaned of sediments periodically.[9]

Infiltration Facilities

Increasing infiltration restores a measure of the natural hydrologic cycle by returning water to the soil and reducing runoff volumes increased by urbanization. These facilities include drains, dry wells, and subsurface percolation basins that collect and detain water on-site, allowing it to infiltrate into the soil. These methods work well if soil conditions are appropriate to allow drainage and the site can be properly graded.

Parking lots as infiltration facilities

Parking lots can be designed so that rain water flows into planting areas instead of protecting planting areas from the water with concrete curbs. Any residual oil and grease will flow with the water into the planters, preventing it from moving out through the storm drain system to the ocean. Bacteria in the soil should neutralize the oil and grease.

Dry wells

Dry wells are constructed to capture runoff from rooftops or other surface areas for infiltration. A dry well is a hole in the ground lined on the sides with permeable material that will hold the soil in place, and filled with coarse gravel. It must be located a sufficient distance from the building to prevent saturation of the soil under the foundation, generally at least ten feet. If designed and sized appropriately, dry wells work very well over time. They are especially useful where open space and runoff volumes are limited.[10]

Photo #4 of dry well in Phoenix where it used in an industrial site to retain all rainfall on site.

Percolation basins

Percolation basins can be used to capture runoff from roof gutters, walkways, and from larger areas such as parking lots. Perforated pipe is laid in an excavated area, covered with a layer of gravel to provide stability, then paved or covered with soil. The drainage system directs water into the pipes, from where it infiltrates into the ground. If pollution levels are high and underlying soil conditions insufficient to filter out pollutants, collection systems can be installed to collect the pollutants and the water can be retained in these

basins and released slowly into storm drain systems after the peak storm flow has passed.

Diagram of perc basin

Permeable and Semi-Permeable Pavements

Permeable paving can be a porous concrete or asphalt surface or a type of structural support for a gravel or landscaped surface. It facilitates runoff capture and infiltration by increasing the void space in the surface and subsurface of the paving material. These surfaces have been in use since the early 1970s and are widely used in Europe and Japan. Many new permeable paving materials are now being developed and marketed. Depending on the type and size of the area, permeable pavements can be more expensive than standard concrete or asphalt paving and also require more manual labor to install because of the sub-base requirements. However, when the costs of the storm drainage system are added to that of conventional pavement, costs for porous surfaces become very competitive.

There are two general types of commercial porous pavement surfaces: semi-permeable and fully permeable.

Semi-permeable surfaces

Semi-permeable surfaces have a coarse, open-graded surface containing about 25% void space bonded to an impermeable underlayer. Although they do not increase infiltration, they do store rainfall and therefore reduce surface runoff. They were developed originally for airport runways to improve traction, and have been used for road surfacing as well. Caltrans has successfully used this kind of surface. The surface tends to compact, reducing its storage somewhat, but stabilizing at about 15% void space after two years use. Studies in Britain[11] found that the surface could potentially absorb up to 0.3 inches of rainfall when new, reducing to about 0.16 inches over time. This storage capacity would be adequate for many typical Southern California storms, and would slightly reduce the volume of runoff during larger storms.

Fully permeable surfaces

Fully permeable surfaces, which have a permeable underlayer, provide for a more natural runoff condition by allowing rainfall to percolate to the water table. Permeable paving may consist of a multi-layered sub-base covered with a porous asphalt or concrete surface (figure 7). The permeable surface can be achieved with the use of any number of newly produced grid or open-cell pavers. Or the surface can be as simple as cinder blocks laid end to end with gravel packed into the holes, or brick laid without mortar.

Porous asphalt

Porous asphalt utilizes a coarser grade of aggregates, consisting of fewer small particles and less asphalt, so that the resulting surface has void space through which water can pass.

Although it has less cohesive strength than regular pavement, permeable asphalt is adequate for much of the surfacing for parking lots, playgrounds and walkways. In laboratory tests, these surfaces can pass over 60 inches of simulated rainfall per hour. In practice, actual infiltration rates may vary from 5 to 25 inches of water per hour, depending on the depth and composition of the subsurface material and the infiltration capacity of the underlying soil.[12]

Open-cell pavers or grasscrete

are combinations of a concrete or plastic grid with soil fill and grass cover. The grid provides stability and structure, the grass traps runoff, and the soil allows infiltration. Concrete-based grasscretes are about 60% permeable, but the newer polyethylene-based surfaces provide up to 98% open surface area. Although structurally sound, these surfaces are best used for walkways or infrequent parking so that sufficient sunlight can reach the grass. Grasscrete is in use on the UCLA campus at the Anderson School of Management building along the south walkway, providing a transport route for emergency vehicles.

Figure 7: Permeable pavement sample installation cross-section.[13]

Photo 5: Grasscrete installation on the UCLA campus.

Combinations with porous pavement

A porous paving surface and a subsurface infiltration system can also be used, such as a permeable asphalt surface on top of a gravel or stone dry well or over perforated pipe. This surface may also have some weight and traffic limitations, although some of the newer plastic systems are extremely durable, and structurally stable enough to withstand use by heavy emergency vehicles. The infiltration rates on these combined systems are only rarely exceeded, even after a succession of storms.

Decomposed Granite

DG has been used successfully as walkways or paths in Santa Monica parks, and as sidewalks where there are many tree roots in Pasadena.

Photo 6: Decomposed Granite used as a sidewalk or walkway.

Grass Swales and Filter Strips

Swales and filter strips are shallow depressions or open drainage areas which may be planted with grass or other vegetation, into which runoff is directed. The vegetation helps reduce runoff speed and absorbs rainfall. These are used in highway medians, parks, residential areas, parking lots and many other landscaped or open space areas. Swales and strips are comparable in cost and maintenance requirements to traditional landscaping, and

have the added benefits of trapping sediments and filtering pollutants[14]. The incorporation of sand and/or peat filtration can increase infiltration capacity and offers a simple solution to water quality problems. Peat filters, when installed as part of the subsurface layer under the vegetation, and combined with a sand-gravel layer for percolation, can absorb many times its weight in oils. Peat also removes heavy metals and significant amounts of nutrients and bacteria from the water as it filters through.[15]

Photo 7: Grass swale, Phoenix.

Management or Non-structural Approaches

The so-called "non-structural" methods refer to more integrated approaches to watershed management, not to specific engineering solutions. These can take the form of planning procedures, floodplain zoning regulations, local ordinances, and design standards that encourage or require reduction of runoff through various techniques. They can apply to existing development and heavily developed floodplains, as well as to future development.

A watershed approach to reducing both volume and velocity can also aim to store and utilize stormwater and minimize discharges to receiving waters. It can detain more runoff in the upper reaches of the watershed by a whole host of techniques (see above). Additionally, floodplain management that controls activities in areas subject to flooding through special zoning, permitting, public education and enforcement of flood insurance requirements will reduce both property damages and public risk.

Sometimes simple design changes will change the runoff characteristics of an area significantly, such as using slightly graded or concave surfaces instead of convex surfaces for landscaping, and providing outlets for runoff into dry wells or vegetated areas (figure 9). Simply changing the design of parking lots, to direct the sheet flow into planted areas instead of isolating these areas with concrete curbs, captures a good deal of runoff. Increasing vegetation and the amount of permeable space in the watershed reduces runoff by enhancing infiltration of rainwater, which also provides groundwater recharge.

Photos 8 and 9: Two approaches to parking lot design: in left photo there is no outlet for runoff, right photo shows planters flush with the surface to allow access to vegetated area for drainage.

Examples of Local Government Regulations

There is an increasing trend in cities to require new developments to manage runoff to meet a specific target, such as capturing all runoff on-site during construction and ensuring that runoff is reduced, or does not increase overall, after the development is completed.

- **The City of Santa Monica's** Urban Runoff Mitigation Ordinance was developed in cooperation with builders and environmentalists, and implemented in 1993. It requires

new development projects to incorporate design measures to reduce runoff by 20%, as well as control runoff and erosion during construction. Developers are required to submit an Urban Runoff Mitigation Plan prior to project approval. An evaluation of seven of the projects completed since the ordinance took effect indicates that nearly 1.1 million gallons of runoff were diverted from Santa Monica Bay over the 1994-95 winter season, an average of 31,000 gallons per storm. Overall, runoff was reduced at these sites an estimated 24%. As additional projects are built in compliance with the ordinance, substantially more runoff diversion is anticipated. (Full text of this ordinance can be found in Appendix B.)[16]

> (Definition box) 20% of What? The target reductions often cited in municipal ordinances and development codes are relative to the amount of runoff that would occur if special measures were not taken. These amounts are based on LA County's standardized runoff calculations for various types of urban development and the percentage of impervious cover.

- **The City of Malibu** requires the adoption of a Storm Water Management Plan for new construction and for subdivision map act approval. The city also requires mitigation for any increased runoff beyond what is natural, or a system to handle a 25 year storm event. The city has adopted a formula that regulates the amount of permeable surface in the design of any new development, and encourages the use of permeable surfacing wherever feasible. The city also requires that homes in lots of up to two acres must be built in a convex shaped enclosure to retain storm water, and development on slopes is closely regulated. It also requires pollution prevention practices. (Full text of this ordinance can be found in Appendix B.)

- **The City of Calabasas.** The Urban Runoff Pollution Control section of the city's development code incorporates regulations to reduce runoff volume and slow runoff flows by increasing infiltration. The provisions apply to any new development that includes grading, building new structures, or paving. Permit issuance is conditional upon approval of a Runoff Mitigation Plan. The Plan must demonstrate total runoff reduction of 20% by incorporating a minimum area of permeable surfaces, and directing runoff either to permeable areas for infiltration or to storage areas for reuse. Recommended measures include the use of porous paving for parking lots and walkways, diverting runoff to detention basins, drains or landscaped areas such as swales and grass strips for infiltration, or capturing runoff from rooftops or in subsurface structures for reuse.

  The requirements are too new to evaluate, but Mitigation Plans received so far show a preference for the use of porous pavements because they are the easiest to install. There are limits to the weight bearing capacity of some types of pavers however, and the prevalence of expansive clay soils in the area limits the use of infiltration measures within a certain distance of building foundations. (Full text of this ordinance can be found in Appendix B.)

- **Los Angeles County**, as a National Pollutant Discharge Elimination System (NPDES) permit holder, is required to manage municipal stormwater discharges. The County's Department of Public Works has developed a program to implement the requirements of the permit, and to serve as a model for the 86 cities that are co-permittees. The program establishes guidelines for minimum standards, monitoring compliance, education and public outreach. For new or re-development, the program establishes Standard Urban Storm Water Mitigation Plans, designed to minimize runoff pollutants and reduce overall runoff volume by increasing on-site retention and infiltration. Some of the suggested techniques include porous paving and other alternatives to concrete such as vegetated swales, buffer strips, and extended detention basins.

- **The City of Los Angeles** established a stormwater pollution abatement charge in 1990, to collect funds for stormwater control, treatment and disposal.[17] The charge is levied as a property tax assessment, based on the type of land use and a runoff factor that represents the amount of runoff generated by that land use. What is interesting about this so-called "stormwater utility fee" is that the charge is based on the amount of impermeable cover on a given parcel, and may be appealed if the landowner can document a lower runoff factor. Thus it provides a potential incentive for landowners to reduce the amount of runoff generated on their property.

Non-traditional Approaches in Action

Projects in the Los Angeles Area

Cool Schools and Sustainable Schools

The Los Angeles Unified School District recently began implementing infrastructure improvements, including playground repaving for 400 schools. With the leadership of TreePeople, and the Hollywood Beautification Team, LAUSD decided to reduce paved areas by 30% thoughout the school. Although the unpaving was based primarily on the need to shade and cool classrooms to reduce air conditioning energy costs, a number of management practices are under consideration which will provide a greener, more sustainable environment, capture runoff, and reduce air and water pollutants. TreePeople developed a pilot project now under construction at the Open Charter School (formerly the Osage School) in Westchester. The Los Angeles City Stormwater Division and the Santa Monica Bay Restoration Project funded this demonstration which will include facilities to capture and treat parking lot-polluted runoff on-site for reuse as irrigation water, replace substantial paved areas with permeable surfaces and finally, provide additional landscaping, and mulching of green waste.

Under the guidance of TreePeople, North East Trees, the Los Angeles Conservation Corps and the Hollywood Beautification Team, the Los Angeles Department of Water and Power is funding Cool Schools, a program which plants up to 100 trees on 40 schools per

year throughout the district. As part of that program, two sites were targeted to be Sustainable Schools, each demonstrating a variety of stormwater capture, flood mitigation and water conservation technologies. The two schools are Multnomah School in east Los Angeles, and Broadous in Pacoima.

Green Waste and Water Conservation

Long Beach Organic, a non-profit community service organization, has been facilitating community gardening and green waste recycling on vacant lots in the greater Long Beach area since 1994.[18] They are currently securing funding for a proposed plan to divert 15,000 tons of green waste destined for landfills in Los Angeles County, to use as mulch for weed abatement, water retention, bio-filtration, and the creation of compost for soil amendment on additional acreage in Long Beach and Signal Hill.

One of the primary goals of the project is to measure the effects of mulch and compost on runoff and soil infiltration. Mulch cover provides insulation to retain soil moisture, reducing evaporation and soil erosion. Compost can hold up to eight times its weight in water, which would not only reduce runoff but also provide increased infiltration time. This project is scheduled to start as soon as funding is finalized, and will continue monitoring into 2001.

Alternatives to Engineered Flood Control

Sun Valley Watershed, a 2,681-acre sub-watershed located north of downtown Los Angeles between Tujunga Wash and the Burbank Airport and tributary to the Los Angeles River, experiences problems with flooding during heavy rains. The existing drainage system within the watershed is inadequate, but the cost of constructing a traditional storm drain to alleviate the flooding has been estimated to be $42 million. Los Angeles County is considering the possibility of alternative solutions in the watershed that would address the flooding problem while providing additional benefits to the community such as increased recreation, reduced flows and pollutant loads entering the Los Angeles River, increased water and energy conservation, and enhanced wildlife habitat.

Any alternative project must be able to provide the same level of flood protection without adversely impacting groundwater quality in the region. Retrofitting existing developments and requiring new development to capture runoff onsite are among the solutions under consideration, as are the use of permeable paving where feasible, and creating detention and/or retention basins to capture runoff, and to provide habitat and recreation during dry periods. Support for this project is high. A stakeholder group was formed late in 1998 to evaluate the feasibility of various alternatives. Economic studies of this alternative are now under way. It is hoped that this project will serve as a model for flood control design in other parts of Southern California.

Sustainable Planning – The T.R.E.E.S. Project

The Transagency Resources for Environmental and Economic Sustainability (TREES) project was founded by TreePeople in 1995 with the financial support of many

government agencies. Its goal is to demonstrate "the economic, environmental and social benefits gained by cooperative approaches to designing our urban landscapes as a series of functioning mini-watersheds." The implementation of more sustainable design and management measures would result in significant reductions in imported water use, in the volume and velocity of urban runoff generated, and in the amount of pollutants carried by runoff to the ocean. It would also reduce energy consumption, reduce tipping fees at local landfills by chipping up greenwaste and leaving it on site as mulch, and create jobs for traditionally underemployed populations.

The initial design conference brought together engineers, landscape architects and other experts to develop sustainable landscape designs for commercial, industrial, multiple and single family residential, and a public site. A design planbook called "Second Nature, Adapting LA's Landscape for Sustainable Living" was produced which includes prototype designs for retrofitting these different types of land uses . Each design includes a variety of suggestions for accomplishing a more sustainable local environment.[19]

The single family home, in the Crenshaw District of Los Angeles, was retrofitted to demonstrate the ideas generated during the design conference. It is now capable of capturing rainfall from a 2-inch storm on site. Water from the front half of the roof is directed into the lawn area that has been prepared with gravel beds placed underneath the sunken lawn, and into a dry well installed at the end of the driveway. The back half of the roof drains into cisterns made of recycled plastic, where the water is stored for use as irrigation water during dry weather. The backyard also contains a mulched swale to capture, filter and infiltrate the rain that falls in the back yard.

Photo 10: Crenshaw District home that was retrofitted.

Figure 9: Diagram of how this home was retrofitted.

TreePeople has also developed cost-benefit modeling software that allows different design scenarios to be easily evaluated prior to implementing solutions. This cost benefit model is being used by the County to evaluate the proposals for retrofitting Sun Valley.

The final component of the TREES project is an implementation plan, which will identify investment strategies for financing the wide scale retrofitting of properties throughout the entire watershed. It has begun an education program to encourage property owners and others to make their sites more sustainable. TreePeople has also been a great resource in helping to design solutions for several of the other projects discussed here.

Runoff Reduction

Venice Off-Street Parking Lot projects are currently in progress by the city of Los Angeles' Architectural Division, incorporating several methods of Storm Water Management Best Practices. One of these projects is the lot used for the Venice Farmer's Market, at the corner of Venice Boulevard and Venice Way. It was recently redesigned to

capture and filter runoff onsite. Strip filters surrounding the lot collect runoff for bio-filtration and groundwater recharge. The lot was landscaped to collect additional runoff and reduce the amount of hardscape area. The city is also installing porous paving and filtration devices on other sites.

Photo 11: Venice Farmers Market Parking Lot.

Santa Monica Urban Runoff Recycling Facility is under construction. This first in the nation of its kind project will divert the dry weather urban runoff contained in two storm drains, and treat that water to sufficiently high quality for use in landscape irrigation and to flush toilets in buildings which are especially plumbed to do this within the city. The cleaned water will be used to irrigate the Santa Monica Freeway, City parks, the Woodlawn Cemetery, and school grounds. Dual plumbed customers will include the City's Public Safety Facility and the Water Gardens complex located at Olympic and Cloverfield. The Urban Runoff Recycling Facility has also been designed to serve a public education function, providing the visitor with views of the process and explanatory texts. Pollution prevention and appreciating the facility's position in the watershed will be the messages.

Photo12: Santa Monica's Urban runoff Recycling Facility (This photo can be downloaded from the City's web site http://pen.ci.santa-monica.ca.us/epwm/smurrf.html)

(definition box) How much can we save?
Although we can not expect to capture 100% of the runoff in the watershed, what impact does capturing some portion of precipitation have on total runoff? Here is one example: over half of the LASG watershed is classified as some type of urban land use. If we could capture 80% of the rainfall that falls on the just a quarter of the urban area -- 15% of the total watershed -- we would be reducing total runoff by approximately 30%. That translates into a diversion of 43 billion gallons of water per year, or enough to supply 800,000 people for a year.
(calculations based on average annual rainfall of 15.5", average annual LA river discharge at 460,000 acre-ft, and Los Angeles DWP estimates of average per person water use of 49,275 gal/yr.)

Where Do We Go From Here?

This small sampling of projects illustrates the diversity of design strategies being implemented to manage stormwater runoff and reduce the need for more regional storm water management facilities. There are many other examples of sustainable practices in use or in the planning stages throughout the county. All of these together demonstrate the change in thinking that is taking place -- stormwater is starting to be considered more of an asset that can be put to beneficial use, while at the same time reducing the threat to the public from devastating floods.

A comprehensive watershed management plan can only be developed if appropriate tools are available to assess the different management strategies. Geographic Information Systems (GIS) are one tool that can be used to assess the cumulative impacts when different watershed management strategies are implemented in a watershed. Appendix A presents some of the data that can be used in GIS watershed management tools. The data presented in Appendix A are just a sampling of the data available for the Los Angeles - San Gabriel watershed. Future work should focus on developing new data and on using the data to assess the impacts of different watershed management strategies. One of the tasks of a project currently underway between the County and the Army Corps of Engineers is to catalog the various data sources available for the watershed that would be useful for planning.

Development of new methodologies requires interdisciplinary thinking, which may also require unconventional partnerships between different disciplines. A cooperative approach is needed to manage all of the individual but interrelated issues in the watershed. While it is highly unlikely that the existing conveyance network will be replaced by a network of smaller infiltration and retention facilities, a combination of methods will allow us to:

- promote water conservation and reuse,
- reduce our dependence on imported water,
- recharge groundwater supplies,
- provide flood protection
- provide much needed parks and open space,
- restore fish and wildlife habitat,
- increase local property values
- stimulate redevelopment in our inner cities.

A change in direction in our approach to stormwater and runoff management -- from liability to asset -- must be accomplished one step at a time. Here are a few practical steps that can be taken immediately to start this redirection:

- Understand how different types of land use impact the stormwater aspects of watershed management.
- Look for opportunities to require features that conserve, clean up, and reduce storm runoff when new development, or in more established areas, redevelopment is proposed.
- Be aware of technological advances in products and programs that can assist.
- Learn about stormwater/watershed ordinances already in place; learn from what others have already done and are doing.

If dealt with appropriately, stormwater can be an asset helping to improve the quality of life for the citizens of our cities and County for generations to come.

The time to start is now.

Appendix A:

Spatial Data for the Los Angeles-San Gabriel Watershed

A comprehensive watershed management plan must be based on different physical data of the watershed and appropriate tools for analysis. The maps presented in Figures A1-A3 present three examples of types of data that are important in forming an alternative stormwater management plan for the Los Angeles - San Gabriel Rivers watershed. Figure A1 shows the digital elevation model (DEM) for the watershed at a 30-meter spatial resolution, which may be used to derive slope. Figure A2 shows the current land uses for the watershed and Figure A3 shows the rainfall infiltration rates, based on soil type. Other useful data may include:

- habitat and wetlands
- "shrink-swell" potential of different soils
- type of vegetation cover in undeveloped areas
- location and depth of groundwater basins
- hazards such as earthquake zones
- spatial variability of precipitation amount and intensity

These data can be used to identify areas where nontraditional approaches to stormwater management may be implemented. For instance, the soil infiltration rates identify those areas where it might be appropriate to place permeable pavements and onsite infiltration facilities. Identification of these areas can also be accomplished by creating hydrologic units—combinations of soil attributes, slope, and land use—to identify areas that have common hydrologic characteristics. Finally, these data can also be used to assess the cumulative impact and cost/benefit ratio of various stormwater management practices in the watershed.

Figure A1: Digital elevation model (DEM) for the Los Angeles - San Gabriel watersheds.

Figure A2: Current land uses for the Los Angeles - San Gabriel watersheds.

Figure A3:Infiltration rates for the Los Angeles - San Gabriel watersheds based on a 0.5 inch per hour rainfall intensity.

Appendix B:

City of Calabasas Development Code

City of Malibu Municipal Code: Storm Water Management for New Development

City of Santa Monica Runoff Control Ordinance

Reference List

Barrett, Michael, Smith, Peter and Malina Jr., Joseph. 1997. "Permanent Runoff Controls." Civil Engineering. Vol. 67, No. 10: 72-3.

Buchholz, Gwendolyn and Siems, Sandra. 1994. Defining the Urban Stormwater Runoff Problem. Walnut Creek, CA: Montgomery Watson.

Center for Watershed Protection. 1998. Better Site Design: A Handbook for Changing Development Rules in Your Community. Maryland: Center for Watershed Protection.

City of Calabasas. July 1998. "Urban Runoff Pollution Control," Calabasas Municipal Code - Title 17, Land Use and Development Code, chapter 17.56.

Colyer, Peter J. 1982. "Detention storage as an equivalent rainfall depth." In Stormwater Detention Facilities: Planning, Design Operation and Maintenance. Conference Proceedings, ed. DeGroot, William. New York: American Society of Civil Engineers.

Ferguson, Bruce K. and Debo, Thomas N. 1990. On-Site Stormwater Management: Applications for Landscape and Engineering. New York: Van Nostrand Reinhold.

Fisher, Gary T. and Katz, Brian G. 1988. Urban Stormwater Runoff – Selected Background Information and Techniques for Problem Assessment, with a Baltimore, Maryland Case Study. USGS Water Supply Paper 2347. Washington, DC: USGPO.

Galli, John. 1990. Peat Sand Filters: A Proposed Stormwater Management Practice for Urbanized Areas. Washington, DC: Metropolitan Washington Council of Governments. December 1990.

Geiger, Wolfgang F. 1993. "Concepts for Flood Control in Highly Urbanized Areas." In Integrated Stormwater Management, eds. Field, Richard, O'Shea, Marie and Chin, Kee. Boca Raton: Lewis Publishers.

Glick, Roger H., Wolfe, Mary Leigh and Thurow, Thomas L. 1993. Effectiveness of

Native Species Buffer Zones for Nonstructural Treatment of Urban Runoff. Technical Report No. 156. College Station, TX: Texas Water Resources Institute. October 1993.

Harada, Shigeki and Ichikawa, Arata. 1994. "Performance of the Drainage Infiltration Strata: Statistical and Numerical Analyses." Water Science & Technology. Vol. 29, No. 1-2

Interagency Floodplain Management Review Committee (IFMRC). 1994. Sharing the Challenge: Floodplain Management into the 21st Century. Report to the Administration Floodplain Management Task Force. Washington, DC: US Government Printing Office.

Kubani, Dean. 1996. Sustainable City Progress Report. Santa Monica: City of Santa Monica Task Force on the Environment.

Lazaro, Timothy R. 1990. Urban Hydrology – A Multidisciplinary Perspective. Lancaster, PA: Technomic Publishing Co, Inc.

Los Angeles County Department of Public Works, 1989, Hydrology Manual, Alhambra, California.

Maidment, D. R., 1993. Handbook of Hydrology. McGraw-Hill, Inc., New York
Storm Water: Asset or Liability

Miller, A. Richard. 1997. "Porous Pavement: Pavement That Leaks" WEB site article: http://MMS.TheMillers.com/

Mount, Jeffrey. 1995. California Rivers and Streams: The Conflict Between Fluvial Process and Land Use. Berkeley: University of California Press.

Niemczynowicz, Janus. 1993. "Integrated Water Management Background to Modern Approach." In Integrated Stormwater Management, eds. Field, Richard, O'Shea, Marie and Chin, Kee. Boca Raton: Lewis Publishers.

Roley Jr., William. 1993. Watershed Restoration and Management Model. In Interface Between Ecology and Land Development in California. Jon Keeley, ed. Los Angeles: Southern California Academy of Sciences.

Schueler, Thomas R., Kumble, Peter A. and Heraty, Maureen A. 1992. A Current Assessment of Urban Best Management Practices: Techniques for Reducing Non-Point Source Pollution in the Coastal Zone. Washington, DC: Metropolitan Washington Council of Governments. March 1992.

Sheaffer, John R. and Wright, Kenneth R. 1982. Urban Storm Drainage Management. New York: Marcel Dekker, Inc.

Simons, Li and Associates. 1997. A Report on the Work of the Los Angeles River Watershed Task Force Regarding the Los Angeles River Alternative Flood Control Study. Los Angeles: County Department of Public Works. November 1997.

Smith, April and Hahn, Kate. 1997. Second Nature: Adapting LA's Landscape for Sustainable Living. Marina del Rey: ReThink.

Stahre, Peter and Urbonas, Ben. 1990. Stormwater Detention for Drainage, Water Quality, and CSO Management. New Jersey: Prentice Hall.

Storm Water Quality Task Force (SWQTF). 1993. California Storm Water Best Management Practice Handbooks: Construction. Sacramento: Water Resources Control Board.

Task Committee on the Design of Outlet Control Structures. 1985. Stormwater Detention Outlet Control Structures. New York: American Society of Civil Engineers.

Terrene Institute. 1996. A Watershed Approach to Urban Runoff. Washington, DC: Terrene Institute.

Tom Richman & Associates. 1997. Start at the Source: Residential Site Planning & Design Guidance Manual for Stormwater Quality Protection. Palo Alto: Tom Richman & Associates and Bay Area Stormwater Management Agencies Association.

TreePeople 1998. T.R.E.E.S. Second Nature, Adapting LA's Lanscape for Sustainable Living. http://www.treepeople.org

United Nations Centre for Human Settlements (Habitat). 1991. Stormwater Drainage and Land Reclamation for Urban Development. Nairobi: United Nations.

United States Army Corps of Engineers. 1992. Los Angeles County Drainage Area Review: Final Feasibility Study. Interim Report and Environmental Impact Statement. Los Angeles: US Army Corps, Water Resources Branch.

United States Environmental Protection Agency, Office of Water. 1996. Managing Urban Runoff. Washington, DC: US EPA.

Wada, Yashuhiko and Miura, Hiroyuki. 1993. "Prediction and Estimation of Stormwater Runoff Control by the Combined Stormwater Infiltration Facilities with Simulation Model." In Integrated Stormwater Management, eds. Field, Richard, O'Shea, Marie and Chin, Kee. Boca Raton: Lewis Publishers.

Williams, Philip B. 1997. California's Opportunity to Achieve Improved Flood Management and Major Ecosystem Restoration. Technical paper published on the Internet by Philip Williams & Associates, Ltd., San Francisco (http://www.edf.org).

_____. 1990. "Rethinking Flood-Control Channel Design." Civil Engineering. Vol. 60, No. 1: 57-9.

Woodward-Clyde Consultants. 1994. Los Angeles County Drainage Area Project: Master EIR. Santa Ana: Woodward-Clyde Consultants. December 1994.

Woodward-Clyde Consultants, Camp Dresser & McKee Inc. and others. 1997. Model Programs for Stormwater Management Within the County of Los Angeles: Development Planning. Los Angeles: LA County Department of Public Works. Fourth Draft, October 1997.

GLOSSARY

Base Flow of Streams -- Water slowly percolates underground and then spreads laterally until it reaches the surface (not pumped up) becoming part of the natural flow in rivers and streams, its base flow. This seeping ground water is what maintains the flow in a river due to the return flow of groundwater.

Cistern -- Storage tank built either above or below ground or on a roof to store water for later use: for irrigation, fire fighting, and in some countries, for drinking and bathing.

Compost -- Decaying vegetation. Can be used as ground cover or mulch, and as fertilizer.

Dry Well -- A constructed well designed to receive water for groundwater recharge.

Design Storm -- The size of a storm, defined by duration, intensity and amount of precipitation, that storm drain systems are designed to accommodate.

Detention Basin -- Temporary storage to reduce the peak flow, but not the total volume of storm water during a storm.

Flood Plain -- The lands next to rivers and streams that flood naturally during large storm events. The flood plain's function is to store sediment and flood flows.

Groundwater -- The water that collects and is stored underground into basins defined by the underlying geology. Water pumped from underground basins provides about 1/3 of drinking water supply in the Los Angeles basin.

Groundwater Recharge -- Surface water that filters into the ground and reaches underground reservoirs, providing replenishment and/or increased storage for groundwater basins. This occurs naturally during and after rainstorms, in creek beds with

flowing water, or can be accomplished purposefully by directing storm water into specially prepared recharge areas for infiltration.

Hundred Year Storm -- There is a 1 in 100 chance of a storm of this magnitude happening in any one year. Hundred year storms are recalculated over time due to changes in the landscape.

Hydrology -- The occurrence, distribution, movement, and properties of water above and below the earth's surface. The natural hydrology of an area may be significantly altered by catastrophic events (earthquakes, landslides) and by human development (agriculture, urbanization).

Impervious or impermeable -- A surface that does not allow the passage of water and thus potentially facilitates the generation of runoff.

Infiltration -- The process by which water moves downward through the earth's surface, replenishing soil moisture and groundwater basins. The ability of the soil to infiltrate water depends on many factors, including the nature of the surface cover, and soil characteristics such as texture and depth.

Mulch -- organic material placed on the ground, sometimes many inches thick, used as a ground cover to cool the soil, discourage weeks and erosion, aid in the infiltration of water, minimize the heat island effect of the city, and reduce the costs of green waste disposal.

Percolation -- The act of water soaking into the ground. This term is used most frequently in conjunction with spreading grounds, where water is purposefully allowed to percolate through the soil to the groundwater.

Percolation Basin -- An above ground storage place - retention basin - built so as to encourage the percolation of water contained therein underground.

Pervious or Permeable Surfaces -- Surfaces that allow water or other liquids to penetrate and potentially reach the ground (depending on the thickness of the surface, how porous it is, and the amount of water.

Porosity -- A measure of the ability of water to pass through a material, which is dependent upon how much empty space occurs between the particles that make up the substance. For example, sand is much more porous than clay.

Precipitation -- Rain, hail or snow that falls from the atmosphere.

Retention Basin or Infiltration Basin -- Stores water with the purpose of reducing the volume of runoff by capturing precipitation and surface runoff for recharge to groundwater. These basins do not return captured runoff to storm water channels.

Return Period -- The average recurrence of a storm of a particular size and duration.

Riparian Habitat -- Habitat next to rivers or streams and dependent on the additional moisture in the river. Its function is to provide food and shelter for many creatures, to reduce the volume and velocity of runoff, and increase infiltration.

River Corridor -- Includes the river, the flood plain, the riparian trees and plants that grow in the high groundwater and most soils along the way.

Spreading Grounds -- A land area specifically designed to be flooded so that the water will percolate or soak into the ground, recharging the ground water.

Sustainability -- The ability to meet current needs without compromising the ability of future generations to do the same. Or the goal of securing life, liberty, and social well-being within the means of nature.

Velocity of Flow -- How quickly the storm water flows over the surface or through the storm drain system to the ocean. Velocity is determined by the design of the conveyance system: how wide, how smooth or rough, and the slope of the conveyance.

Water Conservation means different things in different contexts. Usually, it means using less (consumer or farmer or landscape) due to hardware or management strategies. In the storm water management context, it means storing water in retention basins or behind a dam for infiltration to the ground water, making the water available as an addition to the drinking water supply.

Watershed -- A region or area, all of which drains to a particular watercourse or body of water.

About the Authors

Thomas Piechota is an assistant professor in the Department of Civil and Environmental Engineering at the University of Nevada, Las Vegas. He received his B.S. in Civil Engineering in 1989 from Northern Arizona University, his M.S. in Civil and Environmental Engineering in 1993 from UCLA, and his Ph.D. in Civil and Environmental Engineering in 1997 from UCLA. His research interests are interdisciplinary in the areas of surface water hydrology, hydroclimatology, water resources planning, and stormwater quality in urban environments.

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Notes

[1] United States Environmental Protection Agency, Office of Water. 1996. *Managing Urban Runoff.* Washington, DC: US EPA.

[2] Task Committee on the Design of Outlet Control Structures. 1985. *Stormwater Detention Outlet Control Structures.* New York: American Society of Civil Engineers.

[3] Ferguson and Debo, 1990.

[4] Maidment, D.R., 1993. Handbook of Hydrology. McGraw-Hill, Inc., New York

[5] Williams, Philip B. 1997. *California's Opportunity to Achieve Improved Flood Management and Major Ecosystem Restoration.* Technical paper published on the Internet by Philip Williams & Associates, Ltd., San Francisco (http://www.edf.org).

[6] Terrene Institute. 1996. *A Watershed Approach to Urban Runoff.* Washington, DC: Terrene Institute.

[7] Williams, Philip B. 1990. "Rethinking Flood-Control Channel Design." *Civil Engineering.* Vol. 60, No. 1: 57-9.

[8] Geiger, Wolfgang F. 1993. "Concepts for Flood Control in Highly Urbanized Areas." In *Integrated Stormwater Management*, eds. Field, Richard, O'Shea, Marie and Chin, Kee. Boca Raton: Lewis Publishers.

[9] Tom Richman & Associates. 1997. *Start at the Source: Residential Site Planning & Design Guidance Manual for Stormwater Quality Protection.* Palo Alto: Tom Richman & Associates and Bay Area Stormwater Management Agencies Association.

[10] Tom Richman & Associates, 1997.

[11] Colyer, Peter J. 1982. "Detention storage as an equivalent rainfall depth." In *Stormwater Detention Facilities: Planning, Design Operation and Maintenance.* Conference Proceedings, ed. DeGroot, William. New York: American Society of Civil Engineers.

[12] Lazaro, T. 1990. Urban Hydrology – A Multidisciplinary Perspective. Lancaster, PA: Technomic Publishing Co, Inc.

[13] Miller, A. Richard. 1997. "Porous Pavement: Pavement That Leaks"

[14] Barrett, et al. "Permanent Runoff Controls." *Civil Engineering*. Vol. 67, No. 10:72-3.

[15] Galli, John. 1990. *Peat Sand Filters: A Proposed Stormwater Management Practice for Urbanized Areas*. Washington, DC: Metropolitan Washington Council of Governments. December 1990.

[16] For more information, contact the City of Santa Monica, Environmental Programs Division, of their Sustainable City WEB page at http://www.ci.santa-monica.ca.us/environment/

[17] Los Angeles Municipal Code, Chapter 6, Article 4.2 (Ordinance No. 166103, approved July 26, 1990)

[18] For more information on this project, contact Long Beach Organic at (562) 438-9000

[19] TreePeople 1998. *T.R.E.E.S. Project Second Nature Planbook.* http://www.treepeople.org

Stormwater Infiltration

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This paper introduces the concept and purpose of stormwater infiltration, and discuss variations in its feasibility and modes of implementation. In the United States experience has been gained in stormwater infiltration since about 1930; there are now more than 20,000 infiltration basins in the country. Examples from several regions illustrate experiences with a variety of climates, soil types, urban land uses, and construction details. Particular data and examples from the Los Angeles area are presented in order to address the particular conditions of the Southwest.

In natural watersheds infiltration is the characteristic and governing process. Vegetated soil absorbs rain water; the infiltrated water recharges ground water aquifers and restores stream base flow; overflows onto the floodplain are frequent and gentle; the soil ecosystem captures and degrades most pollutants that may be present. That natural watersheds work this way is of great benefit to people: it reduces hazards of peak flows and erosion, mitigates pollution, and protects aquatic ecosystems.

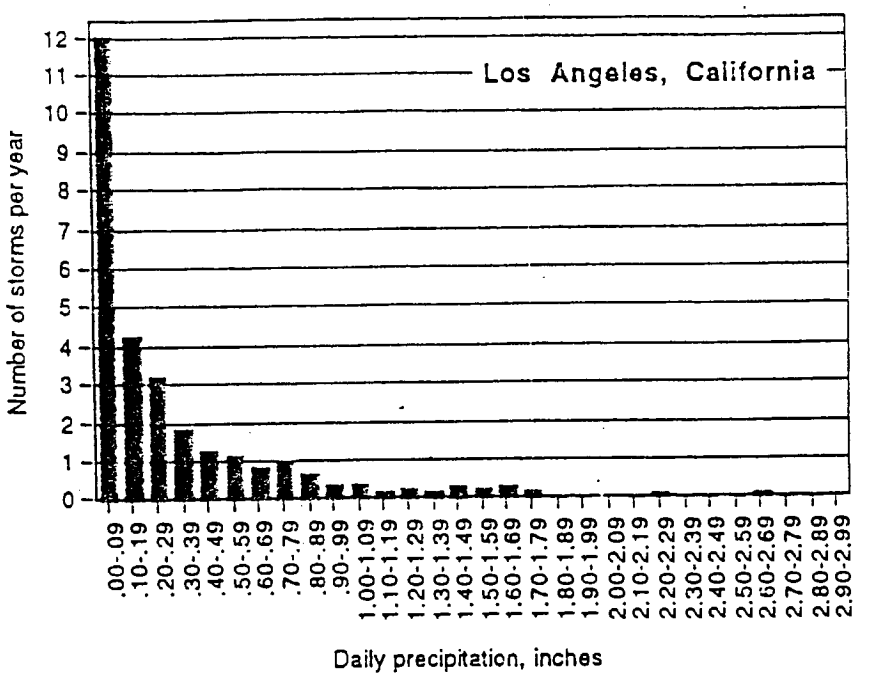
Urban development that covers the land surface with impervious surfaces tends to lose these functions. Rain water is deflected across the surface into direct runoff, which flushes pollutants directly into streams, aggravates peak flows, erodes stream banks, and destroys aquatic habitats. The loss of infiltration causes ground water to decline; streams and wetlands go dry in summer; aquatic ecosystems die; public water supplies decline.

Stormwater infiltration is the only urban stormwater management approach that restores natural watershed function. Stormwater infiltration restores hydrologic function to watersheds. In an infiltration basin, water ponds during storms. All the water from small, frequent storms, and the first water from large, infrequent storms, infiltrates the soil; the "first flush" of pollutants is consistently treated. The excess water from larger, less frequent storms, exceeding the capacity of the basin, continues to flow down the stormwater drainage system. There are some places not to do infiltration because of water quality, maintenance, and other hazards: on steep unstable slopes, on grossly permeable gravel soils, over septic tanks, over toxic soils in old industrial areas, and where upstream soil could erode and generate sediment. But outside these local spots, stormwater infiltration is the most complete possible response to broad stormwater quantity and quality issues.

In the Los Angeles area and other parts of the Southwest, water resource agencies have long practiced infiltration under the name of water spreading. Watersheds such as that of the San Gabriel River have been organized to capture mountain runoff, urban runoff and reclaimed wastewater in large basins such as Los Angeles' Rio Hondo Spreading Grounds where it recharges the coastal plain aquifer from which the city takes its water supply. Even extreme flood waters are sometimes recharged in the unlined San Gabriel River channel below Santa Fe Dam.

Infiltration basin capacity is limited on sites with slowly permeable soil and urban sites with little space. Nevertheless in small basins it is hydrologically feasible to infiltrate a large proportion of rain water over the course of a year, and to treat a large proportion of storm events, because most of the rain storms and most of the water are in small, frequent storms. For example in the Los Angeles area, daily rainfall of less than 0.1 inch occurs 12 days in an average year, and the frequency of larger storms declines logarithmically. 50 percent of Los

Angeles' annual rain falls in storms of less than 0.8 inch. Thus the bulk of the annual rain water and of the "first flush" events can be handled with infiltration basins of modest water storage capacity. Small basins cannot completely infiltrate the water from rare peak storms such as the 10-year and 100-year storms, or significantly reduce peak flow during such storms; but all other quantity and quality aspects of urban watersheds can be substantially addressed with small, feasible infiltration basins.



Open infiltration basins, constructed at the land surface, are usually vegetated. Grading and planting can conform to the needs of the urban sites where they are located. They alternately pond up and dry out with the passing of storms. Prompt drying after a storm is necessary to prevent peat formation and clogging; drying time is controlled by setting the overflow elevation in consideration of soil infiltration rate.

Subsurface infiltration basins are excavated below a proposed pavement or other surface and filled with open-graded stone or perforated pipes to produce storage capacity. Stored water infiltrates the surrounding soil. On densely developed sites with high land value such as shopping centers, the investment in construction materials can be more than compensated by the saving in land allocation.

In porous pavements, the porous pavement surface doubles as the drainage inlet system, and the pavement base course doubles as the subsurface infiltration basin; both provide preliminary treatment. Eight families of porous materials are available for selection to meet site-specific needs and constraints such as cost, appearance, and durability. Porous asphalt's surface infiltration rate has been found to decline after construction, and after 3 or 4 years to stabilize at about 1/4 to 1/10 of its initial value. Drainage should be away from the edges of a porous pavement in all directions, in order to prevent clogging sediment draining onto the pavement from adjacent eroding slopes. Curbs should be omitted in order to allow clogging debris to be washed and blown off the pavement.

Reference

Ferguson, Bruce K., 1994, *Stormwater Infiltration*, Boca Raton: Lewis Publishers.

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

Resolution No. 99-03

APPROVING BEST MANAGEMENT PRACTICES
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF MANAGEMENT PROGRAMS
IN
LOS ANGELES COUNTY

(NPDES NO. CAS614001)

WHEREAS, THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION FINDS:

1. Pursuant to the requirements of Order No. 96-054, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles (Permit), the Principal Permittee, in consultation with the Co-Permittees, has developed model programs for Development Construction and Development Planning. These programs must include Best Management Practices (BMPs) to control/ minimize the discharge of pollutants to receiving waters.

2. The Permit requires that the Regional Board approve these BMPs, to be part of the Development Planning and Development Construction Model Program, before implementation by Permittees.

3. The Lists of BMPs have been evaluated and are considered appropriate practices for the respective programs/ activity.

4. This Resolution adopts a master list of BMPs for Development Planning and Development Construction Projects in Los Angeles County. These BMPs when implemented at development projects, in combination, will reduce pollutants in storm water discharges to the "maximum extent practicable".

THEREFORE BE IT RESOLVED THAT:

1. The Best Management Practices contained in the following Attachments are approved:

   a. Attachment 1 - Development Planning
   b. Attachment 2 - Development Construction
   c. Attachment 3 – Supplementary List of BMPs

2. The Permittees shall select and require implementation of the most effective BMPs, approved and attached hereto (and as may hereafter be updated) for storm water/ urban runoff pollution control benefits.

3. The Regional Board Executive Officer is hereby authorized to update the master list and to incorporate additional detail to the BMPs as necessary.

I, Dennis Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on April 22, 1999.

DENNIS A. DICKERSON
Executive Officer

Date: April 22, 1999

ATTACHMENT 1

Recommended BMPs for Site Planning, Post-Construction, and Redevelopment/Infill

Recommended BMPs for Site Planning, Post-Construction, and Redevelopment/Infill

Site Planning BMPs
Minimize Storm Water Runoff
Pervious Drainage System
Reduce Area of Impervious Surface
Site Layout

Post-Construction BMPs	
BMP Name	**BMP Identification No. and Name** [a]
Car Wash Facility	SC3, Vehicle and Equipment Washing and Steam Cleaning
Constructed Wetlands	TC3, Constructed Wetlands
Control of Impervious Runoff	Not applicable.
Efficient Irrigation	Not applicable.
Energy Dissipaters	ESC40, Outlet Protection
Extended Detention Basins	TC5, Extended Detention Basin
Infiltration Basins	TC1, Infiltration
Infiltration Trenches	TC1, Infiltration
Inlet Trash Racks	Not applicable.
Landscape Design	ESC2, Preservation of Existing Vegetation; ECS10, Seeding and Planting; ESC11, Mulching
Linings for Urban Runoff Conveyance Channels	Not applicable.
Materials Management	SC5, Outdoor Loading/Unloading of Materials; SC6, Outdoor Container Storage of Liquids; SC8, Outdoor Storage of Raw Materials, Products, and By-Products
Media Filtration	TC6, Media Filtration
Motor Fuel Concrete Dispensing Areas	SC2, Vehicle and Equipment Fueling
Motor Fuel Dispensing Area Canopy	SC2, Vehicle and Equipment Fueling
Oil/Water Separators and Water Quality Inlets	TC7, Oil/Water Separators and Water Quality Inlets
Outdoor Storage	SC6, Outdoor Container Storage of Liquids; SC8, Outdoor Storage of Raw Materials, Products, and By-Products
Porous Pavement and Alternative Surfaces	TC1, Infiltration
Protect Slopes and Channels	ECS40, Outlet Protection; ESC42, Slope Roughening and Terracing
Self-Contained Areas for Vehicle or Equipment Washing, Steam Cleaning, Maintenance, Repair, or Material Processing	SC3, Vehicle and Equipment Washing and Steam Cleaning; SC4, Vehicle and Equipment Maintenance and Repair; SC7, Outdoor Process Equipment Operations and Maintenance
Storm Drain System Stenciling and Signage	SC30, Storm Drain System Signs
Trash Container Areas	SC9, Waste Handling and Disposal
Vegetated Swales and Strips	TC4, Bio-filters
Wet Pond	TC2,Wet Pond

R0068919

[a] Corresponds to the BMP number and name as in the *California Storm Water Best Management Practice Handbooks* (1993).

Redevelopment and Infill BMPs	
BMP Name	**BMP Identification No. and Name [a]**
Car Wash Facilities	SC3, Vehicle and Equipment Washing and Steam Cleaning
Control of Impervious Runoff	Not applicable.
Efficient Irrigation	Not applicable.
Energy Dissipaters	ESC40, Outlet Protection
Landscape Design	ESC2, Preservation of Existing Vegetation; ECS10, Seeding and Planting; ESC11, Mulching
Linings for Urban Runoff Conveyance Channels	Not applicable.
Materials Management	SC5, Outdoor Loading/Unloading of Materials; SC6, Outdoor Container Storage of Liquids; SC8, Outdoor Storage of Raw Materials, Products, and By-Products
Media Filtration	TC6, Media Filtration
Motor Fuel Concrete Dispensing Areas	SC2, Vehicle and Equipment Fueling
Motor Fuel Dispensing Area Canopy	SC2, Vehicle and Equipment Fueling
Oil/Water Separators and Water Quality Inlets	TC7, Oil/Water Separators and Water Quality Inlets
Outdoor Storage	SC6, Outdoor Container Storage of Liquids; SC8, Outdoor Storage of Raw Materials, Products, and By-Products
Porous Pavement and Alternative Surfaces	TC1, Infiltration
Protect Slopes and Channels	ECS40, Outlet Protection; ESC42, Slope Roughening and Terracing
Self-Contained Areas for Vehicle or Equipment Washing, Steam Cleaning, Maintenance, Repair, or Material Processing	SC3, Vehicle and Equipment Washing and Steam Cleaning; SC4, Vehicle and Equipment Maintenance and Repair; SC7, Outdoor Process Equipment Operations and Maintenance
Storm Drain System Stenciling and Signage	SC30, Storm Drain System Signs
Trash Container Areas	SC9, Waste Handling and Disposal
Vegetated Swales and Strips	TC4, Bio-filters

[a] Corresponds to the BMP number and name as in the *California Storm Water Best Management Practice Handbooks* (1993).

R0068920

ATTACHMENT 2

Recommended Best Management Practices

for

Development Construction

Attachment 2

STORMWATER POLLUTION CONTROLS FOR CONSTRUCTION ACTIVITIES

Stormwater Best Management Practices	BMP No. [1]	Categories of Activities																					
		Site Preparation/ Earthmoving		Construction of Underground Structures				Construction of Above Ground Structures				Construction of Roadways, Walkways & Parking Lots			Waterways					Planting & Landscaping			
		Clearing & Grubbing	Earthwork	Foundations	Conduits (Open Cut)	Drilling	Tunnels	Wood Frame	Structural Steel	Masonry & Concrete	Roofing & Coating	Concrete	Asphalt	Base & Subgrade	Channel Improvement	Water & Sediment Impoundment	Over Crossing	Under Crossing	Waterfront Construction	Irrigation Facilities	Seeding & Sodding	Mulching	Planting
General Site Management																							
Construction Practices																							
Dewatering Operations	CA01		X	X	X	X	X								X	X	X	X	X				
Paving Operations	CA02											X	X	X	X		X	X					
Structure Construction & Painting	CA03			X			X	X	X	X	X						X	X	X				
Vehicle & Equipment Management																							
Vehicle & Equipment Cleaning	CA30	X	X	X	X	X	X					X	X	X									
Vehicle & Equipment Fueling	CA31	X	X	X	X	X	X					X	X	X					X				
Vehicle & Equipment Maintenance	CA32	X	X	X	X	X	X					X	X	X					X				
Contractor Training																							
Employee/Subcontractor Training	CA40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Construction Materials & Waste Management [2]																							
Material Management																							
Material Delivery & Storage	CA10			X	X			X	X	X	X	X	X	X	X		X	X	X		X	X	X
Material Use	CA11			X	X			X	X	X	X	X	X	X	X		X	X	X		X	X	X
Spill Prevention & Control	CA12									X	X		X										
Waste Management																							
Solid Waste Management	CA20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hazardous Waste Management	CA21									X	X	X	X										
Contaminated Soil Management	CA22	X	X	X	X	X	X								X	X							
Concrete Waste Management	CA23			X	X		X			X		X			X		X	X		X			
Sanitary/Septic Waste Management	CA24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

(1) Numbers refer to California Best Management Practices Handbook (See Appendix H)
(2) Some practices are also covered under other regulatory programs. See BMP fact sheets in Appendix H for details.

R0068922

Attachment 2

STORMWATER POLLUTION CONTROLS FOR CONSTRUCTION ACTIVITIES

Stormwater Best Management Practices	BMP No. [1]	Categories of Activities																					
		Site Preparation/ Earthmoving		Construction of Underground Structures				Construction of Above Ground Structures				Construction of Roadways, Walkways & Parking Lots			Waterways					Planting & Landscaping			
		Clearing & Grubbing	Earthwork	Foundations	Conduits (Open Cut)	Drilling	Tunnels	Wood Frame	Structural Steel	Masonry & Concrete	Roofing & Coating	Concrete	Asphalt	Base & Subgrade	Channel Improvement	Water & Sediment Impoundment	Over Crossing	Under Crossing	Waterfront Construction	Irrigation Facilities	Seeding & Sodding	Mulching	Planting
Erosion Control																							
Site Plannning Considerations																							
Scheduling	ESC01	X	X		X							X	X	X	X	X	X	X	X	X	X	X	X
Preservation of Existing Vegetation	ESC02	X	X		X		X					X	X	X	X	X	X	X	X	X		X	
Vegetation Stabilization																							
Temporary Seeding & Planting	ESC10	X	X																				
Temporary Mulching	ESC11	X	X												X	X	X		X				
Physical Stabilization															X	X	X		X				
Geotextiles & Mats	ESC20	X	X																				
Dust Control	ESC21	X	X		X										X	X	X	X	X				
Tempory Stream Crossing	ESC22	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X
Construction Road Stabilization	ESC23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
Diversion of Runoff															X	X	X	X	X	X	X	X	X
Earth Dike	ESC30	X	X		X																		
Temporary Drains & Swales	ESC31	X	X		X										X	X		X	X		X	X	
Slope Drain	ESC32	X	X		X										X	X		X	X				
Velocity Reduction															X	X		X	X				
Outlet Protection	ESC40	X	X		X																		
Check Dams	ESC41	X	X		X										X	X			X				
Slope Roughening/Terracing	ESC42	X	X		X										X	X			X				
Sediment Control															X	X			X				
Silt Fence	ESC50	X	X		X																		
Straw Bale Barrier	ESC51	X	X		X										X	X		X	X				
Sand Bag Barrier	ESC52	X	X		X										X	X		X	X				
Brush or Rock Filter	ESC53	X	X		X										X	X		X	X				
Storm Drain Inlet Protection	ESC54	X	X		X										X	X		X	X				
Sediment Trap	ESC55	X	X		X										X	X		X	X				
Sediment Basin	ESC56	X	X		X										X	X		X	X				
Stabilized Construction Entrance	ESC24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

(1) Numbers refer to California Best Management Practices Handbook (See Appendix H).
(2) Some practices are also covered under other regulatory programs. See BMP fact sheets in Appendix H for details.

R0068923

ATTACHMENT 3

DEVELOPMENT PLANNING / CONSTRUCTION BMPs

BMP Name	BMP Identification No. and Name
Non-storm water discharges elimination	SC1, Eliminate non-storm water discharges to the storm drain collection system
Material storage management	SC20, Material storage control – Design site with bermed and covered storage areas for material storage located away from storm drains
Aboveground Tank Berms	SC41, Aboveground Tank Berms
Multiple treatment systems in combination	TC8, Multiple treatment systems in combination
Detention/ Infiltration device maintenance	SC75, Has the developer/ owner determined how detention/ infiltration devices planned for the site will be maintained
Geotextiles and Mats	ESC20, Geotextiles and Mats
Scheduling	ESC1, Scheduling activity
Outdoor Process Equipment Operation and Maintenance	SC7, Outdoor Process Equipment Operation and Maintenance – Design site to inlcude a canopy over outdoor processes
Illicit Connection Prevention	SC60, Illicit Connection Prevention – Will any planned connections to the storm drain carry non-storm water discharges.
Catch basin insert	Catch basin insert
Catch-basin screen	Catch-basin screen
Continuous flow deflection/ separation systems	Continuous flow deflection/ separation systems
Normal flow separation/ storage systems	Normal flow separation/ storage systems
Cistern collection systems	Cistern collection systems
Clarifiers	Clarifiers
Primary waste-water treatment systems	Primary treatment
Secondary waste-water treatment systems	Secondary treatment
Facility design to divert wash-off to sanitary sewers	Sanitary sewer diversion
Drip Irrigation systems	Drip Irrigation
Pesticide and fertilizer use elimination or reduction	Pesticide and Fertilizer use management
Vacuum sweeping of parking lots	Vacuum sweeping
Flow diversion to landscape or pervious areas	Flow diversion for infiltration
Curb elimination on landscaped areas	Curb elimination
Vegetated buffer zones	Vegetated buffer zones
Post signs to caution improper practices or to educate	Signage
Retention grading	Retention grading
Filtration systems	Filtration systems

Supplemental Declaration of Richard R. Horner

1. I, Richard R. Horner, do state and declare that the following facts are within my personal knowledge, and that I am competent to testify, and that if called upon to testify, I could and would give competent testimony consistent with the following facts.

2. I am a professor in the Departments of Civil and Environmental Engineering and Landscape Architecture at the University of Washington, where I have been conducting research and teaching for the past 18 years. My primary area of expertise is in urban runoff.

3. I am also the sole proprietor of my own consulting business, which I began 14 years ago.

4. I have published over 100 book chapters, articles, and technical reports on the subject of urban runoff.

5. From 1996 to 1999, I participated in discussions between the Natural Resources Defense Council and the Los Angeles County Department of Public Works (the "County") regarding the County's development of its stormwater management program, as outlined in its Stormwater Program Implementation Manual ("County's Manual"). Consequently, I am very familiar with the County's program.

6. One aspect of these discussions that received a great deal of attention was the topic of how the County would regulate future development planning and, in particular, the form and content of the standard urban stormwater mitigation plans ("SUSMPs") that were to be inserted into the volume of the County's Manual pertaining to development planning. Consequently, I am particularly familiar with the SUSMPs in the County's program.

7. In my many years of studying stormwater management programs from all over the country, and the world, I have seen that there are myriad ways of articulating a standard for the design and sizing of structural best management practices ("BMPs"). One such method is to set a numerical standard for the amount of runoff that BMPs must be designed to manage – or the amount of *rainfall* whose runoff the BMPs must be designed to manage. In my professional judgment, the majority of municipalities that have a numerical standard have a more stringent one than Los Angeles County's standard of requiring BMPs to manage the runoff from the first 0.75 inches of rain.

I declare, under penalty of perjury under the laws of the State of Washington, that the above is true and correct. Executed in Seattle, Washington, this 13 day of January, 2000.

/s/
Richard R. Horner

CENTER FOR
WATERSHED
PROTECTION

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EXECUTIVE DIRECTOR

RICHARD A. CLAYTON, JR., P.E.
PRINCIPAL ENGINEER

HYE YEONG KWON
ASSISTANT DIRECTOR

January 11, 2000

Dennis Dickerson
Executive Director
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Support for the 3/4 inch standard to reduce runoff from new and redevelopment

Dear Mr. Dickerson:

I recently have had the chance to review the standard urban stormwater mitigation plan for Los Angeles County and Cities in Los Angeles County. Treatment of the stormwater quality is an essential element for protecting local watersheds, and is widely used by many municipalities around the country. I strongly support the three-quarter inch runoff treatment standard based on past scientific research on the performance of stormwater best management practices. I have also enclosed a recent article on stormwater strategies for arid and semi-arid watersheds that may be helpful in adapting effective stormwater practices for your region.

Thank you for the opportunity to comment on the proposed stormwater mitigation plan. Adoption of the three quarter inch standard will help to protect the creeks and coastlines of Los Angeles from the impacts of stormwater pollutants, and represents a fair, equitable and achievable threshold for stormwater treatment.

Sincerely,

Thomas R. Schueler

Thomas R. Schueler
Executive Director

cc Mark Gold

attachment

R0068926

Robert Pitt, P.E., Ph.D., DEE
Professor, Department of Civil and Environmental Engineering
University of Alabama at Birmingham
1075 So. 13th St.
Birmingham, AL 35294-4440

January 13, 2000

VIA FACSIMILE (213/576-6660) and *U.S Mail*

Executive Officer and Members of the Board
California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Proposed Model Standard Urban Storm Water Mitigation Plan (SUSMP)

Dear Mr. Dickerson and Members of the Board:

I have reviewed the proposed *Standard Urban Stormwater Mitigation Plan for Los Angeles County and Cities in Los Angeles County* and wish to make the following general comments.

I support the Regional Water Quality Control Board's adoption of the proposed 0.75 inch standard for the design of best management practices. Many municipalities around the country have implemented standards at least as stringent as this one to minimize the stormwater pollution from new development and redevelopment, and this standard is an entirely reasonable one.

However, the current proposal includes a host of exemptions that are overly-broad and that significantly weaken the impact of the numerical standard. The 0.75-inch standard should be adopted, but it should not be subject to the waivers and other exceptions currently contained in the proposed Mitigation Plan. The rooftop exception is particularly troubling, as many researchers have found rooftops (and associated roofing materials) to be an important source of stormwater pollutants and excessive flows. By eliminating these flows from treatment and from the runoff calculations, the effectiveness of the stormwater Mitigation Plan will be significantly reduced.

Sincerely,

Robert Pitt, P.E., Ph.D., DEE

Declaration of Richard R. Horner

1. I, Richard R. Horner, do state and declare that the following facts are within my personal knowledge, and that I am competent to testify, and that if called upon to testify, I could and would give competent testimony consistent with the following facts.

2. I am a professor in the Department of Civil Engineering and Landscape Architecture at the University of Washington, where I have been conducting research and teaching for the past 18 years. My primary area of expertise is in urban runoff.

3. I am also the sole proprietor of my own consulting business, which I began 14 years ago.

4. I have published over 100 books, articles, and technical reports on the subject of urban runoff.

5. From 1996 to 1999, I participated in discussions between the Natural Resources Defense Council and the Los Angeles County Department of Public Works (the "County") regarding the County's development of its stormwater management program, as outlined in its Stormwater Program Implementation Manual ("County's Manual").

6. One aspect of these discussions that received a great deal of attention was the topic of how the County would regulate future development planning and, in particular, the form and content of the standard urban stormwater mitigation plans ("SUSMPs") that were to be inserted into the volume of the County's Manual pertaining to development planning.

7. Development planning is of central importance in any stormwater management program. The problem of stormwater pollution is directly related to the amount of directly connected impervious surfaces in an area, which increases the volume and rate of runoff. Because development generally involves an increase in the amount of impervious surfaces, designing development with stormwater management principles in mind is one of the most critical issues in the control of stormwater pollution. The Los Angeles area has one of the most severe stormwater pollution problems of any area in the United States, and it has experienced an enormous increase in development-related runoff over the last 50 years.

8. In our discussions regarding the County's development planning program and the SUSMPs to be adopted, I recommended that a specific numerical standard be inserted into the SUSMPs to ensure that future development would be designed so as to retain and mitigate a certain minimum volume of the runoff generated from the development sites. I recommended that the standard be set to require mitigation of all the runoff generated by either (1) storms of up to and including 1.0 inch; or (2) the one year, 24-hour storm.

9. My recommendation was based on my understanding of the hydrology of the Los Angeles area, my experience with other jurisdictions around the country, my twenty-plus years of research in the area of stormwater pollution, and well-established scientific and engineering principles related to stormwater and urban runoff.

10. Ultimately, the County adopted a 0.75-inch standard. I concluded that, at the present time, such a standard would be minimally acceptable.

I declare, under penalty of perjury under the laws of the State of Washington, that the above is true and correct. Executed in Seattle, Washington, this 13 day of September, 1999.

/s/

Richard R. Horner, Ph.D.
230 N.W. 55th Street
Seattle, Washington 98107

Fundamentals of Urban Runoff Management:

Technical and Institutional Issues

By
Richard R. Horner
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and
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Watershed Management Institute

Produced by
Terrene Institute
Washington, DC

in cooperation with
U.S. Environmental Protection Agency

August 1994

CHAPTER 8

Urban Runoff Treatment Practices

Urban runoff management in its broadest and most comprehensive form involves controlling both the quantity and quality of runoff. Control options are commonly called best management practices (BMPs).

Quantity control practices regulate the peak flow rate and sometimes the total volume from precipitation. Water quality control practices prevent the initial release of pollutants into urban runoff, or once they are released, reduce the quantities that enter surface or groundwaters. Completely recapturing released pollutants is impossible, and the expense increases for higher and higher levels of recapture. Prevention is more efficient and cost-effective. This chapter examines the principles of runoff quantity and quality control and details a number of treatment practices.

Control practices are categorized in a number of ways. One system is as follows:

- **Quantity control practices.** Methods of detaining runoff to regulate its rate of release to receiving waters or to infiltrate runoff into the ground so that it does not become surface flow.
- **Management practices.** Ways of doing business to prevent pollutant releases.
- **Source control practices.** Specific actions taken at potential sources to prevent pollutants from contacting precipitation or runoff.
- **Erosion and sediment control practices.** A variety of techniques used to control areas that have been bared from construction in progress or have not been revegetated after construction or other activities.
- **Treatment practices.** Facilities that remove pollutants already in runoff.

These practices are often divided into structural and nonstructural groups. Nonstructural practices mainly embrace preventive actions that do not require building anything, such as management and source control practices. Many erosion and sediment control practices are also preventive, although some—like filter fabric fences and sedimentation ponds—treat runoff containing eroded sediments and involve construction or hardware installation. While quantity control can be nonstructural (e.g., policies to retain natural soil and vegetation cover), it generally involves building a facility such as a detention pond or an infiltration device. Treatment practices are usually structural.

This chapter covers permanent structural quantity control and treatment practices. Chapter 14 provides specific criteria for inspecting these facilities after construction and periodically thereafter to determine maintenance needs. Chapter 12 covers management and source control practices. Erosion and sediment control practices are covered in Chapter 7 and their inspection in Chapter 14.

Structural quantity control and treatment practices can also be grouped in various ways, one of which is the following:

- **Storage practices**
  - Ponds—wet ponds, extended-detention dry ponds, and dry ponds
  - Vaults and tanks
  - Oil separators
- **Vegetative practices**
  - Swales
  - Filter strips
  - Wetlands—natural and constructed
  - Landscape management (i.e., urban forestry)

- **Infiltration practices**
  - Basins
  - Trenches
  - Perforated pipes
  - French drains
  - Porous pavements
- **Filtration practices**
  - Sand filters
  - Leaf compost filters
  - Catch basin filters (various media)

The ponds, vaults, and tanks under storage practices can benefit quantity control, quality control, or both. However, dry ponds drain too quickly to provide any substantial runoff treatment. Enclosed vaults and tanks are limited in biological activity and are usually too small to function well in water quality control. Therefore, these devices are only effective for quantity control. Wetlands and all infiltration options can also supply quantity and quality control. The remaining practices are largely treatment devices.

In a number of instances, one mode of operation (storage, vegetative treatment, or infiltration) predominates but the practice incorporates other modes. For example, wetlands involve both storage of water and vegetative action. Also, most ponds infiltrate some water unless they are lined.

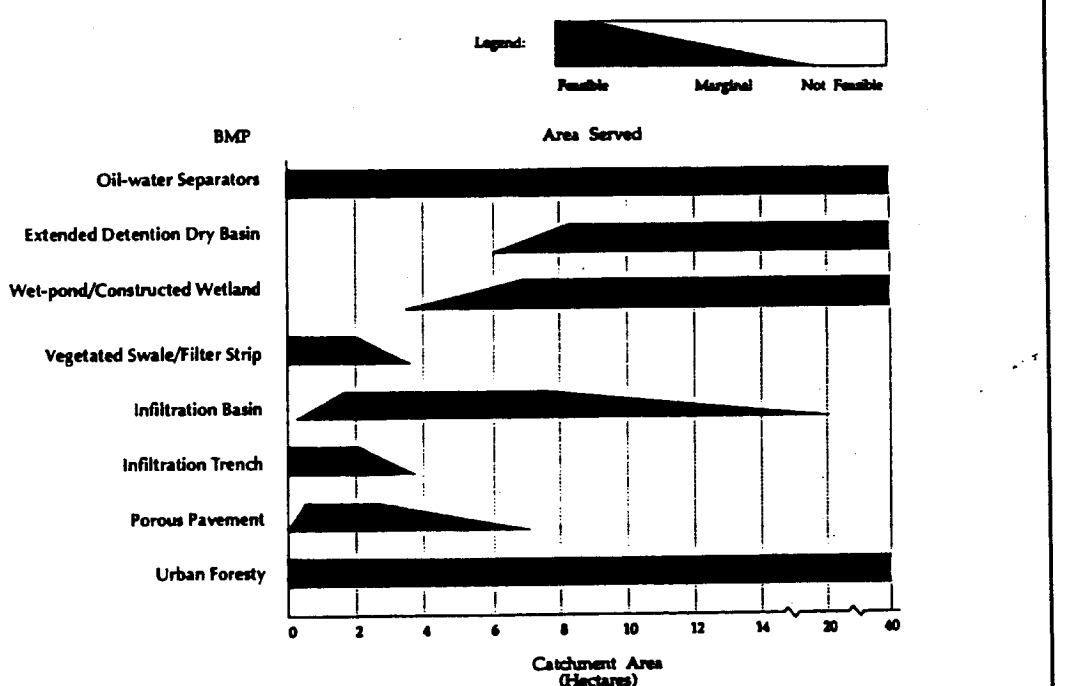
The trend is to combine the capabilities of two or more options by establishing "treatment trains" arranged in series, a strategy discussed at the end of this chapter.

Practice Selection

Success in applying any management practice initially depends on selecting the appropriate option for the site's control objectives and conditions. The objectives must be clearly delineated at the outset and conditions investigated in enough detail to match the practice to the site. Objectives might include whether quantity control, quality control, or both are to be provided; what pollutants are to be treated; and what, if any, side benefits are to be produced. Conditions that determine a practice's relevance include service area, soils, hydrogeologic conditions, and circumstances of the receiving water and nearby properties.

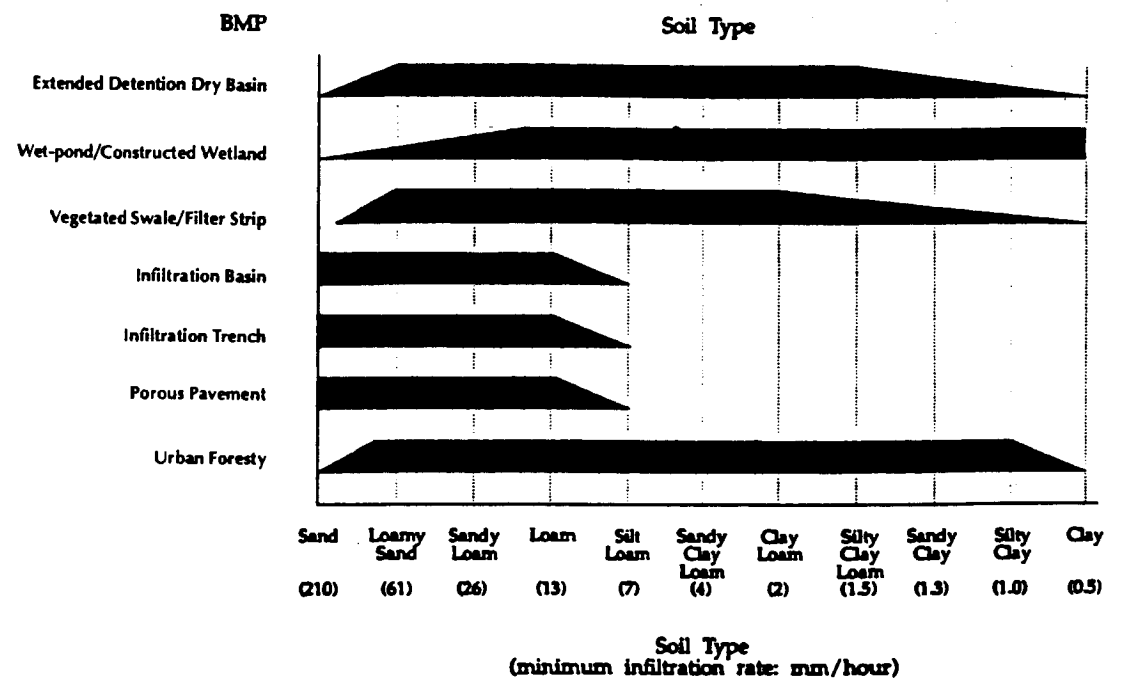
The British Columbia Research Corporation (1992) developed charts that incorporate these considerations, adapting and extending earlier work by Schueler (1987) and the Washington Department of Ecology (1992). Figures 8.1 and 8.2 and Tables 8.1 through 8.4 present these charts as aids in practice screening.

Figure 8.1—Applicability of treatment practices relative to catchment area.



Source: British Columbia Res. Corp. 1992.

Figure 8.2—Applicability of treatment practices relative to soil type.



Source: British Columbia Res. Corp. 1992.

Table 8.1—Constraints on treatment practices.

BMP	SLOPE	HIGH WATER TABLE	CLOSE TO BEDROCK	PROXIMITY TO FOUNDATIONS	SPACE CONSUMPTION	MAXIMUM DEPTH LIMITATION	HIGH SEDIMENT INPUT	THERMAL IMPACTS
Oil-water separator	●	●	■	■	●	○	○	●
Extended detention dry basin	●	●	■	●	○	●	■	●
Wet pond / Constructed wetland	●	●	■	●	○	○	■	○
Vegetated swale	■	○	■	■	●	●	○	●
Vegetated filter strip	■	■	■	■	●	●	○	●
Infiltration basin	■	○	○	■	■	○	○	●
Infiltration trench	○	○	○	○	●	○	○	●
Porous pavement	○	○	○	○	○	○	○	●
Urban forestry	●	■	●	■	●	●	●	●

● Generally not a restriction.
■ Can be overcome with careful site design.
○ May preclude the use of a BMP.

Source: British Columbia Res. Corp. 1992.

Table 8.2—Comparative quantity control benefits provided by water quality control practices.

BMP	PEAK DISCHARGE CONTROL			VOLUME CONTROL	GROUNDWATER RECHARGE/LOW FLOW MAINTENANCE	STREAMBANK EROSION CONTROL
	2-YEAR STORM	10-YEAR STORM	100-YEAR STORM			
Oil-water separator	○	○	○	○	○	○
Extended detention dry basin	●	●	●	○	○	●
Wet pond	●	●	●	○	○	●
Constructed wetland	●	●	●	■	■	●
Vegetated swale / Filter strip / Urban forestry	■	○	○	■	■	○
Full infiltration basin	●	■	○	●	●	●
Combined infiltration-detention basin	●	●	●	●	●	●
Off-line infiltration basin	○	○	○	●	●	●
Full infiltration trench / Porous pavement	●	■	○	●	●	●

● Usually provided.
■ Sometimes provided with careful design.
○ Seldom or never provided.

Source: British Columbia Res. Corp. 1992.

Table 8.3—Potential pollutant removal effectiveness of treatment practices.

BMP	CONTAMINANT						
	SUSPENDED SOLIDS	OXYGEN DEMAND	TOTAL LEAD	TOTAL ZINC	TOTAL PHOSPHORUS	TOTAL NITROGEN	BACTERIA
Oil-water separator	○	◆	◆	◆	◆	◆	◆
Extended detention dry basin	●	■	●	■	■	○	◆
Wet pond	●	■*	●	■	■*	○*	◆
Constructed wetland	●	●*	●	●	●*	●*	◆
Vegetated swale	●	○	●	■	○	○	◆
6 meter-wide turf filter strip	○	○	○	○	○	○	◆
30 meter-wide forested filter strip	●	●	●	●	■	■	◆
Infiltration practices	●	●	●	●	●	■	●

● High potential for removal.
■ Moderate potential for removal.
○ Low potential for removal.
◆ Insufficient knowledge.
* May be subject to exports of nutrient-enriched and deoxygenated water.

Source: British Columbia Res. Corp. 1992.

Table 8.4—Potential auxiliary benefits of treatment practices.

BMP	AQUATIC HABITAT CREATION	WILDLIFE HABITAT CREATION	NO TEMPERATURE INCREASE	LANDSCAPE ENHANCEMENT & AESTHETICS	RECREATIONAL BENEFITS	PUBLIC SAFETY	COMMUNITY ACCEPTANCE
Oil-water separator	O	O	●	O	O	●	●
Extended detention dry basin	O	●	●	■	■	■	■
Wet pond	●	●	O	●	●	■	●
Constructed wetland	●	●	O	■	■	■	■
Vegetated swale	■	■	■	■	O	●	●
Vegetated filter strip	O	●	●	■	■	●	●
Infiltration basin	O	●	●	■	■	●	■
Infiltration trench	O	O	●	O	O	●	●
Porous pavement	O	O	●	O	O	●	●
Urban forestry	O	●	●	●	■	●	●

● Usually provided.
■ Sometimes provided with design modifications.
O Seldom provided.

Source: British Columbia Res. Corp. 1992.

The recently issued California Storm Water Best Management Practice Handbooks (Camp, Dresser, McKee et al. 1993) refined the process of practice selection further with several recommendations (Municipal Handbook, Section 3), one of which was the following evaluation criteria:

- Ability to meet regulatory requirements;
- Effectiveness in pollutant reduction;
- Public acceptance;
- Ability to be implemented;
- Institutional constraints; and
- Cost.

The handbook recommends assigning a rank of 1 to 5 to each practice for each criterion. Each criterion can be weighted differently by assigning a weighting multiplier.

Principles of Runoff Quantity Control

Purpose and Goals

Controlling runoff quantities is important because, as discussed in Chapter 3, hydrologic change can produce extensive ecological impacts in small-scale aquatic systems where much valuable habitat for fish and other biota is located. The possible role of hydrologic changes in degrading valued salmon resources and recent flooding have stimulated efforts to improve quantity control programs and facilities, especially in the Pacific Northwest.

This chapter does not fully discuss design for quantity control, but it does present the key principles that should be applied. These principles are currently being integrated into some of the older runoff management manuals developed in the Northwest. New versions of manuals by Washington Department of Ecology (1992) and King County Surface Water Management Division (1990) will likely integrate these principles. Several texts present the current state of the art in some detail, including Bedient and Huber (1988), Urbonas and Stahre (1993), Wanielista (1990), and Wanielista and Yousef (1993).

The goal of quantity control in runoff system design is to maintain the predevelopment hydrograph—the maximum runoff rate, dynamics, and total volume—after a change in the watershed. This means replacing the depression and belowground storage removed or bypassed in development. Maintaining the predevelopment hydrograph requires replacing all of the lost depression and soil storage. This is done only through extensive new infiltration opportunities or with large

detention volumes that hold water while the slow processes of evaporation and infiltration operate. Matching predevelopment peak rate alone means recovering one-third to two-thirds of the lost storage. Even this less restrictive criterion generally requires much larger detention volumes than customarily demanded in existing regulations.

Analysis and Control

Effective runoff quantity control depends on substantial hydrologic analysis, only now being established. The analysis depends on

- Obtaining and properly using precipitation records for the place and time to be controlled;
- Good estimates of peak runoff flow rates and volumes of critical conditions;
- Relating water movement through and beyond the quantity control device with the effect of temporary storage in the device ("routing"); and
- Using this information to set the size of the storage volume and design the outlet structure, which controls the release rate.

The first two steps pose difficult problems. Precipitation records generally lack geographic coverage, length, frequency of recording, and accuracy. Two options to estimate peak runoff are to use models based on selected precipitation events (e.g., the 25-year frequency, 12-hour duration rainfall) or a computerized continuous simulation model.

Excluding the rational method—which is completely inadequate for this purpose—the most common event-based models are the USDA SCS' curve number method and its derivatives. These models have several liabilities, such as the arbitrariness of the selected events. Because they have no way to represent depression and soil storage of runoff, they tend to overpredict the peak runoff rate before development occurs, when the storage potential is significant. Consequently, while the objective is to match the predevelopment rate, the target is set too high. To compensate for this shortcoming, base the design on a selection of events or apply a safety factor to flow rate or storage volume size and discharge rate estimates.

Another problem with event-based models is their inability to deal with unpredictable storm dynamics. If a second storm arrives before the first one drains, the facility could overflow. To compensate for this fault, select as the basis events of longer duration and some of the less frequent, larger events. In the Pacific Northwest where winter rains are frequent and prolonged, the solution is to use a seven-day event duration, which produces larger storage facilities.

Continuous simulation models—EPA's Storm Water Management Model (SWMM) or Hydrologic Simulation Program-Fortran (HSPF)—have some important advantages over event-based models. These computer models consider such complexities as soil storage and infiltration. Given sufficient input data and proper use, they can simulate a range of conditions spanning many years—critical conditions like rain-on-snow and closely spaced storms that could cause a basin to overflow. On the other hand, these models require more and better precipitation data than are often available; additional data to represent soils, topography, and vegetation; and considerable expertise.

The Pacific Northwest is also developing "runoff files" for the HSPF model. Runoff files are unit area hydrographs for limiting precipitation conditions and site characteristics. The user merely specifies those characteristics and the location. A routing routine provides pond size and release rate.

Another Northwest strategy deals with the potential impacts of greater total volumes caused by development, even if peak rates do not increase. As pointed out previously, real volume control can result only from replacing lost depression and soil storage. However, limiting peak flow to a rate lower than before development can at least partially compensate for the additional stress on stream channels from extra volume. One possibility is to limit the two-year peak release rate after development to half of the predevelopment peak release rate associated with the two-year, 24-hour event.

Treatment Practices

Pollution Removal Mechanisms

To properly specify, design, and operate treatment practices, one needs to understand the mechanisms that can operate to prevent pollutants from entering receiving waters. Table 8.5 lists all the principal mechanisms that can capture, hold, and transform various classes of contaminants in

urban runoff and the factors that promote the operation of each mechanism to improve water quality.

A factor to consider in the functioning of all mechanisms is time. The effectiveness of settling a solid particle is directly related to the time provided to complete sedimentation at the particle's characteristic settling velocity. Time is also a crucial variable to determine the degree that chemical and biological mechanisms operate. Characteristic rates of chemical reactions and biologically mediated processes must be recognized to obtain treatment benefits. For all of these reasons, water residence time is the most basic variable to apply effective treatment practice technology.

The information in Table 8.5 can also be arranged by features that promote specific pollutant control objectives. The following features fulfill the most common objectives:

- **Features that help achieve any objective**
  - Increasing hydraulic residence time
  - Low turbulence
  - Fine, dense herbaceous plants
  - Medium-fine textured soil
- **Features that help achieve specific objectives**
  - Phosphorus control
    - High soil exchangeable aluminum and/or iron content
    - Addition of precipitating agents
  - Nitrogen control
    - Alternating aerobic and anaerobic conditions
    - Low toxicants
    - Circumneutral pH
- **Metals control**
  - High soil organic content

Table 8.5—Summary of pollutant removal mechanisms.

MECHANISM	POLLUTANTS AFFECTED	PROMOTED BY
Physical sedimentation	Solids, BOD, pathogens; particulate COD, P, N, metals, synthetic organics	Low turbulence
Filtration	Same as sedimentation	Fine, dense herbaceous plants; constructed filters
Soil incorporation	All	Medium-fine texture
Chemical precipitation	Dissolved P, metals	High alkalinity
Adsorption	Dissolved P, metals, synthetic organics	High soil Al, Fe high soil organics (met.); circumneutral pH
Ion exchange	Dissolved metals	High soil cation exchange capacity
Oxidation	COD, petroleum hydrocarbons, synthetic organics	Aerobic conditions
Photolysis	Same as oxidation	High light
Volatilization	Volatile petroleum hydrocarbons and synthetic organics	High temperature and air movement
Biological microbial decomposition	BOD, COD, petroleum hydrocarbons, synthetic organics	High plant surface area and soil organics
Plant uptake and metabolism	P, N, metals	High plant activity and surface area
Natural die-off	Pathogens	Plant excretions
Nitrification	NH_3-N	Dissolved oxygen > 2 mg/L, low toxicants, temperature > 5-7°C, circumneutral pH
Denitrification	NO_3+NO_2-N	Anaerobic, low toxicants, temperature > 15°C

Source: R.R. Horner.

High soil cation exchange capacity
Circumneutral pH

- **Organics control**
  - Aerobic conditions
  - High light
  - High soil organic content
  - Low toxicants
  - Circumneutral pH

These features differ in what degree of control the treatment system designer and operator have over the operation. Fortunately, several features that promote all favorable mechanisms (possibly excluding the soil) are under a high degree of control. Features that promote more specific objectives require more intervention, such as developing some desired soil condition.

Sources of Detailed Information

The main treatment practices, the principles that govern their operation, and the primary design considerations are featured in a number of government manuals and other texts. These sources are valuable in planning, design, plan review, construction, and operational activities. The primary reference, however, should be the manual of the jurisdiction where the site is located. In addition to the material presented in this chapter and the listed sources, Chapter 14 includes inspection checklists and diagrams that provide details on design configurations and operations.

Storage Practices

Wet Ponds

Ponds reduce runoff pollutants by settling solids and allowing a variety of physical, chemical, and biological mechanisms to capture or transform dissolved pollutants. Settlement of fine solids and the soluble pollutant removal mechanisms all require time in quiescent or pool storage—from several days to as many as three weeks for maximum performance. Therefore, wet ponds, which have a permanent storage pool, offer substantially greater treatment advantages than ponds that dry out between storms. Unless they are lined, most ponds infiltrate some water to the soil and are often referred to as retention/detention ponds.

Figure 14.9 illustrates a typical wet pond, showing a number of the design recommendations discussed in the following paragraphs.

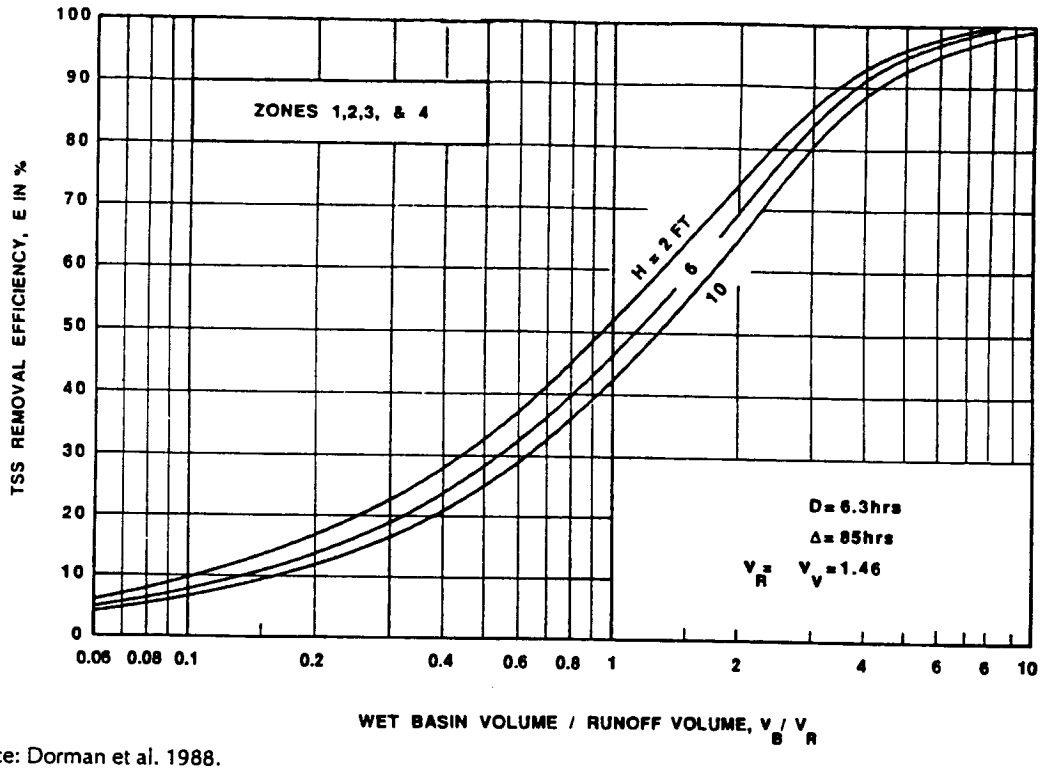
Sizing Calculations and Expected Performance. Unlike in the design of wastewater treatment plants, knowledge is insufficient as yet to design runoff ponds to obtain a specific level of treatment. However, EPA's Nationwide Urban Runoff Program (NURP) included a comprehensive investigation of pond design and associated performance at 13 locations. The investigation concluded that performance could best be related statistically to the "volume ratio." This is the ratio of pool storage volume to "mean storm volume," a statistical measure expressing the runoff volume associated with the long-term average rain storm quantity (U.S. Environ. Prot. Agency, 1986).

EPA produced total suspended solids removal curves for different climatological regions. Figure 8.3, for example, shows the curve for all of the United States east of the 96th meridian, approximately along the western Minnesota border. Reductions of other pollutants were related to total suspended solids (TSS), as illustrated in Figure 8.4. Generally, a volume ratio of about 2.5 is necessary to achieve 75 percent TSS reduction, where corresponding phosphorus removal is approximately 50 percent. Each incremental increase of the ratio above 2.5 yields decreasing benefits, reflecting the fact that the pollutants easiest to capture are removed first. The results indicate that pollutants with significant amounts in dissolved forms cannot be reduced by more than 50 to 60 percent in a wet pond.

In the phosphorus example, reduction of 60 percent is approached only as the volume ratio grows toward 5. Ponds of this size generally provide two to three weeks of pool storage hydraulic residence time and consume 3 to 7 percent of the contributing catchment, depending on impervious area, slopes, rainfall characteristics, and other factors (Walker, 1987; Hartigan, 1989; Kulzer, 1989). Further improvement in phosphorus removal can be achieved in several ways, although all have practical limitations (Walker, 1987). They include

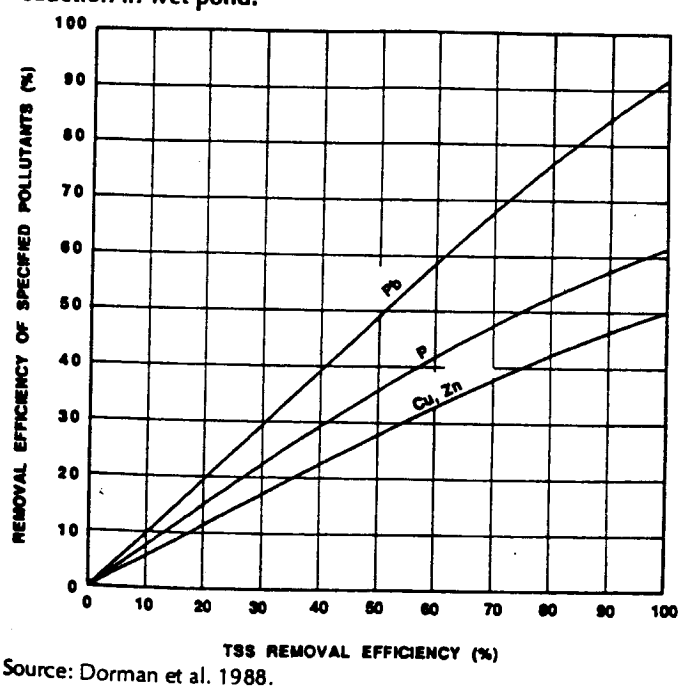
- Deepening the pond, although a practical limit of perhaps 2.5 m (about 8 ft) is imposed by the possibility that the bottom waters may become anaerobic;
- Infiltrating more water;
- Enhancing the plug-flow characteristics by design features;
- Installing certain aquatic plants, perhaps coupled with regular harvesting; or
- Chemical treatment.

Figure 8.3—Total suspended solids (TSS) reduction curves for wet ponds in the United States east of the 96th meridian.



Source: Dorman et al. 1988.

Figure 8.4—Reductions of lead (Pb), phosphorus (P), copper (Cu), and zinc (Zn) in relation to total suspended solids (TSS) reduction in wet pond.



Source: Dorman et al. 1988.

A number of agencies have adopted the NURP pond guidelines as a design basis, including the Metropolitan Washington Council of Governments (Schueler, 1987), the Federal Highway Administration (Dorman et al. 1988), and the state of California (Camp, Dresser, McKee et al. 1993). The guidelines help set performance objectives for pollutants of interest and calculate the pool storage volume from the graph and climatological statistics for the region to reach those objectives.

Other agencies have specified either a certain runoff quantity or a precipitation event as the design basis. For example, treating the first 1 in (2.5 cm) of runoff provides treatment to most storms and total runoff volume in an average year. The Washington Department of Ecology (1992) selected the six-month, 24-hour rainfall event as the "water quality design storm." The treatment system (the pool storage in a wet pond) should provide sufficient volume to hold runoff from this storm. In Seattle, this event produces about 1.2 in (3.05 cm) of rain. With a mean rain storm of 0.48 in (1.22 cm) at this location, the NURP volume ratio is thus approximately 2.5 for any runoff coefficient.

▮ ***Design Recommendations.*** Better performance can be expected by enlarging the surface area to gain volume as opposed to deepening the pond. A large surface area-to-volume ratio shortens the solids' settling distance and allows better aeration and light penetration to promote biological pollutant removal mechanisms.

Other design features are also important to performance. Features that reduce the tendency of water to short circuit, which raises actual hydraulic residence times toward the theoretical values, include the following (Schueler, 1987; Horner et al. 1989; Kulzer, 1989):

- Two or more distinct cells to promote plug flow;
- Effective length-to-width ratio of at least 5:1, preferably, and at least 3:1 at a minimum;
- Inlet and outlet remote from each other or shielded by baffling;
- Low inlet velocity;
- Uniform flow distribution across the inlet pond; and
- Discharging water with minimum turbulence from mid-depth rather than near the bed or surface.

Other safety features that should be incorporated in wet pond designs include the following:

- Side slopes of at least three horizontal to one vertical;
- An emergency overflow weir stabilized to avoid erosion and possible failure during high flow;
- A shallow "safety bench" at least 10 ft (3 m) wide at the toe of the slope surrounding the perimeter;
- A buffer planted to discourage young children from approaching the pond;
- An outlet structure placed out of reach to children; and
- Fencing to protect children from any remaining dangerous areas.

Extended-Detention Dry Ponds

With insufficient time to operate dissolved pollutant removal mechanisms, sedimentation is the main means to reduce pollutants in extended-detention basins. This method is especially good for capturing solids or other contaminants connected with particulates. In fact, Kuo et al. (1988) showed that extended detention was more cost-effective compared to dry or wet ponds or infiltration. This practice can also be the best choice where water is insufficient or too unreliable to sustain a wet pond or constructed wetland.

▮ ***Sizing Calculations and Expected Performance.*** Like wet ponds, extended-detention dry ponds are usually sized to capture a particular fraction of the runoff. In addition, this type of pond drains within a set period when filled with the design runoff volume, typically 24 to 40 hours.

Four NURP extended-detention ponds in Washington, D.C., with detention times of four to 18 hours offered at least 70 percent TSS removals with at least six hours of detention, and long-term total phosphorus reductions ranging from 13 to 56 percent (Schueler and Helfrich, 1989). Based on these somewhat conflicting results, Schueler (1987) estimated the upper limit of possible phosphorus reduction at 40 to 50 percent after 48 hours. Others, however, view the reliable efficiency to be much lower, perhaps 20 to 33 percent (Gibb et al. 1991). Schueler et al. (1992) now appear to agree with that assessment, quoting 10 to 30 percent. Stahre and Urbonas (1990) analyzed the available estimates of long-term efficiencies for various pollutants with a 40-hour detention time, as follows:

TSS	50 to 70%
chemical oxygen demand	20 to 40%
total phosphorus and total nitrogen	10 to 20%
lead	75 to 90%
zinc	30 to 60%
hydrocarbons	50 to 70%
bacteria	50 to 90%

▮ ***Design Recommendations.*** Extended-detention pond performance generally benefits from the same design features as wet ponds to prevent short circuiting. Schueler (1987) recommends incorporating the removal capabilities of plants by managing part of the basin as a shallow wetland. Schueler and Helfrich (1989) suggest an extended-detention wet pond, with a relatively small permanent pool that expands temporarily.

Oil Separators

Oil separators, devices that separate dispersed oil and water, are limited to capturing free or unemulsified oil. The two basic types are the Ameri-

can Petroleum Institute (API) separator and the coalescing plate (CP) separator. The API separator is a baffled tank that separates large volumes of free oil. The CP device separates free oil in much smaller volumes because it provides a large surface area for oil collected by the corrugated plate pack. Various spill-control devices are sometimes included in this type of treatment practice. The unit is used to catch small spills—it is not capable of separating dispersed oil. Figure 8.14 illustrates three oil separators.

API and CP separators were developed for industrial wastewater treatment. This wastewater is generally much higher in oil than most urban runoff, flow rates are more uniform, and the unit can get more operator attention. The separators are best used when discharge concentrations of oil and grease are higher than usually measured in general urban runoff. These concentrations are usually below 20 mg/L—often far below, unless an oil spill has occurred. Even the best CP separators cannot reduce concentrations below 10 mg/L, however. Therefore, these devices should be used mainly where petroleum products are handled, where vehicle traffic is heavy (e.g., trucking bases), and possibly where automobiles frequently come and go (expanding and contracting engine seals leak more oil than when engines run continuously). Otherwise, vegetated treatments can handle the usual relatively low concentrations. Spill control units should be installed anywhere slugs of oil could enter runoff, including residential areas where individual automotive maintenance is common.

▮ *Sizing Calculations and Expected Performance.* Following are procedures to size the two basic types of separators:

API SEPARATOR

1. Find oil drop rising velocity (V_p, cm/s):

$$V_p = (G/18 \cdot \mu) \cdot (d_p - d_c)D^2 \qquad [1]$$

where: μ = Dynamic viscosity of oil at coldest service temperature (use 0.015 poise at 5°C if no other information is available);

$d_p - d_c$ = Density difference between oil and water (use 0.1 g/cc if no other information is available);

D = Oil drop diameter (use 0.006 cm if no other information is available).

Convert V_p to ft/s by dividing by 30.48 cm/ft.

2. Find depth (d, ft):

$$d = (60 \cdot Q/2 \cdot V_h)^{0.5} \qquad [2]$$

where: Q = Design flow rate (cfs);

V_h = Horizontal velocity (3 ft/min or 15 times V_p, whichever is smaller; 0.5 ft/min is recommended if no other information is available).

Recommended range = 2 to 8 ft.

3. Set width in the range 2 to 3.33 times the depth.

Recommended range = 4 to 16 ft.

4. Find length (L, ft):

$$L = (d/V_p) \cdot V_h \qquad [3]$$

where: V_p = 0.033 ft/min is recommended if no other information is available.

5. Set baffle height-to-depth ratios at 0.85 for top baffles and 0.2 for bottom baffles.

CP SEPARATOR

1. Find V_p as above.
2. Find effective separation area = Q/V_p.
3. Select a unit from a manufacturer's catalog that provides at least the needed effective separation area.

A CP separator is theoretically capable of capturing free oil droplets down to 5 μm in diameter, although that performance requires a large unit. In contrast, the API type is practically limited to removing drops with diameters no smaller than 150 μm. How each reduces concentration depends on oil characteristics. CP separators can generally produce an effluent in runoff having no more than 10 mg/L oil and grease.

▮ *Design Recommendations.* A CP separator is marketed both with plates horizontal and at an angle. Angled plates are less prone to clogging by solids. The normal placement is 45 to 60 degrees from horizontal. Plates should be closely spaced to minimize oil rise distance without confining the flow so much as to raise velocity to a high level and create excessive turbulence; 3/4 in (1.90 cm) is a common spacing. Specific recommendations to improve success with API and CP units are the following:

- Exclude runoff from roofs and other areas not likely to contain oil;
- Place any pump being used downstream so as to prevent mechanical emulsification;

- Avoid detergent use upstream to prevent chemical emulsification;
- Provide a forebay sized at 20 ft^2 (1.86 m^2) of surface area per 10,000 ft^2 (929.0 m^2) of drainage area; and
- Provide an afterbay in which to place absorbents.

Vegetative Practices

Swales and Filter Strips

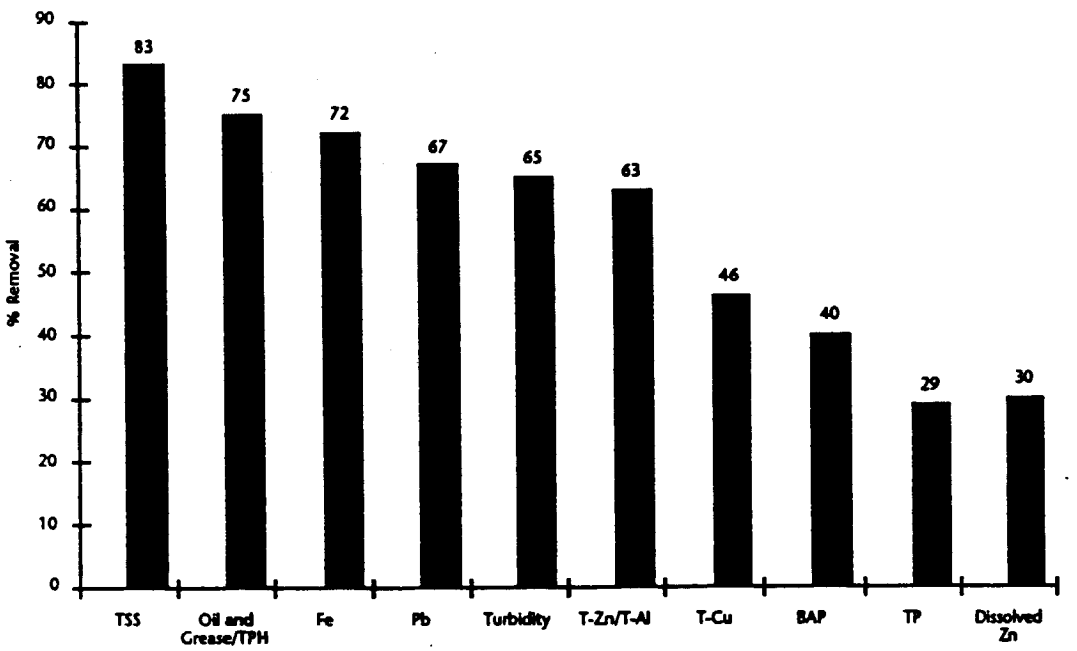
Treatment practices that use terrestrial grasses and other fine herbaceous plants are sometimes called biofiltration. These plants can be installed in a channel in which water flows at some depth—a swale—or on a broad surface area that has sheet flow—a filter strip. Biofilters can also have wetland plants in areas with the hydrology to sustain them.

A vegetated treatment strives for a plant stand that serves as a good filter. Ideal characteristics are dense, uniform growth of fine-stemmed plants tolerant of the area's water and climatological, soil, and pest conditions. Native plants generally combine the best properties. Plants serve mainly as filters; pollutant uptake is not a very important removal mechanism. Therefore, a number of species and mixes appropriate to the area will work equally well.

Sizing Calculations and Expected Performance. The results of a performance investigation of a grass swale, recently completed in the Puget Sound area of Washington (Municipality Metro. Seattle, 1992), refined a previously developed design procedure and recommended design features consistent with good performance. The report details the full design procedure, criteria, and guidelines that are excerpted here.

Figure 8.5, which summarizes the performance results, shows that the swale was relatively effective in capturing solids, oils, and the least soluble metals. The swale was less effective for more soluble metals, especially their dissolved fractions, and less yet for phosphorus. Nitrogen (not shown) exhibited little if any removal; fecal coliform's capture was inconsistent. Therefore, biofilters should generally be considered the sole

Figure 8.5—Average pollutant removal over six storms in a grass swale with an average hydraulic residence time of nine minutes.



TPH = total petroleum hydrocarbons
T = total
BAP = biologically available phosphorus

Source: Municipality of Metro. Seattle, 1992.

treatment only to reduce solids and oil. In fact, they are a better choice than oil separators to remove low concentrations of oil and grease from urban runoff. Vegetation can reduce concentrations to even lower levels, while no feasible separator can decrease them below 10 mg/L. The vegetation option is also much cheaper. One theory suggests that biofilters reduce nutrients considerably better if growth is carefully mowed and removed before it dies and releases phosphorus and nitrogen; however, that hypothesis is unproven.

The design procedure uses Manning's equation of open channel flow to obtain a swale width for a given flow and slope and selected water depth. The velocity resulting in this size channel is then compared to a criterion, and the length is calculated using a hydraulic residence time criterion. A key study result is that a residence time of nine minutes is needed to achieve the highest and most reliable performance. Performance began to deteriorate noticeably when residence time fell below five minutes, recommended as the absolute minimum. A filter strip design is handled in the same general way but with a more shallow flow depth. Steps are as follows:

1. Determine the design flow rate (Q, cfs) by appropriate hydrologic analysis. Use as a basis continuous simulation with a computer model, a design rainfall event (e.g., six-month, 24-hour storm), or a set fraction of total runoff (e.g., first inch).

2. Determine slope (s, ft/ft) and select vegetation, design vegetation height, and shape if a swale. Normally, swales are parabolic or trapezoidal to avoid erosion in sharp corners of rectangular or V shapes. The trapezoidal shape is easier to construct and will tend to assume a parabolic shape over time.

3. Set design flow depth (y, ft). A grass swale's depth should not exceed one-third of the grass height in infrequently mowed swales, or one-half of the grass height in regularly mowed swales, up to a maximum of 3 in (7.62 cm). In swales with wetlands vegetation, the depth should be at least 2 in (5.08 cm) below the height of the shortest species. A filter strip's depth should be no more than 0.5 in (1.27 cm).

4. Solve Manning's equation for the width, using the conditions established in steps 1 through 3.

$$Q = 1.49 \cdot A \cdot R^{0.67} \cdot s^{0.5}/n \qquad [4]$$

where: A = cross-sectional area (ft^2);
R = Hydraulic radius (ft) = A/wetted perimeter;
n = Manning's roughness coefficient.

The Puget Sound study used experiments to determine a value of n for flow below the full height of a local common grass mix. The recommended values are, unless other information is available, 0.20 for grass biofilters to be mowed regularly and those with herbaceous wetland plants and 0.24 for infrequently mowed swales.

Solutions of Manning's equation for two configurations follow:

TRAPEZOIDAL SWALE

$$b = Q \cdot n/(1.49 \cdot y^{1.67} \cdot s^{0.5}) - Zy \qquad [5]$$

$$T = b + 2 \cdot y \cdot Z \qquad [6]$$

FILTER STRIP

$$T = Q \cdot n/(1.49 \cdot y^{1.67} \cdot s^{0.5}) \qquad [7]$$

where: T = Top width (ft);
b = Bottom width (ft);
Z = Side slope (ft/ft; should be no steeper than 3 horizontal to 1 vertical).

The bottom width of a swale should be no less than 2 ft (0.61 m) if it will be mowed and no more than 8 ft (2.44 m), unless it will be hand finished to get a completely level bottom. If b does not fit into this range, investigate how Q can be reduced by splitting flow, or set b = 8 ft (2.44 m) and proceed with the analysis, or specify hand finishing.

5. Compute A for the configuration:

TRAPEZOIDAL SWALE

$$A = b \cdot y + Z \cdot y^2 \qquad [8]$$

FILTER STRIP

$$A = T \cdot y \qquad [9]$$

6. Find flow velocity (V, ft/s): V = Q/A. If V is greater than 0.9 ft/s, which will knock over most grass and reduce settling of finer particles, investigate how Q can be reduced, or change the width and/or depth.

7. Compute length (L, ft):

$$L = V \cdot t \cdot 60 \text{ s/min} \qquad [10]$$

where: t = Hydraulic residence time (min); t should be at least nine min, preferably, and no less than five min.

For swales, L should be at least 100 ft (30.38 m), a length below which flow short circuiting is more likely. If the length in a straight configuration cannot be fit to the site, investigate using a wide-radius curved path, reducing Q or changing the width and/or depth.

8. If flows larger than Q can enter the biofilter, the grass probably will be knocked over and provide no treatment until it becomes upright again. Therefore, flow regulation upstream or a bypass are recommended. If one of these measures is not provided, the velocity and depth with the largest flow rate must be calculated. If the velocity is above a level known to be erosive, the facility must be enlarged to accommodate it (use 3 ft/s maximum, if other information is lacking). The calculation procedure is standard and covered in open channel discussions in fluid mechanics texts, as well as in the previously cited report.

9. If the biofilter is a swale, once the maximum possible depth of flow is established, specify the swale's final depth. It should be at least 6 in (15.24 cm) deeper than the maximum possible flow depth.

▮ ***Design Recommendations.*** The following features maximize the success in establishing biofilters and in their performance:

- Locate the biofilter away from building and tree shadows to avoid poor plant growth from lack of sunlight.
- If the longitudinal slope is less than 2 percent or the water table can reach the root zone of vegetation, plant water-resistant vegetation to survive standing water or install an underdrain system to assist drainage. However, underdrains may not be practical with a large filter strip.
- If the longitudinal slope is in the 4 to 6 percent range, provide check dams approximately every 50 to 100 ft (15.24 to 30.48 m) to reduce velocity. However, check dams may not be practical on a larger filter strip.
- If the slope on which a swale is installed exceeds 6 percent, place swale to traverse the slope so that no slopes reach more than 4 percent, or 6 percent with check dams.
- Make the lateral slope entirely uniform to avoid any tendency for the flow to channelize.
- Introduce the flow so that entrance velocity is dissipated quickly, flow is distributed uniformly, and erosion is avoided (e.g., by using a riprap pad or some means of level spreading).

Natural Wetlands

Wetlands naturally regulate both water quality and quantity. In recent years, natural wetlands have been used for both purposes, sometimes with engineering changes such as modified inflow and outlet structures. This practice has been legally uncertain, since wetlands are classified as "waters of the United States" under the Clean Water Act (CWA). Using such waters to transport and treat waste is generally prohibited. However, some interpretations of the CWA allow the practice under limited circumstances. EPA's policy is not to use natural wetlands to treat urban runoff. Of course, wetlands treat water by default when they happen to receive runoff from an urbanized watershed.

Therefore, some attention has been paid to managing wetlands receiving urban runoff to learn how negative impacts can be avoided or minimized. The Puget Sound Wetlands and Stormwater Management Research Program is a long-term (1986-1996) comprehensive effort to follow ecological developments in wetlands through the urbanization process and learn what causes degradation and how it might be avoided. The program has produced preliminary management guidelines (King County Resour. Plann. Sec. 1993), with continued refinement as more information becomes available. The following summary excerpts key guideline provisions. Specifics pertain to freshwater palustrine wetlands in the Pacific Northwest, but these limits would likely be appropriate in similar communities.

▮ ***Management Guidelines.*** Hallmarks are to

- Manage on a watershed or subbasin scale and context, so that the values of all water resources are considered and all alternatives for solving water quality and quantity problems are evaluated.
- Emphasize practices, such as source controls, that prevent the development of problems. Back up those approaches with measures that reduce the effects of problems before wetlands or other water

resources are involved, such as pretreatments.

The guidelines are presented here as an example of a state strategy for managing wetlands. The guidelines, consistent with legal interpretations made by EPA Region 10 and the Washington Department of Ecology, state the conditions under which natural wetlands can be used for improving runoff quality:

- Situations must be analyzed case by case;
- Restoration or enhancement of a previously degraded wetland is warranted, and other wetland functions can be upgraded along with benefiting runoff water quality;
- Source control and treatment practices are applied in accordance with specific guideline recommendations, and any prevailing water quality standards are met; and
- The wetland is not one of certain rare or otherwise valuable types—estuarine, forested, peatland, or otherwise designated by recognized heritage and preservation programs—and does not provide habitat for rare, threatened, or endangered species.

The law is even less clear about the status of wetlands proposed for use only for runoff storage or incidentally affected by urban runoff. Of course, since all runoff contains contaminants, any distinction is artificial. Still, potential hydrologic effects are distinct from water quality impacts. In fact, the Puget Sound research has found that hydrologic change has more implications than water quality for wetland ecosystems where runoff is relatively low in pollutants. This program has devoted considerable effort to quantifying these hydrologic impacts—keying especially on plant and amphibian communities—and devising guidelines to overcome them. The following hydrologic guidelines specify limits on the wetland's hydroperiod—the depth (stage), frequency, duration, and pattern of inundation.

1. Depth limits—all wetlands, all year

Limit postdevelopment increase in annual maximum depth to 11.81 in (30 cm) (for 1.01-to-100-year return interval rainfall events).

Limit postdevelopment average monthly water level fluctuation (WLF) to

- An increase of 1.97 in (5 cm) if predevelopment WLF is greater than or equal to 5.9 in (15 cm);
- A maximum of 7.9 in (20 cm) if predevelopment WLF is less than 5.9 in (15 cm).

Note: WLF = Maximum depth – average depth in a time period.

2. Frequency and duration limits

These guidelines envision a fluctuating stage over time before development that could fluctuate more, both higher and lower; after development, these greater fluctuations are called "excursions." The guidelines set limits on the amount of the excursions and the total time, over one or more episodes, that can occur in a given period.

All wetlands—February 1 – May 31

- Limit postdevelopment stage excursions of up to 3.14 in (8 cm) above the predevelopment stage to a total duration of 24 hours in any 30-day period.

All wetlands—June 1 – September 30

- Limit postdevelopment stage excursions above or below the predevelopment stage to no more than 11.81 in (30 cm).
- Limit postdevelopment stage excursions of up to 5.9 in (15 cm) above or below the predevelopment stage to a total duration of 72 hours in any 30-day period.
- Limit postdevelopment increase or decrease in dry period—when pools dry down to the soil surface everywhere in the wetland—to two weeks.

Peat wetlands—bogs and fens (as more specifically defined by the Washington Department of Ecology)

- Limit postdevelopment stage excursions above the predevelopment stage of any amount to no more than once a year.
- Limit postdevelopment stage excursions of up to 5.9 in (15 cm) above or below the predevelopment stage to a total duration of 24 hours.

Forested wetlands and zones—wetlands or zones with at least 30 percent cover of trees at least 20 ft (6.1 m) tall

- Limit postdevelopment stage excursions of up to 7.9 in (20 cm) above the predevelopment stage to a total duration of 48 hours in any seven-day

period during March 1 to May 31 and to 96 hours over the full growing season, March 1 to August 31.

- Avoid sediment accumulation of more than 7.9 in (20 cm) in any year.

Sedge meadows—wetlands or zones with at least 20 percent cover by *Carex, Eleocharis, Scirpus,* and/or *Dilichium*

- Avoid sediment accumulation of more than 5.9 in (15 cm) in any year.

These guidelines are fairly complex to apply. Establishing predevelopment conditions requires either monitoring water levels or accurate hydrologic modeling. Postdevelopment conditions can only be established by predictive modeling. Monitoring need not be done with continuously recording instruments; simple crest-stage and staff gages are adequate. However, a continuous simulation by computer model is almost necessary for postdevelopment analysis.

The guidelines are also difficult to observe; peak runoff rate control alone is not enough, and total runoff volumes must also be controlled to prevent hydroperiod changes in a storage basin like a wetland. As pointed out in the previous discussion of quantity control, volume control is accomplished only through infiltrating excess runoff produced by urban landscapes.

Constructed Wetlands

Wetlands specifically constructed to capture pollutants from runoff draining urban and agricultural areas are gaining attention as versatile treatment options. Several major works have recently covered constructed wetland treatment, including Hammer (1989), Strecker et al. (1992), Olson (1992), and Schueler (1992). Horner (1992a) assembled a short course manual incorporating findings and recommendations from these various sources. This discussion draws on these resources and should provide a concise summary of the current state of urban runoff treatment by constructed wetlands and how to proceed in developing projects.

From a legal and regulatory standpoint, constructed wetlands are designed, built, and continuously maintained to treat waste. Thus, under the CWA they are not regarded as "waters of the United States." While no regulations control water quality within, discharge is regulated in the same way as any treatment system.

This designation contrasts with wetlands built for such purposes as mitigation of wetland losses under CWA section 404 or to develop waterfowl habitat, known as "created wetlands." These systems have the same legal protections as natural wetlands, including prohibition against conveying or treating waste. They usually have multiple functions, with water quality improvement only incidental; entering water must be managed to prevent damage to intended functions. A constructed wetland also differs in purpose and legal status from a wetland restoration, which returns a degraded system with reduced acreage or functional ability to the condition preceding its degradation. If the wetland is not completely restored but one or more functions are increased, it is termed an enhanced wetland. Restored and enhanced wetlands also have the same legal protections as natural wetlands.

The principal advantages of constructed wetlands over other treatments are

- More diversity in structure, which offers potential for relatively effective control of most pollutants;
- Wider range of potential side benefits;
- Relatively low maintenance costs; and
- Wider applicability and more reliable service than infiltration.

The disadvantages of constructed wetlands include

- Larger land requirements for equivalent service than wet ponds and other systems, especially if intended to serve quantity as well as quality control purposes;
- Relatively high construction costs;
- Delayed efficiency until plants are well established;
- Uncertainty in design, construction, and operating criteria is a drawback actually plaguing competitive methods as well; and
- Public concern about nuisances that can develop with runoff constructed wetlands if care is not taken in siting, design, construction, and operation.

Sizing Calculations and Expected Performance. Strecker et al. (1992), in a full literature review of both natural and constructed wetlands to control runoff pollution, considered more than 140 papers and reports and assembled detailed information on 18 U.S. locations. Median pollu-

tant removals in constructed wetlands were 80.5 percent for total suspended solids (TSS), 44.5 percent for ammonia-nitrogen (NH_3-N), 58.0 percent for total phosphorus (TP), 83.0 percent for lead (Pb), and 42.0 percent for zinc (Zn). Coefficients of variation (ratio of the standard deviation to the mean) for these contaminants ranged from 27.7 to 56.1 percent, showing both substantially higher and lower performance than the median levels. Pollutant reductions in constructed wetlands overall were higher than in natural ones, attributed to the specific design features and more intensive management.

Schueler (1992) recommends wetlands designs based on the overall literature. He estimates the performance of wetlands designed as he recommends as shown in Table 8.6. He considers these efficiencies to be provisional pending monitoring of the new systems.

Table 8.6—Projected long-term pollutant removal rates for wetlands constructed.

POLLUTANT	REMOVAL RATE (%)[a]
TSS	75
TP	45[b]
TN	25[c]
BOD, COD, TOC	15
Pb	75
Zn	50
FC	2 orders of magnitude

[a] Lower by an unknown amount for pocket wetlands.
[b] 65 percent in pond/marsh system.
[c] 40 percent in pond/marsh system.
Source: Schueler, 1992.

Several ways to arrange constructed wetlands, based on runoff quality and quantity control requirements, are to

- Place a runoff quantity control device on-line and a constructed wetland off-line to treat all runoff up to a certain volume;
- Construct a wetland with a permanent pool zone for treatment and a fluctuating storage zone and discharge control sized for peak runoff rate control; and
- Construct a wetland only for treatment in situations where quantity control is not required.

The first arrangement benefits from the fact that most pollutant mass loading over time is transported by runoff from the more frequent, smaller storms, and the first flush from the less frequent, larger storms. This arrangement is recommended where runoff quantity control is required because (1) the relatively shallow depths needed to maintain wetlands are somewhat inconsistent with the large storage volume needed for quantity control, and (2) large surges of water can damage the wetland.

Basic sizing decisions involve the pool storage volume (V_P), surface area, depth contouring (plus fluctuating storage volume, if runoff quantity control will be provided)—the same dimensions required in sizing a wet pond. At this point, constructed wetland technology has established no procedures to determine volume based on desired performance efficiencies and pollutant removal mechanisms. Accordingly, pool storage volume should be sized the same for wet ponds (see previous explanation).

Schueler (1992) illustrates four design concepts to configure constructed wetlands in the Mid-Atlantic area. To establish the wetland surface area (A_W), start by selecting a trial mean depth (D) from the following approximate ranges (after Schueler, 1992):

Shallow marsh	0.30-0.45 m
Pond/marsh	0.60-0.85 m
Extended-detention wetland	
permanent pool	0.25-0.30 m
extended-detention zone	1.0 m
Pocket wetland	0.15-0.40 m

Using the trial mean depth, calculate surface area by $A_W = V_P/D$.

After determining satisfactory basic dimensions, allocate depths to the different wetland zones according to the design concept. Schueler (1992) recommends the following zones to obtain diversity in structure and treatment capabilities:

Deep areas —30-180 cm deep, no emergent vegetation—forebay, micropools, deep water pools and channels
Low marsh—15-30 cm below normal pool
High marsh—0-15 cm below normal pool
Irregularly inundated zone—above normal pool

Schueler also supplies approximate depth allocations for the various zones and design concepts.

▮ ***Design Recommendations.*** Identify and adopt a natural wetland that performs water quality control well and use it as a reference model. Natural wetlands control water quality because of their structure. Therefore, the elements of this natural structure must be recreated in a wetlands. Natural wetlands tend to have a more complex structure than do most runoff treatment systems. This complexity allows a range of mechanisms to operate and diverse pollutants to be treated. The result is relatively high efficiencies, compared to competing alternatives. Structural complexity can be created with high marsh peninsulas and islands.

A structurally complex system is more expensive and difficult to construct than a simple one. In some cases, we may need to dispense with a few features of an ideal system. In addition, a complex design may not be faithfully constructed. Therefore, design personnel should be in the field to interpret the design and guide construction.

A constructed wetland must have enough time to develop before it is put in full service. Attempts to short-circuit ecological processes by over-management will probably fail.

1. Site Selection

Evaluate a prospective site carefully before making a selection. Table 8.7 summarizes the major considerations that should be analyzed. While an analysis requires gathering significant data, it is essential.

A viable constructed wetlands depends on an adequate and steady water supply. A water budget should be carefully constructed to ensure that water is available and inputs at least balance outputs throughout the year:

$$I + P + D + S > O + E + R \qquad [11]$$

where: I = Surface inflow;
P = Precipitation;
D = Groundwater discharge;
S = Wetland storage at beginning of calculation period;
O = Surface outflow;
E = Evapotranspiration; and
R = Groundwater recharge.

(All units are in terms of volume or water depth over the wetland surface.)

Table 8.7—Considerations in selecting constructed wetlands sites.

CATEGORY	CONSIDERATIONS
Land use and general	Land availability Existing site use and value Site problems (e.g., previous dumping, utility lines) Adjacent land use and value Connection to wildlife corridors and potential for adjacent areas to be biological donors Public opinion Accessibility for construction and maintenance Ability to control public access according to project objectives
Environmental and regulatory	Federal, state, and local laws and regulations Avoidance of archaelogical and cultural resources Avoidance of critical wildlife habitat areas
Hydrology and water quality	Water supply reliability Low potential for disruptive flooding Water supply of adequate quality to sustain biota Low potential for adverse effects on downstream waterbodies and adjacent properties and their water supplies Need for lining to retain water or avoid groundwater contamination
Geology	Flat or gently sloped topography Adequate soil development Sufficient depth to bedrock Soil characteristics consistent with pollution control objectives Suitability of site materials for construction

Source: R.R. Horner.

Estimate the water budget during site selection and check it after the preliminary design. In areas with pronounced seasonal drought (e.g., most of the western United States), calculate the balance for the dry period. Groundwater terms are difficult to establish, but a hydrogeologist familiar with the location should estimate them as closely as possible. Since natural wetlands often dry below the soil surface, permanent standing water is not necessarily needed to have a viable wetland. Washington State research has found that plant community richness declines substantially when drying extends longer than two months, compared to wetlands with shorter dry periods (Azous, 1991). Hence, the water balance should at least confirm that drying will not exceed two months.

2. Vegetation

Experience with wetlands creation, restoration, and construction projects shows that the plant community develops best when the soils harbor substantial vegetative roots, rhizomes, and seed banks. Development is enhanced when volunteer vegetation can enter from nearby donor sites. However, volunteers cannot be relied upon completely and should be supplemented by transplanting. While vigorous resident and volunteer stock may provide most of the vegetation, transplanting is still a wise strategy, as confirmed by most of the literature.

Hydric soils that contain vegetative plant material used to establish new wetlands are called wetland mulch. Ample use of this mulch enhances diversity and speeds plant establishment, but its content is somewhat unpredictable and donor sites are limited. Also, guidelines for extracting, handling, and storing the material are limited. In addition, exotic, opportunistic species might overtake more desirable natives—watch for this problem when obtaining material.

Potential donor sites include wetland soils removed during maintenance of highway ditches, swales, sedimentation ponds, retention/detention ponds, and clogged infiltration basins; during dredging; or from natural wetlands scheduled to be filled under permit—although these soils are best used for mitigating the loss. The upper 5.9 in (15 cm) of donor soils are best obtained at the end of the growing season and should be kept moist until installation. Establishing repositories for mulch reclaimed in maintenance operations is being explored. Despite the potential of wetland mulch and volunteer recruitment, transplanting is still the most reliable method and provides instant partial cover.

Wetland plant nurseries have sprung up recently in many places in the nation to provide material. The following list of general selection principles was compiled from Garbisch's (1986) recommendations for creating wetlands and from the comprehensive constructed wetlands literature:

- Base selections more on the prospects for success than on specific pollutant uptake capabilities. Plant uptake is an important mechanism only for nutrients, much of which are released upon the plants' death; nutrient removal is more the result of chemical and microbial processes than of plant uptake.
- Select native species; avoid natives that invade vigorously.
- Use a minimum of species adaptable to the various elevation zones; diversification will occur naturally.
- Select mostly perennial species; give priority to those that establish rapidly.
- Select species that are adaptable to the broadest ranges of depth, frequency, and duration of inundation (hydroperiod).
- Match the environmental requirements of plant selections to site conditions. Consider especially hydroperiod and light requirements.
- Give priority to species used successfully in constructed wetlands and commercially available species.
- Avoid specifying only species foraged by wildlife expected to use the site.
- Establish woody species to follow herbaceous species.
- Plant to achieve objectives other than pollution control.

Although selection based on pollution control capabilities is not recommended, considerable information on pollution control has been compiled. Kulzer's (1990) summary of plant capabilities for pollutant removal suggests that the most versatile genera, with species throughout the country, are *Carex*, *Scirpus*, *Juncus*, *Lemna*, and *Typha*.

Specific guidance for constructing wetlands is contained in Schueler (1992) and for creating wetlands in Garbisch (1986). The course manual by Horner (1992a) also incorporates this guidance on constructed wetlands.

3. Design Features

While size alone does not guarantee good performance, adequate size is necessary. If the layout permits water to traverse the wetland too fast, the theoretical hydraulic residence provided by the volume will not be achieved. The following features will help keep the flow from short circuiting the wetland.

Shape and configuration

- Create at least two distinct cells by restricting the flow to a narrow passageway between high marsh features.
- Make the wetland relatively wide at the inlet to help distribute the flow.
- Maximize the distance between the inlet and outlet.
- The effective length-to-width ratio should preferably be 5:1, and 3:1 at a minimum.
- The longitudinal slope—parallel to the flow path—should be less than 1 percent.
- The wetland should be carefully constructed to have no lateral slope—perpendicular to the flow path—to avoid concentrating the flow in preferred channels, which reduces actual residence time and risks erosion.
- Side slopes should be gradual (e.g., 5:1 to 12:1, horizontal to vertical) as in natural wetlands. In no place should the side slope be greater than 3:1.

Forebay

- Specify a relatively deep (3.93 to 5.9 ft/ 1.2 to 1.8 m) zone placed where influent water discharges. This forebay traps coarse sediments, reduces incoming velocity, and helps to distribute runoff evenly over the marsh. The forebay should be a separate cell set aside by high marsh features.
- Provide maintenance access for heavy equipment (14.76 ft/4.5 m wide and maximum 5:1 slope) directly to the forebay. The forebay bed should be hardened to prevent disturbance during clean out.

Flow channeling

- Create sheet flow to the maximum extent possible.
- Where flow must be channeled, use multiple, meandering channels rather than a single straight one.
- Open water areas should be interspersed with marsh rather than connected along the flow path.
- Minimize velocity in channels to prevent erosion.

Outlet area

- Place a micropool 3.93 to 5.9 ft (1.2 to 1.8 m) deep at the outlet.
- Install a reverse-sloped pipe 11.81 in (30 cm) below the permanent pool elevation. This outlet design avoids the clogging characteristic of constructed wetlands (Schueler, 1992).
- Install a drain capable of dewatering the wetland in 24 hours to allow for maintenance. Control the drain with a lockable, adjustable gate valve. Place an upward-facing inverted elbow on the end of the drain to extend above the bottom sediments.

Soils

- Medium-fine textures—such as loams and silt loams—work best to establish plants, capture pollutants, retain surface water, and permit groundwater discharge.
- Circumneutral pH (approximately 6 to 8) works best to support microorganisms, insects, and other aquatic animals.
- A relatively high content of highly decomposed organics (muck) is favorable for plant and microorganism growth and metal and organic pollutant adsorption. Muck soils are better than peats (less decomposed organics), which produce somewhat acidic conditions, are low in plant nutrients, and offer plants relatively poor anchoring support.
- Vegetation becomes established more quickly and effectively in constructed wetlands when soils contain seed banks or rhizomes of obligate and facultative wetland plants. Obtain soils that offer these resources.

- Soil characteristics recommended for specific pollution control objectives are
  Control of metals—high cation exchange capacity; and
  Control of phosphorus— high exchangeable aluminum and/or iron.

Liner

- An impermeable liner is required when infiltration is too rapid to sustain permanent soil saturation, when there is a substantial potential of groundwater being contaminated by percolating runoff, or both. Infiltration losses are small at most sites with USDA SCS class B, C, and D soils. Also, sediment deposition is likely to seal the bottoms of constructed wetlands. Therefore, a liner will likely be needed only in class A soils.

Emergency spillway

- An emergency spillway is required when the wetland will be used for runoff quantity control and for any other situation in which runoff might enter from a larger storm than the largest storm the facility is sized to handle.

Buffer

- A buffer should be provided around the wetland both to separate the treatment area and the human community and, if wildlife habitat is an objective, to reduce the animals' exposure to light, humans, pets, and other factors.

- The minimum buffer width should be 26.25 ft (8 m), measured from the maximum water surface elevation, plus 16.4 ft (5 m) to the nearest structure.

- If possible, preserve existing forest in the buffer area. At least 75 percent of the buffer should be forested to repel geese and provide better protection and habitat.

Avoiding Problems

- Mosquitoes, a rare but potential problem, can be prevented with diverse habitats that support predatory insects. Mosquitofish (*Gambusia*) can control mosquitoes in permanent ponds, but use caution in introducing the fish in non-native areas. Check with the state fish and wildlife agency before taking any action.

- Avoid aesthetic problems by carefully establishing construction and with vegetation. The buffer and tall emergent vegetation conceal water level fluctuation, films on the water, and other factors.

- Constructed wetlands are inherently safer than deep ponds, but deep zones may still be a hazard to children. Avoid this danger by creating gradual side slopes, a shallow marsh safety bench (16.4 ft/5 m wide) where the toe of the side slope meets any deep pool, concealing outlet piping and locking access. Fencing should only be needed on the embankment above large outfalls.

- Discourage nuisance waterfowl by maintaining the buffer largely in forest (at least 75 percent) and avoiding turf grass around the wetland. Maintain a variety of depths, especially high marsh not favored by geese and mallards, and educate citizens by placing signs to discourage feeding.

- Undesirable plant monocultures can be limited through structural diversity and a range of depths, especially in shallow areas. Plant a diverse native selection shortly after constructing the wetland.

- Metals and organics in toxicant accumulations are tightly bound in sediments and do not become mobilized over long periods. However, maintenance creates the problem of spoils disposal. Spoils that pass hazardous waste tests can be safely land-applied or placed in a landfill (Schueler, 1992). Applying spoils on-site saves disposal costs.

Landscape Management

Landscape management (Schueler [1987] uses the term urban forestry) signifies such practices as preserving trees during construction, replanting trees, and landscaping helpful to urban runoff management. One aspect of landscape management, maintaining vegetated buffers adjacent to waterbodies, advances the principle of minimizing the impervious area directly connected (by "hard" drainage facilities) to receiving waters.

Areas established using landscape management techniques can produce runoff volumes 30 to 50 percent less than conventionally developed sites (Schueler, 1987). Evidence suggests that

even low density residential development can produce runoff rivaling impervious areas when lawns replace natural vegetation and topsoil is removed close to relatively impermeable underlying layers.

The effectiveness of vegetated areas in capturing pollutants depends on the water's residence time before it enters the receiving water. Buffers and other landscape management spaces are often too small to provide the nine-minute residence time specified in the earlier discussion of biofilters, considered a minimum for water quality control. Of course, landscape management can still provide significant benefits, even without the ideal residence time.

While a riparian buffer guidance handbook by Heraty (1993) also provides recommendations for landscape management forestry programs, complete guidance is not yet available.

Infiltration Practices

Infiltration is the only structural technique that reduces both the peak runoff rates and runoff volumes from urban development. Infiltration reduces contaminants in runoff when runoff percolates in a soil column in which physical and chemical mechanisms operate. Infiltration devices that receive runoff at the surface also treat water through plant uptake and processes in surface soils. Unfortunately, these practices have the highest failure rates among all alternatives. Success requires great care in site selection, design, operation, and maintenance. Types of infiltration devices are

- Infiltration basins, also known as retention ponds;
- Infiltration trenches;
- Perforated pipes;
- French drains, also termed downspout infiltration systems; and
- Porous pavements.

An infiltration basin (see Figure 14.10) impounds water in a surface pond until it infiltrates the soil. Excess runoff discharges on the surface. An infiltration trench receives runoff in a shallow excavated trench that has been backfilled with stone to form a below-grade reservoir. Water then enters the underlying subsoil according to its infiltration rate. A perforated pipe, or underground trench, distributes runoff into the subsoil. French drains, consisting of pervious material such as gravel, disseminate inflowing water into the surrounding soil. These drains are usually used in small-scale applications, such as roof drains from homes and other small buildings. Porous pavements permit precipitation to drain through coarse-graded concrete, asphalt, or specially cast paving blocks with a pervious opening. The coarse-graded pavements can be used on roads, although they are subject to clogging; paving blocks are appropriate only for paved areas with very light or no traffic.

Recent studies and observations have documented extensive infiltration system failures. Schueler et al. (1992), in reviewing Mid-Atlantic region reports, found that 50 to 100 percent of infiltration basins had failed within five years of construction; up to 50 percent had failed almost immediately. The five-year failure rates for trenches and porous pavements were approximately 50 and 75 percent, respectively. Overwhelmingly, clogging by sediments brought in with runoff caused the failure. Microorganism growths in poorly drained soils and oils in runoff can also cause failure (Horner and Horner, 1990). This poor operating experience led Schueler et al. (1992) to advise against using infiltration basins and porous pavements and to use trenches only with careful geotechnical investigations and aggressive pretreatment protection and maintenance.

A study in Washington's Puget Sound found that successful infiltration basins were built on deep to excessively drained soils and not near seasonal high water tables or low spots in drainage catchments (Klochak, 1992; Gaus, 1993; Hilding, 1993; Jacobson, 1993). However, these basins risk groundwater contamination because metals retention was little to none in one soil type and incomplete in two others (Gaus, 1993). Most instances of poor infiltration were caused by water tables rising too near the surface. Vegetation was apparently not associated with infiltration, although plants can filter pollution, aerate soil, and improve the appearance if maintained properly.

Soil is the most critical consideration in specifying infiltration systems. Systems are generally built in the native soil; but when native soil is inappropriate, a soil system can be constructed with media like sand, peat, or a combination.

Infiltration systems normally convey most runoff directly into the soil to eventually enter the groundwater. However, an underdrain system can be installed below the infiltration system to collect water that does not percolate well through a restrictive subsoil layer. After being collected, the

water can be widely distributed to increase the percolation potential. If the grade permits, it can be discharged on the surface, after being treated while passing through the upper soils. Constructed soil systems usually require underdrains. While these systems could be considered filtration practices, this guide considers them under infiltration, reserving the filtration category for units constructed in boxes and generally having a conventional surface discharge.

The most crucial issues in using infiltration devices, in addition to soil suitability, are avoiding clogging and the potential to contaminate groundwater. Infiltration facilities should be constructed in medium textured soils. They are generally unsuitable for clay because of restricted percolation and gravel and coarse sands because of the risk of groundwater contamination, unless effective pretreatment is provided. An impermeable soil layer close to the surface may need to be penetrated. If the layer is too thick, underdrains, and possibly imported soil to provide sufficient treatment depth, may be required (Entranco Eng. 1989). As a minimum measure to prevent clogging, infiltration facilities should require a pretreatment device to settle larger solids and reject runoff from eroding construction sites.

Among the various runoff treatment options, only soil infiltration systems have been reliable in removing soluble phosphorus (Minton, 1987). This result likely applies to other relatively soluble pollutants as well. Reduction depends principally on how effectively the system prevents runoff from directly entering surface water. Reduction can be complete if surface effluent is absent and percolating water cannot get to surface water through interflow in the unsaturated zone or via rapid transit of groundwater in the saturated zone. In other circumstances, dissolved pollutant reduction is incomplete but is still higher than with any other treatment method.

Expected Performance

This manual classifies performance of soil infiltration systems as follows:

- Natural soil column infiltration basins, trenches, and perforated pipes with and without underdrains;
- Underdrained systems with selected filtration media—sand and peat-sand; and
- Porous pavements.

Natural Soil Systems. In a natural system without underdrains, the system's hydrology (directness of connection with surface water) determines how much runoff is captured and how efficient the treatment. Alternative design rules for infiltration basins and their estimated runoff reductions and pollutant removals (Schueler, 1987) are to store and infiltrate either (1) 0.5 in (1.27 cm) of runoff per impervious acre contributing, (2) the runoff resulting from a 1-inch rainfall event, or (3) the two-year frequency runoff volume. Table 8.8 estimates pollutant removals.

With the first rule, Schueler estimates that 40 to 50 percent of the runoff volume would be captured in the soil over the long term. This would rise to 65 to 75 percent with the second rule, depending on the soil and the amount of impervious area (the NURP database used to make the estimates

Table 8.8—Estimated long-term pollutant removal rates (percent) for infiltration basins.

POLLUTANT	SIZED BASED ON		
	0.5-IN RUNOFF/IMPERV. ACRE	RUNOFF FROM 1-IN RAIN	2-YEAR STORM RUNOFF VOLUME
Total suspended solids	75	90	99
Total phosphorus	50-55	60-70	65-75
Total nitrogen	45-55	55-60	60-70
Metals	75-80	85-90	95-99
Biochemical oxygen demand	70	80	90
Bacteria	75	90	98

Source: Schueler, 1987.

represents catchments with 11 to 27 percent imperviousness). The third rule would likely raise the degree of volume reduction to appropriately 90 percent. Schueler cites Maryland estimates that widespread application of the first or second rule would maintain summer baseflow levels within about 90 percent of predevelopment conditions.

In developing a management plan for phosphorus-limited Lake Sammamish, Washington, Entranco Engineers, Inc. (1989) estimated potential reduction of particulate phosphorus at 100 percent and soluble phosphorus in natural basins at 75 to 90 percent. Estimates for an underdrained system with 3 ft (0.91 m) of soil were 80 to 100 percent for total phosphorus and 50 to 85 percent for soluble phosphorus. These estimates are uncertain because backup data was lacking.

▮ ***Underdrained Systems with Artificial Media.*** A number of underdrained sand and peat-sand media configurations installed and tested differ in the layering of sand of various grain sizes, peat, and gravel. Meyer (1985) also proposes a layer of crushed limestone to precipitate phosphorus. Horner and Horner (1990) review design and performance considerations for a side-wall filter (in contrast to a basin draining through the bed) not yet built. These devices have only been extensively employed in Austin, Texas. Reported levels of pollutant reduction percentages were

Total suspended solids—60 to 80 percent;
Total phosphorus—20 to 90 percent, with most reports above 60 percent;
Nitrogen, soluble phosphorus—inconsistent in a sand-peat filter to 96 percent in a sand filter;
Metals—30 to 100 percent depending on metal and medium;
Chemical oxygen demand—40 to 90 percent;
Organics—inconsistent, but approximately 85 percent when operating well; and
Bacteria—40 to 100 percent.

In Bellevue, Washington, a large soil filter system draining to Lake Sammamish has recently been constructed to serve a housing development. The system—which includes pretreatment with catch basins, grass swales, oil/water separators, and detention—is expected to capture more than 99 percent of the total suspended solids, 50 to 95 percent of the phosphorus, and 90 to 95 percent of the copper in urban runoff from developed portions of the site (Diessner et al. 1991). The system's performance is now being monitored.

▮ ***Porous Pavements.*** Schueler (1987) distinguishes between porous pavements providing full and partial infiltration. The latter involves some type of collection system to drain surface runoff that cannot be infiltrated. Schueler estimates potential pollutant captures at 80 to 99 percent for total suspended solids, total nitrogen, chemical oxygen demand, zinc, and lead and 65 percent for phosphorus, although the actual capture would again depend on soil infiltration.

Denver's Urban Drainage and Flood Control District (1993) recommends only the modular block type of porous pavement system. The design, consisting of perforated concrete slab units underlain with gravel, is specified for use only in low traffic areas like airports, parking lanes, and driveways, and paved paths without traffic.

Site Selection, Sizing, and Design

Since all infiltration systems rely on the ability to discharge water through the soil or an equivalent artificial medium and have the same general problems, most design aspects are similar, except for media specifications for artificial systems. The following guidance is applicable to all types, with additional information on artificial media where necessary. Reference sources provide more specific detail.

▮ ***Site Selection for Natural Soil Systems.*** Needs differ, depending on whether the infiltration system is intended for quantity control alone or for quality and quantity control. While quantity control is best achieved with a rapid percolation rate, this rate could be too fast to provide sufficient contact with the soil for pollutant capture. If the runoff is quite contaminated, if the groundwater table is relatively close to the surface, or both, rapid percolation risks groundwater pollution. Therefore, the safest practices are to

- Specify a maximum and a minimum percolation rate to protect groundwater and attain pollutant capture objectives, or
- Require runoff pretreatment to meet water quality objectives before the pretreatment effluent is infiltrated for quantity control.

Infiltration authorities recommend the following criteria to reduce the substantial potential for failure, safeguard groundwater, and achieve the desired urban runoff management benefits:

- The bed of the infiltration facility should be at least 3 to 5 ft (0.91 to 1.52 m) from the

seasonal high water table, bedrock, or relatively impermeable soil layer (5 ft is conservative and warranted, unless seasonal water rise is carefully determined; 3 ft is minimum).

- With any application, the percolation rate should be at least 0.3 to 0.5 in/hr (0.76 to 1.27 cm/hr); 0.5 in/hr is conservative; 0.3 in/hr is minimum.
- With any application, the soil should not have more than 30 percent clay or more than 40 percent clay and silt combined (Wash. Dep. Ecol. 1992).
- When the infiltration facility will provide all runoff treatment (except perhaps presettling of solids) and when it will drain to groundwater (i.e., there are no underdrains), the percolation rate should not be greater than 2.4 in/hr (6.10 cm/hr) (Wash. Dep. Ecol. 1992). This, and the preceding guideline, effectively makes only loams, sandy loams, and loamy sands eligible for installing water quality infiltration systems.
- The facility should not be constructed in fill material or on a slope of greater than 15 percent.
- Baseflows should not enter infiltration facilities. The contributing catchment must be relatively small, or any permanent or intermittent flows must be diverted. Schueler et al. (1992) recommends that infiltration basins serve 2 to 15 acres (0.81 to 6.06 ha) and specified catchments be no larger than 5 acres (2.02 ha) to drain to trenches (Schueler, 1987).

Infiltration basins frequently lack good data on the soils and associated hydrogeology (Klochak, 1992; Gaus, 1993; Hilding, 1993; Jacobson, 1993). Using regional soil survey data is always very risky, and specific on-site soils investigation must be performed. Since infiltration generally occurs below the preconstruction grade level, soils and hydrogeologic observations and tests must be performed at the final grade level. Even measurement at a single location within the prospective facility location can be inadequate to characterize the soil and its new percolation rate. Hence, measurements should be repeated at several points. Finally, techniques often used to establish percolation rates (e.g., single-ring infiltrometers) have been found lacking—a double-ring device is an improvement. Standard percolation tests should also be performed in excavated holes.

Sizing Calculations. Several possible bases are used to size infiltration devices. One is to select one of Schueler's (1987) sizing rules and a maximum allowable drain time. Schueler recommends a maximum of 72 hours, except for 48 hours in marginal soils. The Washington Department of Ecology (1992) adheres to the latter time. Another way is an approach based on Darcy's law, which expresses flow through a porous medium. The resulting equations for the surface area (A_s) and infiltration system volume (V_i) are

$$A_s = V_r / f_d \cdot i \cdot t \quad [12]$$

$$V_i = \text{Inflow rate} - \text{Outflow rate} \quad [13]$$
$$= V_r - f_d \cdot i \cdot A_s \cdot t$$

where:
- V_r = Design storm runoff volume (ft^3);
- f_d = Percolation rate (ft/hour = inch/hour/12);
- i = Hydraulic gradient (ft/ft) = $(h + L)/L$;
- h = Height of water over infiltration medium when full (ft);
- L = Depth to water table or impermeable layer from infiltration medium surface (ft); and
- t = Time to drain from full condition (hour).

The design runoff volume can be established as discussed for wet ponds. With the difficulty in getting good percolation rate values, the Washington Department of Ecology (1992) recommends a conservative approach of making several on-site measurements at the infiltration medium level, adopting the minimum of those rates, and multiplying by a safety factor of 0.5. Better measuring techniques would allow dispensing with such conservatism—or at least dropping the safety factor.

Design Recommendations. The following recommendations are important to avoid past failures of infiltration systems:

- Construction runoff should never be allowed to enter an infiltration device.
- Banks and other areas must be thoroughly stabilized to prevent erosion into the device.

- At a minimum, pretreatment should be used to capture most of the runoff solids directed to an infiltration device. A recommended arbitrary removal criterion is 80 percent of total suspended solids.

- The facility should be at least 50 ft (15.24 m) from any slope greater than 15 percent and at least 100 ft (30.48 m) upslope and 20 ft (6.1 m) downslope of any building.

- The outlet orifice design must be consistent with the infiltration capacity (e.g., to avoid collecting more water than can infiltrate in 48 hours).

- After final grading, the bed should be deeply tilled to provide a well-aerated, highly porous surface texture.

- Plant a basin with grasses appropriate for conditions, and maintain the grass for both performance and appearance.

- The guidelines for wet ponds—introduction of flow at low velocity and with uniform distribution, side slopes, the emergency overflow, and safety—also apply to infiltration basins.

- Since constructed artificial soil systems are in their infancy, the following guidelines are subject to further testing (Horner and Horner, 1990):

  - A layered media structure seems to perform best. Most common are three layers, each about 1 to 2 ft (0.30 to 0.61 m) thick, separated by filter fabric. The upper layers have generally been various textures of sand or peat-sand mixtures. A crushed limestone layer has also been used for phosphorus reduction and pH adjustment.
  - Fibric peat is preferred over sapric peat because of the latter's poor hydraulic conductivity.
  - Surround the underdrain pipe with gravel or crushed rock.

Inspection and maintenance are also important for failure-prone devices like infiltration systems. Chapter 14 provides inspection checklists and maintenance standards.

Filtration Practices

Sand Filters

Sand filter chambers, similar to those used for many years in potable water and industrial treatment, have recently been introduced in urban runoff management. They differ from those described under infiltration practices by being installed in a box and having a surface effluent, instead of being a soil amendment with an underdrain system. These units are most appropriate in less than 5-acre (2.02-ha), mostly impervious catchments.

Figure 8.6 illustrates a design (Shaver, in press) being installed in Delaware, Maryland, and Virginia that consists of a sedimentation chamber followed by a filtration chamber.

▮ ***Sizing Calculations and Expected Performance.*** Design criteria are still under development. Shaver (in press) recommends sizing the sedimentation and filtration chambers each at 540 ft^3 (15.29 m^3) per contributing acre. He further recommends a surface area for each chamber of 360 ft^2 (33.45 m^3) per acre and a sand depth of at least 18 in (45.72 cm).

Based on monitoring of three similar systems in Austin, Texas, the following pollutant removal efficiencies percentages are expected (Shaver, in press):

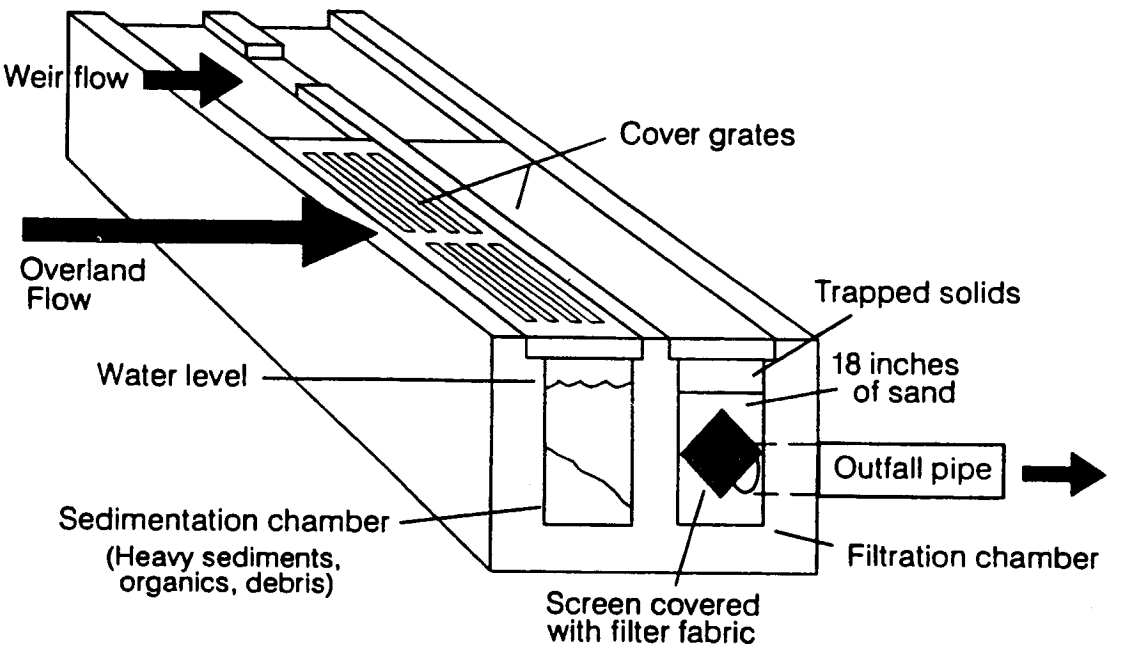
Total suspended solids	75 to 87%
Total phosphorus	19 to 61%
Total nitrogen	31 to 44%
Ammonia-nitrogen	43 to 77%
Nitrate + nitrite-nitrogen	-79 to - 5%
Lead	71 to 88%
Zinc	49 to 82%
Copper	33 to 60%
Chemical oxygen demand	45 to 68%
Fecal coliform	36 to 37%

▮ ***Design Recommendations.*** Shaver's (in press) additional recommendations are

- Restrict the drainage area for any one filter to 5 acres (2.02 ha), which should essentially all be impervious.

- Make the outfall pipe from the sand chamber no larger than 6 in (15.24 cm) outside diameter, so that a minimum of 12 in (30.48 cm) of sand covers it. If a larger conveyance is needed, use more than one pipe.

Figure 8.6—Sand filter design.



Source: Shaver, in press.

Leaf Compost Filters

W and H Pacific (1992) has developed and tested a leaf compost filter in the Portland, Oregon, area. Monitoring 13 storms showed influent event mean concentrations to be reduced, on the average, by the following:

Total suspended solids	95%
Turbidity	84%
Chemical oxygen demand	67%
Total phosphorus	41%
Total Kjeldahl nitrogen	56%
Nitrate-nitrogen	34%
Ammonia-nitrogen	42%
Zinc	88%
Copper	67%
Total petroleum hydrocarbons	87%

Soluble phosphorus consistently increased across the filter. Work is now underway to improve the medium's anionic exchange capability (Stewart, pers. commun.). The device has not been independently tested, nor have design criteria been published.

Catch Basin Filters

Fiberglass (MacPherson, 1992) and activated carbon (Hutter, pers. commun.) filters intended for small-scale installations (e.g., catch basins) have recently been introduced on the market. Neither has been independently tested, but MacPherson reported concentration reductions of 90 percent for total suspended solids, 87 percent for lead, 77 percent for zinc, and 86 percent for copper. Specific design criteria have not been issued, but the fiberglass filter has been tested in flows up to 1 cfs, and the activated carbon filter is specified for use up to 0.13 cfs.

Series Treatment Combinations

Any treatment practices previously discussed can be combined in series arrangements, or treatment trains. This takes advantage of the capabilities of each and creates redundancy to increase the probability of capturing pollutants. The effectiveness of such systems will not be additive, however, because the first device in the series will trap the fractions easiest to remove, making subsequent reduction harder. For example, if two practices can individually capture 50 percent of a pollutant, leaving 50 percent present, the overall efficiency of a series of the two is not likely to be $0.50 + 0.50 \cdot (1 - 0.50) = 0.75$. Horner (1992b)

proposes an equation for the performance of a series of two devices:

$$E_s = 1 - X \cdot (1 - E_1) \cdot (1 - E_2) \quad [14]$$

where: E_s = Series efficiency (fraction pollutant remaining);
X = "Penalty" representing the performance reduction in the second device because of its harder removal task ($X > 1$);
E_1 = Efficiency of first device if alone; and
E_2 = Efficiency of second device if alone.

However, information was insufficient on series studies to establish X from actual data. Using this equation and an assumed $X = 1.25$, E_s for the previous example is 0.69 (69 percent) instead of 0.75.

The literature contained four performance studies of treatment trains. In one report—phosphorus removal—Meyer (1985) describes an infiltration basin design with a sand/crushed limestone underdrain filter coupled to a constructed wetland. He expected 90 percent removal of dissolved phosphorus, but no performance data have been found. Oberts and Osgood (1991) report on a detention pond that discharges into a series of six constructed wetland chambers. The system reduced total phosphorus by 79 percent and dissolved phosphorus by 57 percent in the pond, and an additional 32 and 15 percent, respectively, in the wetland. Overall system efficiencies—77 and 48 percent, respectively—were lower than the pond alone because of flows to the wetland that did not pass through the pond. The pond was believed to be so efficient because of well-distributed inflow, low-dissolved-to-total-phosphorus ratio, and phosphorus complexation by organics.

Wulliman et al. (1989) discusses a system consisting of a pond, wetland, and infiltration basin that was planned to split detention pond effluent between the wetland and infiltration basin. Modeling predicted overall 52 to 87 percent phosphorus reduction, but performance data have yet to be reported. Holler (1990) reports on a wet pond-filter (soil, limestone, and sand) system. The average wet pond reductions of both total phosphorus and orthophosphate-phosphorus were 77 percent, while the filter yielded orthophosphate and further reduced total phosphorus by only 16 percent, for an overall system total phosphorus efficiency of 85 percent.

Recommended Reading

References Cited

Azous, A. 1991. An Analysis of Urbanization Effects on Wetland Biological Communities. Master's thesis, Dep. Civil Eng., Univ. Wash., Seattle, WA.

Bedient, P.B., and W.C. Huber. 1988. Hydrology and Flood Plain Analysis. Addison-Wesley, New York, NY.

British Columbia Research Corporation. 1992. Urban Runoff Quality Control Guidelines for the Province of British Columbia. British Columbia Ministry Environ., Victoria, BC.

Camp, Dresser, McKee; Larry Walker Associates; Uribe and Associates; and Resource Planning Associates. 1993. California Storm Water Best Management Practice Handbooks. State of California, Sacramento, CA.

Diessner, D., D. Renstrom, and C. Herrera. 1991. Storm Water Quality Control Alternatives for a Master Planned Development. Proc. Conf. Nonpoint Source Pollution: The Unfinished Agenda for the Protection of Our Water Quality. Tacoma, WA.

Dorman, M.E., J. Hartigan, F. Johnson, and B. Maestri. 1988. Retention, Detention and Overland Flow for Pollutant Removal from Urban Stormwater Runoff. FHWA/RD-87/056. Fed. Highway Admin., McLean, VA.

Entranco Engineers, Inc. 1989. Lake Sammamish Water Quality Management Project. Tech. Rep. Munici. Metro. Seattle, WA.

Garbisch, E.W. 1986. Highways and Wetlands: Compensating Wetland Losses. FHWA-IP-86-22. Fed. Highway Admin., McLean, VA.

Gaus, J.J. 1993. Soil of Stormwater Infiltration Basins in the Puget Sound Region: Trace Metal Forms and Concentrations and Comparison to Washington State Department of Ecology Guidelines. Master's thesis, Col. Forest Resour., Univ. Wash., Seattle, WA.

Gibb, A., B. Bennett, and A. Birkbeck. 1991. Urban Runoff Quality and Treatment: A Comprehensive Review. British Columbia Res. Corp. Vancouver, BC.

Hammer, D.A., ed. 1989. Constructed Wetlands for Wastewater Treatment. Lewis Pub., Chelsea, MI.

Heraty, M.A. 1993. Guidance Report I: Riparian Buffer Program. Draft rep. Metro. Wash. Counc. Gov., Washington, DC.

Hartigan, J.P. 1989. Basis of design of wet detention BMPs. Pages 122-44 *in* L.A. Roesner, B. Urbonas, and M.B. Sonnen, eds. Design of Urban Runoff Quality Controls. Am. Soc. Civil Eng., New York, NY.

Hilding, K. 1993. Survey of Infiltration Basins in the Puget Sound Area. Res. Pap. Univ. Calif., Davis, CA.

Holler, J.D. 1990. Nonpoint source phosphorus control by a combination wet detention/filtration facility in Kissimmee, Florida. Environ. Chem. 53(1):28-37.

Horner, R.R. 1992a. Constructed Wetlands for Storm Runoff Water Quality Control. Course mater. Eng. Cont. Ed., Univ. Wash., Seattle, WA.

———. 1992b. Water Quality Analysis for Covington Master Drainage Plan. Rep. R.W. Beck and Assoc. and King County Surface Water Management Division, Seattle, WA.

Horner, R.R., J. Guedry, and M.H. Kortenhof. 1989. Improving the Cost-Effectiveness of Highway Construction Site Erosion and Pollution Control. Wash. State Dep. Trans., Olympia, WA.

Horner, R.R., and C.R. Horner. 1990. Use of Underdrain Filter Systems for the Reduction of Stormwater Runoff Pollutants: A Literature Review. Rep. Kramer, Chin and Mayo, Seattle, and City of Olympia, WA.

Hutter, J. Enviro-Drain, Inc. Kirkland, WA. Pers. commu.

Jacobson, M.A. 1993. Summary and Conclusions from Applied Research on Infiltration Basins. Center Urban Water Resour. Manage., Univ. Wash., Seattle, WA.

King County Resource Planning Section. 1993. Preliminary Guidelines, Wetlands and Stormwater Management. King County Resour. Plann. Section, Bellevue, WA.

King County Surface Water Management Division. 1990. Surface Water Design Manual. King County Dep. Public Works, Seattle, WA.

Klochak, J.R. 1992. An Investigation of the Effectiveness of Infiltration Systems in Treating Urban Runoff. Master's thesis, Dep. Civil Eng., Univ. Wash., Seattle, WA.

Kulzer, L. 1989. Considerations for the Use of Wet Ponds for Water Quality Enhancement. Munici. Metro. Seattle, WA.

———. 1990. Water Pollution Control Aspects of Aquatic Plants: Implications for Stormwater Quality Management. Munic. Metro. Seattle, WA.

Kuo, C.Y., K.A. Cave, and G.V. Loganathon. 1988. Planning of Urban BMPs. Water Resour. Bull. 24(1):125-32.

MacPherson, J.W. 1992. Catch Basin Filter. Pap. Wash. Bar Assoc. Environ. Law Conf., Seattle, WA.

Meyer, J.L. 1985. A detention basin/artificial wetland treatment system to renovate stormwater runoff from urban, highway and industrial areas. Wetlands 5:135-46.

Minton, G.R. 1987. Lake Sammamish Water Quality Management Project: Structural Methods for Removing Phosphorus from Urban Stormwater Runoff. Tech. Memo., Task 3.1/3.2. Rep. Entranco Eng., Bellevue, and Munici. Metro. Seattle, WA.

Municipality of Metropolitan Seattle. 1992. Biofiltration Swale Performance, Recommendations, and Design Considerations. Seattle, WA.

Oberts, G.L., and R.A. Osgood. 1991. Water-quality effectiveness of a detention/wetland treatment system and its effect on an urban lake. Environ. Manage. 15(1):131-8.

Olson, R.K. ed. 1992. Created and Natural Wetlands for Controlling Nonpoint Source Water Pollution. Lewis Publ., Boca Raton, FL.

Schueler, T.R. 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Metro. Wash. Counc. Gov., Washington, DC.

———. 1992. Design of Stormwater Wetland Systems. Metro. Wash. Counc. Gov., Washington, DC.

Schueler, T.R., and M. Helfrich. 1989. Design of extended detention wet pond systems. Pages 180-202 *in* L.A. Roesner, B. Urbonas, and M.B. Sonnen, eds. Design of Urban Runoff Quality Controls. Am. Soc. Civil Engi., New York, NY.

Schueler, T.R., P.A. Kumble, and M.A. Heraty. 1992. A Current Assessment of Urban Best Management Practices: Techniques for Reducing Nonpoint Source Pollution in the Coastal Zone. Metro. Wash. Counc. Gov., Washington, DC.

Shaver, E. In press. Sand filter design for water quality treatment. *In* E.E. Herricks, ed. Urban Runoff and Receiving Systems. Am. Soc. Civil Eng., New York, NY.

Stahre, P., and B. Urbonas. 1990. Stormwater Detention for Drainage, Water Quality and CSO Management. Prentice Hall, Englewood Cliffs, NJ.

Stewart, W. W and H Pacific. Portland, OR. Pers. commu.

Strecker, E.W., J.M. Kersnar, E.D. Driscoll, and R.R. Horner. 1992. The Use of Wetlands for Controlling Stormwater Pollution. U.S. Environ. Prot. Agency, Reg. 5, Chicago, IL.

U.S. Environmental Protection Agency. 1986. Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality. EPA-440/5-87-001. Washington, DC.

Urban Drainage and Flood Control District. 1993. Urban Storm Drainage Criteria Manual, vol. 3. Denver, CO.

Urbonas, B., and P. Stahre. 1993. Stormwater Best Management Practices and Detention for Water Quality, Drainage, and CSO Management. PTR Prentice Hall, Englewood Cliffs, NJ.

W and H Pacific. 1992. Compost Storm Water Filter System: Technical Summary, Methods and Results. Portland, OR.

Walker, W.W. 1987. Phosphorus removal by urban runoff detention basins. Lake Reserv. Manage. 3:314-26.

Wanielista, M.P. 1990. Hydrology and Water Quantity Control. John Wiley Sons, New York, NY.

Wanielista, M.P., and Y.A. Yousef. 1993. Stormwater Management. John Wiley Sons, New York, NY.

Washington Department of Ecology. 1992. Stormwater Management Manual for the Puget Sound Basin. Olympia, WA.

Wulliman, J.T., M. Maxwell, W.E. Wenk, and B. Urbonas. 1989. Multiple treatment system for phosphorus removal. Pages 239-57 *in* L.A. Roesner, B. Urbonas, and M. B. Sonnen, eds. Design of Urban Runoff Quality Controls. Am. Soc. Civil Eng., New York, NY.

Other Sources

Galli, J. 1990. Peat-Sand Filters: A Proposed Stormwater Management Practice for Urbanized Areas. Metro. Wash. Counc. Gov., Washington, DC.

U.S. Environmental Protection Agency. 1991. Guidance Manual for the Preparation of NPDES Permit Applications for Storm Water Discharges Associated with Industrial Activity. EPA 505/8-91-002. Washington, DC.

———. 1993. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. EPA–840-B-92-003. Off. Water, Washington, DC.

Table 5-7. Structural BMP Expected Pollutant Removal Efficiency

BMP Type	Typical Pollutant Removal (percent)				
	Suspended Solids	Nitrogen	Phosphorus	Pathogens	Metals
Dry Detention Basins	30 - 65	15 - 45	15 - 45	< 30	15 - 45
Retention Basins	50 - 80	30 - 65	30 - 65	< 30	50 - 80
Constructed Wetlands	50 - 80	< 30	15 - 45	< 30	50 - 80
Infiltration Basins	50 - 80	50 - 80	50 - 80	65 - 100	50 - 80
Infiltration Trenches/ Dry Wells	50 - 80	50 - 80	15 - 45	65 - 100	50 - 80
Porous Pavement	65 - 100	65 - 100	30 - 65	65 - 100	65 - 100
Grassed Swales	30 - 65	15 - 45	15 - 45	< 30	15 - 45
Vegetated Filter Strips	50 - 80	50 - 80	50 - 80	< 30	30 - 65
Surface Sand Filters	50 - 80	< 30	50 - 80	< 30	50 - 80
Other Media Filters	65 - 100	15 - 45	< 30	< 30	50 - 80

Source: Adapted from US EPA, 1993c.

Infiltration Systems

Infiltration systems can be considered 100 percent effective at removing pollutants in the fraction of water that is infiltrated, since the pollutants found in this volume are not discharged directly to surface waters. Quantifying the removal efficiency of infiltration systems, therefore, can perhaps best be determined by calculating the percent of the average annual runoff volume that is infiltrated, and assuming 100 percent removal of the pollutants found in that runoff volume. Since collecting samples of runoff once it has been infiltrated can be very difficult, little field data exist on the efficiency of infiltration for treatment of storm water. Since infiltrated water does not leave the BMP as a discrete flow, there is no representative way of collecting a true outflow sample. Infiltration systems can be monitored by installing a series of wells around the perimeter of the BMP for collecting samples. However, this can add significant costs to any monitoring effort. Table 5-8 summarizes the available field data on the efficiency of infiltration practices in treating storm water. Reported removal efficiencies are based on the results of three studies that evaluated the performance of infiltration trenches and two studies that evaluated the efficiency of porous pavement systems.

EFFECTIVENESS OF TWO STORMWATER TRASH TRAPPING SYSTEMS

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Abstract – Litter, or trash, is regarded by the public as a major concern and indicator of poor waterway health. As well as degrading the visual amenity of receiving waters, it is a major contributor to marine debris and also contributes to drainage asset failure through blockages. Data on the movement of stormwater litter through urban catchments and the performance efficiency of trapping devices are scarce, despite increasing resources being spent on stormwater pollution control. Such data are essential to understand pollutant movements and to design appropriate pollution reduction strategies. This paper describes a field monitoring program of two promising gross pollutant (litter and debris) traps in Australia. Both Systems were installed on a 50 hectare fully urbanized catchment with one third commercial land-use. The trapping efficiencies of each system were determined and information on the gross pollutants characteristics gained.

Monitoring program

A continuous deflective separation (CDS) unit and side entry pit traps (SEPTs) were installed in a 50 hectare catchment in an inner suburb of Melbourne, Australia. The catchment is fully urbanized and has approximately one third commercial and two thirds residential land-use and also some small pockets of light-industry.

The two methods trap stormwater gross pollutants in different ways. CDS devices are large in-transit traps that separate and collect pollutants from the flow using continuous separation with a forced vortex and screen arrangement. On the other hand, SEPTs are baskets located inside roadside entry pits and capture gross pollutants as they fall into the pit with road runoff. CDS devices have relatively large construction costs and low maintenance costs, whereas the SEPTs have low installation costs but require more regular maintenance.

Following an investigation into the CDS performance, it was used as a control to assess the performance of SEPTs that were installed throughout the catchment. In total 192 SEPTs were installed in the 50 hectare catchment. Installation sites were selected to cover all publicly owned roadside entry pits to the drainage system.

CDS Performance

Two acoustic flow meters (which measure depth and velocity data) were used to monitor discharge upstream and downstream of the CDS unit. These probes provided estimates of discharge rate and volume and allowed investigation of the hydraulic losses through the system. Pressure sensors were also installed across the top of the overflow weir to collect depth data. The depth data provided estimates of the capacity of the device and the proportion of discharge that bypassed the treatment chamber via the overflow weir.

The monitoring suggested that the CDS unit is an efficient gross pollutant trap. During six months of monitoring practically all material greater than the minimum aperture size of the separation screen (4.7mm) was retained in the separation chamber (i.e. 100% retention). Analysis of material trapped found a significant proportion of the solids trapped were below the 4.7 mm minimum separation screen aperture size.

SEPT Performance

To assess the performance of SEPTs, they and the CDS unit were cleaned on the same day every two or four weeks. Collected material was taken to the University of Melbourne where it was sorted and dried. Analysis of the trapped material allowed estimates of trapping efficiency and the origin of gross pollutants that enter the stormwater system.

The results showed that SEPTs can potentially capture large amounts of litter (up to 85%) and of the total gross pollutant load (up to 75%; i.e. including vegetation), if placed on all public road entrances to stormwater systems. Regular maintenance to clean traps implies that putting traps everywhere possible (i.e. 100% coverage of road entrances) is unlikely to be feasible. It is therefore imperative to choose the entrances that contribute the most loads to the drainage system when only a proportion of the total can be selected. Figure 1 shows a plot of the load caught (%) against the proportion of the inlets covered.

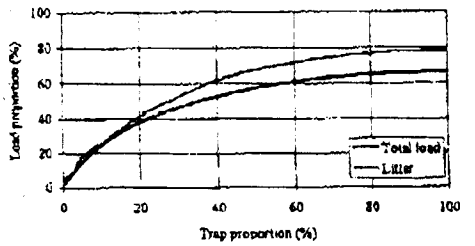

Figure 1 Distribution of trapped material ordered by total load.

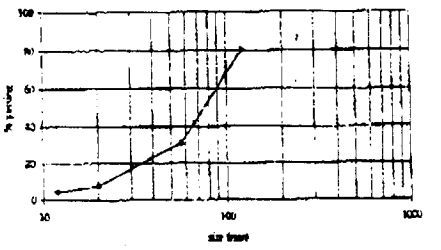

Figure 2 Size distribution of litter items caught by SEPTs.

Gross pollutant characteristics

The most litter items entered the drainage network from commercial areas, presumably due to the actions in the catchments (especially for food and drink items). Organic loads of material were relatively uniform from the different land-uses, and may be attributed to near uniform coverage of vegetation in the catchment and the influence of wind.

Various characteristics of the stormwater litter were investigated, such as composition, size, number, volume and distribution. For example, Figure 2 shows a size grading performed on some of the captured litter. Information was also collected on the quantities of gross pollutants for individual storm events. These data were compared to storm characteristics and relationships between load and rainfall established.

Conclusions

Both of the trash trapping devices reported in this paper can provide efficient gross pollutant (litter and debris) removal from stormwater systems. They are part of a growing number of gross pollutant traps being used in Australia. However, there are many claims of trapping performances without field data. It is essential that quality performance data are collected and reported to enable appropriate trapping systems to be deployed in the most suitable locations. To aid the choice of gross pollutant trapping systems a decision-support-system has been developed to simulate what-if type scenarios for different gross pollutant tapping systems. The model also simulates gross pollutant loads and estimates the installation and maintenance costs for particular systems (see reference 2).

Further references:

1. Allison, R.A., Walker, T.A., Chiew, F.H.S., O'Neill, I.C. & McMahon, T.A. (1998) *FROM ROADS TO RIVERS - Gross pollutant removal from urban waterways*, Co-operative Research Centre for Catchment Hydrology Research Report 98/6, ISBN 1 876006 32 3 (http://www-croch.eng.monash.edu.au/index)
2. Allison, R.A., Chiew F.H.S. & McMahon, T.A. (1998) *A decision-support-system for determining effective trapping strategies for gross pollutants*, Co-operative Research Centre for Catchment Hydrology Research Report 98/3, ISBN 1 876006 31 5
3. Wong T.H.F. and Wootton R.M., (1995), *An Innovative Gross Pollutant Trap for Stormwater Treatment*, Proc. 2nd Int. Sym. on Urban Stormwater Management, Melbourne Australia, 11-13 July, I.E. Aust., NCP 95/03, Vol. 2, pp407-412.

Table 6-1. Typical Base Capital Construction Costs for BMPs

BMP Type	Typical Cost* ($/cf)	Notes	Source
Retention and Detention Basins	0.50-1.00	Cost range reflects economies of scale in designing this BMP. The lowest unit cost represents approx. 150,000 cubic feet of storage, while the highest is approx. 15,000 cubic feet. Typically, dry detention basins are the least expensive design options among retention and detention practices.	Adapted from Brown and Schueler (1997b)
Constructed Wetland	0.60-1.25	Although little data are available to assess the cost of wetlands, it is assumed that they are approx. 25% more expensive (because of plant selection and sediment forebay requirements) than retention basins..	Adapted from Brown and Schueler (1997b)
Infiltration Trench	4.00	Represents typical costs for a 100-foot long trench.	Adapted from SWRPC (1991)
Infiltration Basin	1.30	Represents typical costs for a 0.25-acre infiltration basin.	Adapted from SWRPC (1991)
Sand Filter	3.00-6.00	The range in costs for sand filter construction is largely due to the different sand filter designs. Of the three most common options available, perimeter sand filters are moderate cost whereas surface sand filters and underground sand filters are the most expensive.	Adapted from Brown and Schueler (1997b)
Bioretention	5.30	Bioretention is relatively constant in cost, because it is usually designed as a constant fraction of the total drainage area.	Adapted from Brown and Schueler (1997b)
Grass Swale	0.50	Based on cost per square foot, and assuming 6 inches of storage in the filter.	Adapted from SWRPC (1991)
Filter Strip	0.00-1.30	Based on cost per square foot, and assuming 6 inches of storage in the filter strip. The lowest cost assumes that the buffer uses existing vegetation, and the highest cost assumes that sod was used to establish the filter strip.	Adapted from SWRPC (1991)

* Base year for all cost data: 1997

In some ways there is no such value as the "average" construction cost for some BMPs, because many BMPs can be designed for widely varying drainage areas. However, there is some

value in assessing the cost of a typical application of each BMP. The data in Table 6-2 reflect base capital costs for typical applications of each category of BMP. It is important to note that, since many BMPs have economies of scale, it is not practical to extrapolate these values to larger or smaller drainage areas in many cases.

Table 6-2. Base Costs of Typical Applications of Storm Water BMPs[1]

BMP Type	Typical Cost ($/BMP)	Application	Data Source
Retention Basin	$100,000	50-Acre Residential Site (Impervious Cover = 35%)	Adapted from Brown and Schueler (1997b)
Wetland	$125,000	50-Acre Residential Site (Impervious Cover = 35%)	Adapted from Brown and Schueler (1997b)
Infiltration Trench	$45,000	5-Acre Commercial Site (Impervious Cover = 65%)	Adapted from SWRPC (1991)
Infiltration Basin	$15,000	5-Acre Commercial Site (Impervious Cover = 65%)	Adapted from SWRPC (1991)
Sand Filter	$35,000-$70,000[2,3]	5-Acre Commercial Site (Impervious Cover = 65%)	Adapted from Brown and Schueler (1997b)
Bioretention	$60,000	5-Acre Commercial Site (Impervious Cover = 65%)	Adapted from Brown and Schueler (1997b)
Grass Swale	$3,500	5-Acre Residential Site (Impervious Cover = 35%)	Adapted from SWRPC (1991)
Filter Strip	$0-$9,000[3]	5-Acre Residential Site (Impervious Cover = 35%)	Adapted from SWRPC (1991)

1. Base costs do not include land costs.
2. Total capital costs can typically be determined by increasing these costs by approximately 30%.
3. A range is given to account for design variations.